The Use of ICT to Support Urban Heritage Appraisal: the Case of Medieval Tripoli, Lebanon

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To my Lord the most Honorable

Who taught us what we knew not, 'who knows what is before our creation and what is behind it, and we cannot comprehend anything out of His knowledge except what He pleases. His Knowledge extends over the heavens and the earth, and the preservation of them both tires Him not, and He is the Most High & Great'

Verse 2:255

Abstract

Conservation officers are faced with many problems when dealing with applications for intervention in urban heritage areas. The process involves reviewing different categories of heritage resources and legislation; understanding and relating together different heritage values; applying different kinds and levels of analysis; contacting the various stakeholders and accessing diverse digital and paper based documents. Such processes are largely tedious, time consuming and are generally inefficient (Morton, 1996a; Angelides, 2000). Despite the intention of many heritage organizations to identify models that can be used for managing decision-making in urban heritage areas, as yet no information model exists that is capable of properly and dynamically appraising such areas. The lack of such a model has exacerbated the difficulties and conflict in the selection and assessment of alternative intervention strategies in urban heritage areas. The diverse range of heritage categories, values, stakeholders and types of data related to the conservation of urban heritage resources provide a challenge in developing an adequate information model for informing the management of intervention. ICT based on a combination of Geographical information system (GIS), surveying, visualization and database packages can help in urban heritage appraisal process. However, efforts to apply the recently developed ICT to urban heritage recording and appraising have not yet fully come to fruition (Ford et al, 1999). Generally, efforts have only been concentrated on the use of ICT as a records database, (Sahib, 1993) rather than making more use of their analytical capabilities.

This study develops a theoretical framework to help the full understanding of the categories of urban heritage resources, values and the identification of the constraints for using ICT in the urban heritage appraisal process. The aim is to develop a decision support system for intervention in Lebanese urban conservation areas.

The effects of war, negligence and conservation plans have been the main factors causing destruction of the urban heritage in Lebanon. Appraisal is a necessary step to define the major components which contribute to the character of urban heritage. It is a first step towards the future development of heritage policies with regard to heritage management, conservation and enhancement (English Heritage, 1997a-b).

This study creates, according to a developed theoretical framework, a prototype model for the appraisal of urban heritage areas. The study takes the medieval centre of the city of Tripoli as a case study. This centre is the unique sole depository of Mamluk art and architectural treasures in Lebanon.

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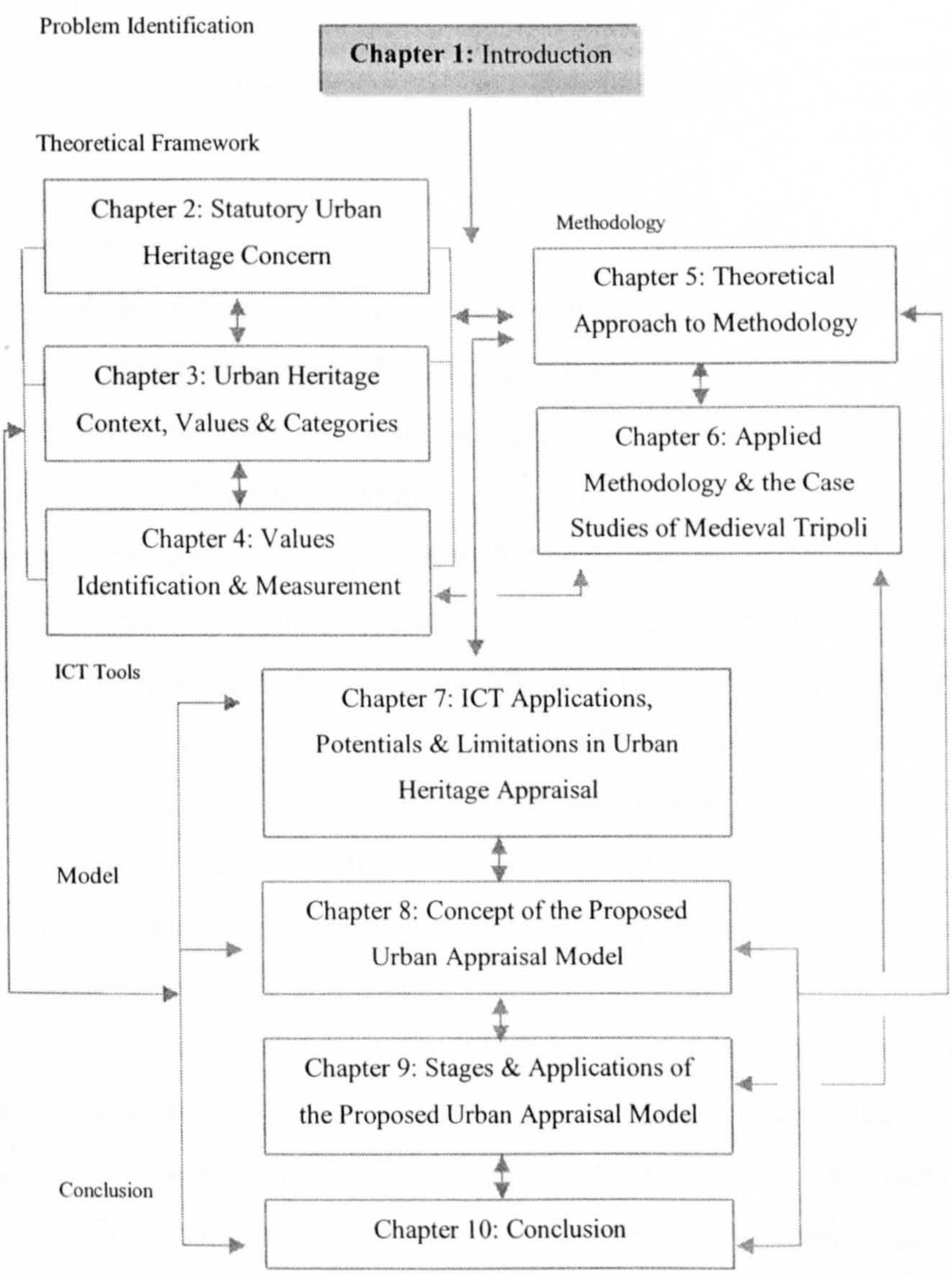
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Introduction

I



1. Introduction

1.1 Overview

ICOMOS Lebanon (2000) in its document Heritage @ Risk claimed that several issues have threatened Lebanese heritage, notably:

- Ignorance of the existence of sites
- Ignorance of the significance of heritage
- The desertion of sites and massive pillaging
- Inadequate legislation
- Insufficiently comprehensive plan for land management
- The over-exploitation of sites for tourism.

Post-war conservation plans for Lebanon's cultural heritage, in their turn, have exacerbated those threats. Recent conservation plans have faced much criticism (Rowe and Sarkis, 1999), with a number of significant ideological traps and political intrigue. Such criticisms do not come from nowhere, and they reflect the state of danger facing Lebanon's cultural heritage. Many voices have deplored recent conservation plans for Lebanon's heritage, asserting mainly that Solidère, the independent agency responsible for the reconstruction and development of Beirut's central district, has destroyed the identity of the historic centre, and constructed a fiction of the past to generate space for its purely economic vision. Solidère's project has been well implemented and marketed, with claims of creating a modern city that addresses also the aspirations of Lebanese society and the recovery of its identity (Nardella & Abbas, 2000). However opponents of the project claim that Solidère is making use of the past, and the nostalgic impulse that war generates toward it, as a marketing tool to rebuild a district that is expected to be economically valuable. They add that Solidère does not seem to care much about what is really ancient and what is not. It has destroyed much that was apparently not economically worthwhile, even the Place of Martyrs, to free up a view of the sea in order to build high-income housing. Assem Salam, Nardella & Abbas assert that Solidère's use of memory and the past is defective. Assem Salam believes that Solidère pretended to

protect the memory of old centres by preserving a few monuments, while obliterating the context onto which they were inscribed. This can only diminish their real nature (Nardella & Abbas, 2000). Nardella & Abbas go on to state 'Solidère does not refer to a past that effectively deserves protection or that reflects the pre-war Lebanese identity, which experienced many earlier evolutions. It vulgarises the traditional forms of cultural expression and commodifies it into kitsch and sleazy consumerism. Solidère's plan does not involve dynamic exchanges between the local tradition and modernity. It seems clear that the simulacrum effect of the reconstruction project is to be achieved specifically and solely in visual terms of appearance and façade. The redefinition of historical associations is limited to an iconic pastiche that would be integrated into the project at a level of marketing and aesthetics of the surface'.



Foch street before the war **Foch street destroyed by the war** **Foch street restored by Solidère**

Figure 1.1: Foch street before, during and after the war
(From Solidère _ Khoueiry, 2000)

Other voices, including the archaeologist Dr Naji Karam, Dr Hussein Sayegh, the former UNESCO archaeologist Ibrahim Kowatli and Catherine Auber, member of the Institute Français d'Archeologie du Proche Orient, claim that Solidère devastated 80% of the old fabric of Beirut Central District, for no reason other than to make it more lucrative. Many uncovered archaeological sites have disappeared, been destroyed, bulldozed, removed, gone into the Normandy dump, been buried or backfilled for no reason other than allowing construction to go on, mainly to install sewage pipes or other infrastructure. These voices declare that in December 1994, 40 metres of the Beirut city wall dating back to 3000 B.C. had been bulldozed, as had 60 metres of a Phoenician wall and a section of a Hellenistic wall. In December 1995 sewage pipes were passed through a Phoenician mound, going through the Phoenician wall and destroying many artefacts. A few months later the corner of Bourj al-Kashaf was demolished, southeast of Martyrs Square. In August, three sewage pipes at Murr tower burst through a burial ground dating from the

Roman and Byzantine era. Among other treasures bulldozed were 50 metres of fully preserved mosaic floor on Weygand Street, and a Roman bath between Allenby Street and Martyrs' Square (Haddad, 1999). Solidère, said historian Dr Albert Naccache, 'has knowingly destroyed Lebanese heritage. Its plan is the biggest crime of the century' (Haddad, 1999). Naccache has been calling for a full investigation into Solidère's handling of archaeological excavations since the early 1990s, when he began writing in local and international newspapers about the 'massacre of heritage'. He said 'the centre of Beirut is not a desert. You have to take into consideration what's there. And what was there was unique in the world. It was the largest Phoenician site to be opened to archaeologists in the past few decades. It's one huge site, not several small ones as Solidère claims, so wherever you dig, you'll find treasures.' (Haddad, 1999).

Solidère (1996) argues that it has revived the city centre, and made it the most attractive historic place in Lebanon. It also helped make it the biggest excavation site in the world. So far 124 sites have been excavated in Beirut's central district, covering 140,000 metres square, and Solidère has spent more than $7m on the excavation. Despite that it has found itself battling against developers and contractors who charge exorbitant prices for every delay, as well as archaeologists who have entered a vicious tug-of-war with the real estate company. Solidère, waiting the city centre to be rebuilt, had no choice but to set deadlines for excavations. 'We were rushed, and it's normal because any urban project is, by definition, a rushed project,' said American University of Beirut archaeologist Dr Leila Badr. Helga Seeden stated, 'Under the circumstances of war, Solidère did its best,' she said. 'Not everything is interesting or understandable. They have preserved good examples of various periods.' The head of Solidère's archaeological department, Hareth Boustany, claims 'I won't deny that mistakes have occurred, as, for example, when bulldozers ran into a Roman wall or a mosaic...But these are not intentional. In an area of 1.1 million square metres such mistakes are bound to happen.' Boustany stressed that all decisions were taken in conjunction with the Directorate General of Antiquities (DGA). 'If what these archaeologists are saying is true,' he added, 'they wouldn't be giving lectures and publishing scientific articles about their discoveries.' (Haddad, 1999)

After seventeen years of war, the Directorate General of Antiquities (DGA) has made great efforts to conserve heritage; but that has still not been enough given unreliable resources and the immensity of the task. DGA is supposed to oversee every step of heritage conservation and archaeological excavations, and decide on their fate. However,

according to Kowatli, the ministerial department had little power. 'At each find the DGA was supposed to have been informed. But most sites have been dug up without their control. It was obvious the Directorate-General was under pressure to look the other way.' (Haddad, 1999).

Since DGA approval seems to have little weight, archaeologists, conservationists and planners want to know just who is making the decisions as to which sites are worthy of being preserved and which are not. The future of heritage and whether to preserve it or not should not be the sole responsibility of one agency, especially one which is employed directly by an independent entity. In any heritage centre, a conservation plan has to recognise heritage values both tangible and intangible before their destruction. Certain changes are inevitable. Khoueiry (2000) states that heritage is never a fixed entity, but is open to a diversity of interpretations and needs to constantly reinvent itself.

If the heritage and the memory of Beirut central district have been deteriorated, as many claim, the heritage of other Lebanese centre must be rescued through an appropriate evaluation strategy. The historic centre of Tripoli is receiving significant interest recently. However, a question remains; is there a desire to conserve it properly? Are there appropriate criteria for the assessment of its special character?

DGA, Lebanese conservationists, planners, architects and others are working to develop the existing heritage statutory conservation programmes. However, the interviews with the DGA officers highlighted the fact that insufficient importance is given to developing criteria for the appraisal of urban areas, and an information model that supports such appraisal. This must be a model that integrates different levels of resolution of urban data structures and their relevant heritage characteristics. The lack of such a model exacerbates the difficulties and areas of conflict that arise in the selection and assessment of alternative intervention strategies in urban conservation areas. ICT based databases and geographical information systems appear to offer useful techniques in this situation. (ElKadi, 1996a -1996b; Amin and ElKadi, 1996; Ford and ElKadi, 1999; UNESCO, 1999).

In 1999, UNESCO published a manual that provided an introduction to GIS and its use as a tool for heritage resources management that would be effective for site managers and heritage policy-makers, at both local and national levels. UNESCO declared that GIS has a valuable application for each of the four principal procedures involved in preparing

management plans for cultural sites. These procedures are: research, analysis, response and implementation. Despite the appearance of this manual, and despite the long and extensive efforts made in many countries to introduce ICT based GIS in support of planning and intervention strategies in urban heritage, the use of ICT based GIS for heritage management has not yet been fully implemented. It has mainly been used for operational purposes, rather than managerial or executive ones (Ford and ElKadi, 1999).

1.2 Focus of the Study

The reconstruction of the central district of Beirut, as a high profile project, reveals the conflicts and problems involved in the selection and assessment of alternative intervention strategies in urban heritage areas. However, this problem is not only limited to Lebanon; experience in English conservation areas show that the situation also exists in developed countries (Walker, 1995; Mageean, 1998). Despite a long history in heritage conservation that has gradually produced a legislative framework which safeguards many different components of its historic environment, England is facing a number of difficulties in identifying and conserving the elements that give conservation areas their character (Mageean and Hulmes, 2000). This study hypothesises that this problem is related to the lack of an ICT model to support the proper appraisal of urban heritage areas. The study of the literature concerned with this issue reveals that appraisal is a necessary step to defining the major components which define the character of urban areas. It can help in the selection and assessment of alternative intervention strategies. It is a first step towards the future development of heritage policies, with regard to heritage management, conservation and enhancement (English Heritage, 1997a). Study of the literature also indicates that ICT based Geographical Information Systems appear to be useful tools in recording, implementation, response and analysis of heritage resources (UNESCO, 1999).

Review of the literature has shown that the lack of such a model is related to four main problems. The first is to do with the meaning of heritage, and the nature of its values system (Tunbridge and Ashworth, 1996; Daher, 1996; Orbasli, 2000; Mason, 2002). The second is seen in the methods applied for assessing those urban heritage values (Mason, 2002; Throsby, 2002; Pocock, 2002). The third is concerned with the ICT tools used to assess such a values system (ElKadi, 1996a- 1996b, Amin and ElKadi, 1996; El Hassan & ElKadi, 2000-2001-2002; Brooks, 2003). To these are added the fourth problem, which

relates to the legislation concerned with urban heritage conservation (Walker, 1995; Mageean and Hulmes, 2000; Mageean, 1998).

This study focuses on the themes in the literature that provide insight into the **concept of urban heritage.** It looks into the issues highlighted by Daher (1996) and Orbasli (2000) to reveal that this concept is very much related to the general concept of heritage. At this point it reviews the themes set out by a number of well known authors in the heritage field, including Ashworth and Larkham (1994), Lowenthal (1996), Tunbridge and Ashworth (1990; 1996), Ashworth and Howard (1999), Graham et al (2000) and Harvey (2001). The study gathers from these themes a central overview of the concept of heritage. This concept is further clarified with the review of the themes that identify its cognate subject, by people like Hall and Mcarthur (1998) and Knox and Pinch (2000), and the themes that describe its categories and values by people such as Mason (2002), Pocock (2002) and international organisations such as UNESCO (1972) and ICOMOS (1982, 1999).

Despite the importance of all these, it is clear that more literature is needed to provide a better understanding of the heritage concept. The study proposes to focus on **the motives that establish conservation concern.** On this point it provides some information about the history of heritage conservation. It looks into the themes provided by different encyclopaedias, and those mentioned by Jokilehto (1999a, 1999b, 1999c) who is the researcher most concerned with the history of architectural conservation. This is added to the work undertaken by Boylan (1995), Earl (1996), Ashworth and Howard (1999), Danto (2001), and the themes highlighted by authors in related fields such as Capon (1999). The review of conservation motives illustrates the diversity of heritage resources and values. This diversity highlights the importance of providing a typology that will simplify understanding of the values system.

For the task of providing a **typology for heritage values,** the study looks into the themes offered by Capon (1999). These provide a wide overview of the typologies of the world and the things that constitute this world, as proposed by many theorists and movements (starting with those by Vitruvius, Plato and Aristotle, ending with the typologies proposed by the theorists and experts of this era). Capon (2000) used these themes in a complex and ambiguous manner to propose a typology for the subject of architecture. This study considers these themes a good starting point for developing a typology for heritage values, and implements it in a relatively simple and comparative manner that should helps

understanding and evolution of Capon's typology to relate it better to the subject of heritage.

To justify the proposed typology of heritage values, this study makes reference to the typologies highlighted by great theorists such as Alberti and Ruskin, those identified by the people who have made a remarkable contribution to the heritage field such as Feilden and Jokilehto (1993), and those proposed by the conservation organisations such as UNESCO (1972). The study also considers the typologies proposed by people who are working in the field but who have provided little notable input. The aim here is to present how different categorizations fit onto the typology proposed by this study. There is no intention by any means to give equal weight to the typologies proposed by all these people.

In the next stage the study begins the **identification of the values system.** It casts a wide net of philosophy and theory to seek experience in assessing each category of heritage values. The study refers to the major themes described by the great theorists who have influenced modern western thought, such as Baumgarten, Kant and Ruskin. (aesthetic value), Tylor, Darwin and Spencer (cultural value), Hegel, Vico, Hume and Ranke (historic values), Smith, David and Marx (economic values), Comte and Popper (scientific values). Such themes are gathered from a number of encyclopaedias. The study also introduces some minor themes described by people who have had greater or lesser influence on the field of architecture, urban planning, culture and history, such as Le Corbusier and White, Straus and Rappoport et al as quoted from Capon (1999). The study then refers to the themes published more recently by notable researchers in each field such as Pocock (2002) and Landow (1994), Sokefeld (1998) and Burke (1992), etc. The aim of this is to identify the variables that give each set of heritage value its heritage significance. Finally the study proposes a theoretical framework for the assessment of each set of urban heritage values.

The study uses the theoretical framework to identify the issues that underline the choice of **appraisal methods.** It offers an overview of the deficiencies inherent in existing methods. It looks into the themes published by GCI (Mason, 2002) and those described by a number of experts and researchers in the fields of art, anthropology, history, psychology, economy and sustainability. The study looks into the work of Lichfield (1988), Voogd (1983), DTLR (1998), World Bank (1996; 1998; 2002). It offers some insight into diverse research methods, and analyses their potentials and limitations. It

looks at the work of Yin (1993), Cohen et al. (1994) and others. The study also introduces ICT methods that are useful for the appraisal process. It begins with the visualisation tools that involve GIS.

At this point the study identifies those **ICT tools** that suit the appraisal of urban areas. It reviews matters related to the surveying, recording, visualization and analysis tools that complete each other or compete with each other, but which support the appraisal process in some way or other. The aim is first to identify the role of these tools, their potential and limitations; second to identify their contribution to the appraisal process, and third to justify why GIS is a becoming a suitable tool for urban appraisal. This work covers journals and conference materials published by a number of researchers in the ICT field. The study then gives some background about the use of GIS in Lebanon and England, and reviews work published by the company that is most involved with GIS applications in Lebanon, Khateb and Alami (Ekmekji, 1997). It reviews the use of GIS in England, and its application in the heritage field. It quotes material published by English Heritage through Fernie (2000), Baker et al (1999), Newman (2002), Oxford University Brooke (2000) and others. At this stage the study focuses on English experience, because there are very few Lebanese applications and publications in the heritage field. Finally the study gives an overview of the problems affecting the proper use of GIS in the heritage field, and for this the study refers to materials published by CIPA, ICOMOS and GCI (RecorDim, 2002).

Here it is also worth noting that the study is concerned to identify the variables that give urban resources their heritage significance. It is not concerned with identifying the negative effects of listing, which goes beyond the scope of this study.

It is also worth indicating that this study focuses on identifying the variables and methods relating to the economic value that belongs to capital assets, while it only briefly lists the others. This is mainly because such identification requires a deeper analysis of economic concepts. This study also focuses on the scientific fields, and the group of people who have different interests in such fields. This is mainly because such identification would necessitate a deeper consideration of research methods.

All this work on the literature is accompanied by a review of the statutory urban heritage appraisal process, in both Lebanon and the UK. This covers a review of the legislation and guidance related to heritage designation and appraisal. The study refers to the publications of a number of well-known people in the heritage field, such as Seeden

(1993), Pearce et al. (1990), Pickard (2002) and Larkham (1996). To this is added the findings of a survey by Mageean and Hulmes (2000) concerning the appraisal of English conservation areas. The arguments in this part can in a way be further justified using materials produced in the *Review of Heritage Protection: the Way Forward* published by DCMS in July (DCMS, 2004), and the light shed by Hobson in a book published late 2004 (Hobson, 2004). This study offers a number of recommendations for better statutory urban heritage appraisal. It calls for the development of a standardised, statutory model for the appraisal of urban areas, a model that is flexible enough to accommodate the peculiarities of different local contexts.

Finally the study provides just such a standardized model for the appraisal of urban areas. The model is built in accordance with the theoretical framework identified by this study for the assessment of urban heritage resources and values. In developing this model the study takes into account different local contexts, with the methods and tools that suit the assessment of urban heritage. To prove the validity of the proposed model, this study applies it to the appraisal of the medieval centre of Tripoli. This study ends by describing the advantages and disadvantages of the model, in addition making a number of recommendations concerning the appraisal and conservation of urban heritage areas.

1.3 Aims and objectives

The aim of this study is to develop a decision support system for the appraisal of urban heritage areas. Three questions are formulated from this aim. The first is what is the deficiency in existing statutory urban heritage areas' appraisal; the second is how to appraise urban heritage; the third is how ICT can support such appraisal. The first question introduces the problem of existing statutory concern and the lessons that can be learned in this concern. The second introduces the inquest into urban heritage, its values and the methods applied to assess them. The third introduces the inquest into ICT, and its role in the assessment of urban heritage values. To respond to these inquiries a theoretical frameworks and a prototype model for the appraisal of urban heritage areas are developed. Twelve objectives are formulated from this thesis:

1 To assess the efficiency in existing statutory urban heritage appraisal in both Lebanon and England, and the outline of some lessons that are useful to advance the statutory concern in Lebanon.

2 To understand the modern heritage concept, the chronological development of conservation motives and the stages of this development.

3 To develop the categories of urban heritage values and the description of their relation to those proposed by theory of heritage conservation and architecture and existing philosophy.

4 To review of the evolution of each category of heritage value in relation to the motives, the people and the movements that established its conservation process.

5 To identify the variables and the sub variables against which each category of heritage value can be measured and the theoretical framework proposed in this concern.

6 To explore the methods that suit the analysis of each set of heritage values and the investigation of the advantages and disadvantages of each method.

7 To examine various tools that suit the appraisal of urban heritage areas and resources.

8 To review of the recent advanced ICT techniques for urban heritage recording, documenting and analyzing and the study of their applications, advantages and disadvantages.

9 To highlight the problems affecting the fully and proper use of ICT based GIS in urban heritage appraisal process and the offering of a number of recommendations in this concern.

10 To investigate the proper recording, archiving and documenting methods and the identification of the possible coordination between ICT and heritage experts.

11 To disaggregate the urban appraisal process into different levels of resolution. The first level is to deal with the diverse categories of heritage resources, the second is to deal with the diverse categories of heritage stakeholders and the third is to decide upon the affordable level of complexity.

12 To develop a prototype model for the appraisal of urban area and its resource.

1.4 Structure of the Thesis

The thesis follows the structural diagram shown in Figure 1.2. The diagram explains the structure of the thesis and the content of each chapter.

Chapter One is the introduction. It sets out and justifies the reasons for the study, and the way in which the work is undertaken. It provides an overview of the difficulties facing urban heritage in Lebanon. It relates this problem to the lack of an information model that integrates together these different levels of urban heritage resources and values, and which can be used as an analytical model rather than simply a database. This chapter introduces the aims, objectives and structure of the thesis.

Chapters Two, Three, Four and Five form the theoretical framework of the study.

Chapter Two investigates the national statutory concern with urban heritage, both in Lebanon and the UK. It reviews the statutory heritage framework in Lebanon, and identifies its shortcomings. It then describes and analyses the mature process and approach to conservation area policies that exists in England, including conservation area designation and appraisal. The aim is to show the role of urban heritage appraisal in the heritage conservation process, and to garner lessons from the potential problems of urban heritage conservation in the two cases.

Chapter Three outlines the context of urban heritage, and its relationship to the general concept of heritage that is expanding to the point of confusion. This is followed by a description of the relation of heritage to its cognate concepts (history, culture and authenticity). This chapter also focuses on conservation motives, arguing that such a study is the best means to identify heritage concepts and values. This chapter then investigates such motives and the values derived from them. Finally, the chapter organises the identified values into six categories. These categories are chosen in relation to those proposed by theorists, international organisations, and Capon (1999) who focused on categorisation in the subjects of architecture.

Chapter Four offers an in-depth review of each set of heritage values, arguing that conservation is value-based and its success depends on the quality and depth of the investigation applied to define and measure those values. For the task in hand it shows how little knowledge there is about how, pragmatically, the whole range of heritage values is assessed. It then begins to cast a wider net of philosophies and theories to consider more and different contexts of value identification. It reaches out to other fields and disciplines which already have experience in assessing such contextual issues, and can bring more rigour to this engagement.

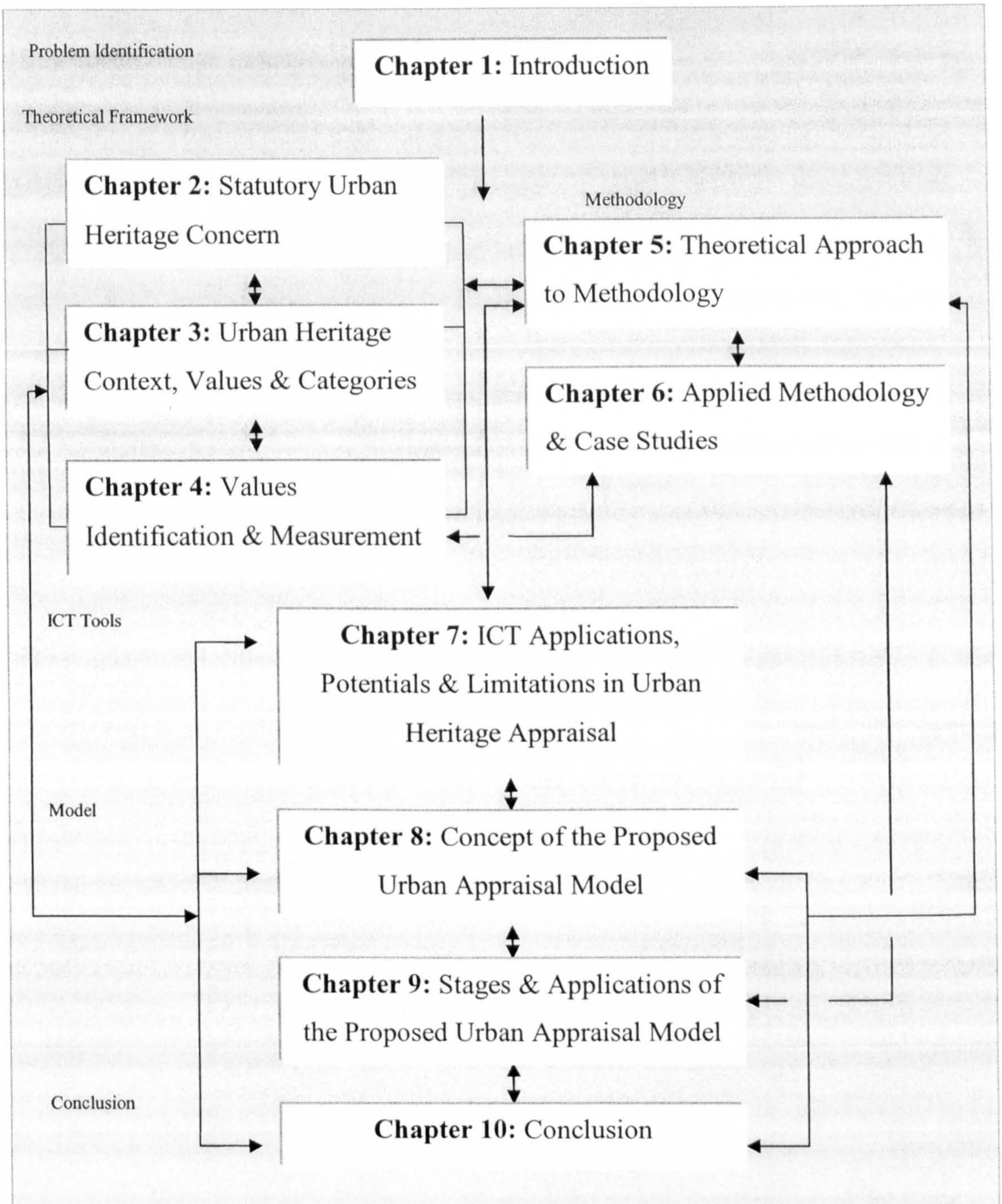


Figure 1.2: Structure of the Thesis

The first part of this chapter introduces its context. The second investigates aesthetic value. The third studies cultural value. The fourth identifies historic value. The fifth reviews economic value. The sixth studies socio-political value. The seventh analyses scientific value. The final part is the conclusion, which outlines the study of heritage values, variables, and approaches. To assist the investigation into these values this study has produced a graph presenting values in relation to the motives, the people, and the movements that established the conservation process.

Chapter Five describes the methods and tools that have been used in or outside the heritage field, and that hold promise for the urban heritage assessment task. This involves anthropological methods as well as methods used in the environmental field, economics, planning and history. This chapter gives a detailed account of these methods. It also highlights the question of the democratisation of the urban appraisal process. This chapter then reviews the issues and the tools associated with the development of the proposed urban appraisal model, and the methods used for testing its validity.

Chapter Six concerns the methodology applied by this study. It explains the tools to be used, outlines the selection of the case studies, and describes the characteristics of each. This chapter also describes any existing conservation plans for them, then reviews the data that exists about each, the methods used to gather this data and adapt it to the requirements of the proposed urban appraisal model.

Chapter Seven introduces the recent advances in ICT and its role in sharing knowledge, managing decision-making and increasing public participation. It outlines the contribution of ICT to heritage conservation and management. It gives a detailed overview of GIS, and its potential for urban heritage management. It also investigates the difficulties affecting the full use of ICT based GIS in the heritage management process. Examples are provided from the English case, with recommendations in relation to heritage recording, documenting, archiving, retrieving, accessing and sharing. Finally this chapter outlines the lessons gathered about effective ICTs for managing and assessing urban heritage.

Chapter Eight describes the concept of the proposed urban appraisal model. It introduces and explains the proposed 3-dimensional evaluation. This involves the proposed categories of urban heritage resources, urban heritage stakeholders, heritage significance and appraisal levels. This chapter also introduces the proposed software and data modes

that are considered promising for proper urban heritage appraisal. This chapter then draws some conclusions about the model's advantages and disadvantages.

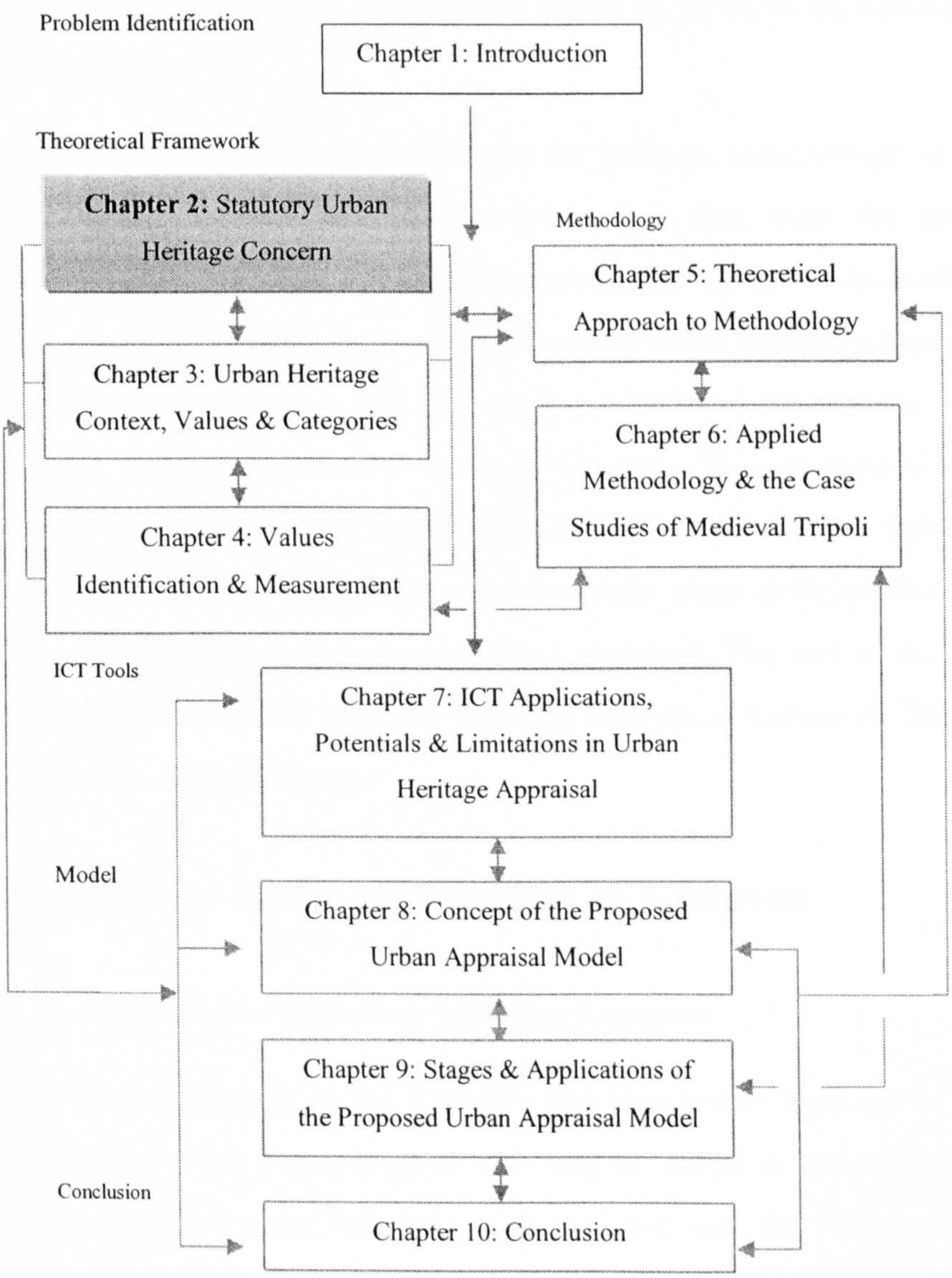
Chapter Nine describes the stages of the proposed urban appraisal model, with its application to the case studies. This involves the data input, data analysis and data output stages. This chapter describes the advantages and disadvantages of each stage.

Chapter Ten provides a summary of the thesis and the findings. The chapter also lists a set of recommendations for the proper appraisal of urban heritage resources and the proper use of ICT in this activity.

The appendices, and lists of references used are given at the end of the thesis. The appendices include a CD that contains part of the model proposed by this study.

Statutory Urban Heritage Concern

II



2. Statutory Urban Heritage Concern

2.1 Introduction

In many countries, different departments are assigned separate tasks for heritage conservation. The tasks are usually related to certain aspects of the heritage resource such as cultural and natural matters, movable and immovable objects, architectural, archaeological or landscape resources. Each of these departments has established separate criteria for recording, appraising, and managing the heritage resources that fall under the category it supervises. However, elements of heritage very much overlap with one another, and thus a heritage resource may represent more than one category. This fact is particularly apparent in urban heritage areas, which might involve a number of resources with a variety of aspects and features and which so far have no flexible and standardised appraisal criteria.

This chapter reviews the statutory concern for heritage conservation in both Lebanon and England, paying specific attention to the criteria that exist for the designation and appraisal of urban heritage areas and resources. The aims are to evaluate these criteria, and to recommend future directions for providing better urban area appraisal. The chapter is divided into four sections. The first section introduces the context. The second section reviews the Lebanese statutory heritage concern. This section also investigates the deficiencies of Lebanon's heritage legislation. The third section describes and analyses the mature process and approach to conservation areas policies that exists in England, including conservation area designation and appraisal. The aim in this is to provide some lessons for developing the statutory heritage concern in Lebanon. The last section draws the conclusions of this chapter.

2.2 Statutory Heritage Concern in Lebanon

2.2.1 Development of Statutory Heritage Concern

Attention has been given to the movable and immovable heritage of Lebanon since the Ottoman period. The beginnings of this can be dated to around 1884, when the first heritage law was adopted. This interest is widened with the French mandate, who called in 1920 for the establishment of a statutory framework for the conservation of Lebanese

and Syrian heritage. In 1929, during the French mandate, Henry Seyrig was appointed to head the newly established Directorate of Antiquities of Syria and Lebanon. He had a modern vision of heritage protection, preservation and restoration, as well as understanding the necessity for documentation of all types of heritage, from monumental buildings to antiquities on the market. Seyrig saw the need to establish scientific research institutes dealing with heritage matters. At the end of World War II he created the Institute Français d'Archéologie de Beyrouth, which he directed until 1967. He established one of the most complete research libraries of its time, on Near Eastern Archaeology and related subjects. His efforts in attracting talented and dedicated architects, philologists and other specialists resulted in the documentation, publication and restoration of much of the vast architectural and archaeological heritage of Syria and Lebanon (Seeden, 1993). Henri Seyrig's work helped in the formulation of the Law of Antiquities issued by the French High Commission in Syria and Lebanon, in 1933 (decree number 166 LR.7.11.1933). This is the Law of Antiquities that Lebanon still follows today. The National Museum of Beirut was built in 1937. Since its foundation the Department of Antiquities has been in charge of the country's archaeological heritage, and has undertaken a large number of excavation and conservation projects at major and minor sites throughout Lebanon. This process continued in different ways, including the following (Seeden, 1993):

- The 1932 planning plan for Lebanese cities produced by a French planning consultant.
- The building laws enacted in 1933 regulating set-back, sanitary and ventilation requirements.
- The creation of the general directorate of urban planning, in 1963, together with a higher council for urban planning.
- The 1950s real estate speculation and new constructions that have taken a heavy toll on the architectural heritage of Lebanon.
- The last war years that indiscriminately destroyed both traditional and more recent architecture. During this war, movement within the country was extremely difficult and the Directorate-General of Antiquities was unable to carry out even its most basic duties. The country's many archaeological sites were left unattended, and the survival

of historic cities depended largely on the conservation interests of local political forces.

This process is also continued by the recent restoration plans for the central district of Beirut, and conservation plans for other areas in Lebanon. These included those applied in Saida, Sayfee, Ain al Mrysee and Al Ashrafeeh.

2.2.2 Legislation Framework

Heritage resources are listed, in Lebanon, for their historical, artistic and public interest, but there is no description of these interests in Lebanese legislation. Age is considered the one single factor that justifies direct conservation; anything built before 1700 A.D. will receive automatic protection.

Para 1.1 of the decree number 166 LR.7.11.1933 notes that heritage encompasses:

- All the man-made resources erected before 1700 A.D., irrespective of the city to which such resources belong.
- All the immovable resources erected after 1700 A.D. whose conservation is of historic, artistic and public interest, and which are scheduled, in the historic building list in accordance with Para 7.

Para 1.2 of the same decree notes that immovable heritage encompasses:

- All overt man-made resources that have a geological structure.
- All ancient constructions, remains and buildings that have an overt or buried structure.
- All movable fixtures of earth and buildings.
- All natural sites used by human beings such as shelters, caves and rocks that contain pictures, motives, inscriptions or carving.

Para 2.19 of the same decree notes that intervention in areas of heritage character requires the approval of the Department of Antiquity

Para 2.22 charges the Ministry of Culture to place on the heritage list those resources that the Director of Antiquities considers worth conserving.

Para 3.27 notes that historic buildings can encompass each ancient immovable resource or part of it, each land or property whose listing will enhance the heritage significance of its surrounding resources.

Para 3.28 recommends developing a number of statutory policies for the surrounding of listed resources (lands or property) to enhance their heritage, artistic and visual characteristics.

The criteria proposed by this decree for the designation of the heritage resources do not:

- Conform to the current view of heritage conservation. Recent conservation theory deals with the aesthetic, cultural, historic, economic, socio-political and scientific interest of heritage resources. It is no longer acceptable to accumulate all the interesting aspects of heritage resources under the historic, artistic and public categories, and pretend that such categories of interest are sufficient to identify the heritage significance of urban resources (Refer to Chapters 3, 4 and 5).
- List the range of variables that must be investigated when appraising the heritage significance of the resource. Accordingly, conservation officers might focus on the variables with which they are familiar (areas of expertise), or as he/she desires.
- Deal with the conservation of urban areas. They focus on individual resources and their surrounding. There is a need to update these criteria to deal with urban areas conservation.
- Give any guidance about the methods that can be used to assess public interest.
- Mention ways of dealing with the democratisation of the heritage conservation process.
- Provide any guidance or recommendation about the methods of recording heritage resources, nor the nature of sources needed to justify its designation.

The statutory heritage concern in Lebanon needs some significant reworking, if it is to guide and control the conservation of Lebanon heritage efficiently. In the following section, this study presents and discusses the English efforts in this area. The aim is to:

- Identify the significant procedures taken in England for conserving and enhancing the heritage significance of conservation areas, and which could be used in Lebanon for better conservation of its heritage resources

- To examine the effectiveness of the English statutory heritage concern. The aim is to identify the kind of procedures that must be avoided when developing the statutory heritage concern for Lebanon.

2.3 Statutory Heritage Concern in England

2.3.1 Overview

The term used to address heritage resource in England is the 'Historic Environment' (Table 2.1). The definition used by the Department for Culture, Media and Sport (DCMS) for the historic environment in England covers archaeological sites, post-war buildings, designed landscapes, gardens, historic wreck sites, battlefields, listed buildings and the royal parks of London (Hanna, 1998). This categorisation often causes disputes (Pickard, 2002). However the idea of categorisation remains a way of organising the conservation of diverse heritage resources. Different legislations and departments are qualified by English law to manage the conservation of these categories, although there is a degree of overlap in their management. Each of these departments has established separate criteria for assessing, managing and recording the heritage resources that come under the category it supervises. Additionally, each of them tends to follow a system that serves its internal purposes and requirements for information. However, elements of heritage very much overlap with one another, and a heritage feature may fall under more than one category. To take the example of a building located in a beautiful environment, many people especially architects, might assume that this building is fundamentally an architectural work and would therefore categorize it under the category of 'Monuments'. Landscape specialists might think about the setting of the building in the scene, and thus categorize it under 'Landscape'. In England many buildings are located under two separate categories, listed buildings and monuments, and thus they are managed, recorded and even conserved by two separate programmes, each with their own criteria. This problem is very apparent when dealing with an urban area which includes varied heritage resources, and which so far has no specific criteria for the assessment, recording and conservation of its special character (Walker, 1995). With the lack of such criteria, conservation officers dealing with urban areas have found themselves required to understand and relate together all the different criteria for the diverse aspects of their heritage resources. They are required to decide which criteria to follow. In many cases the

criteria proposed for urban conservation are influenced by the personality of the officer, and his individual desires (Walker, 1995; Mageean & Hulmes, 2000; El Hassan & ElKadi, 2002). It must be noted that despite the efforts made to develop appropriate coordination between the different heritage programmes and departments, the boundaries are still in need of significant reworking.

Categories of the historic environment proposed by the English legislation and guidance/s

Main & Sub Categories				Aspects	Acts/Guidance/s
Historic Environment	Buildings (PA1990.336)	Listed Buildings A building included in the statutory list and any object or structure fixed to the buildings / within the cartilage of the buildings (PPG15.3.33)	Building		1990.1.5
				Educational/ industrial.	PPG15.6.12
				Residential / war Bldgs.	PPG15.6.12
			Structure / Erection		(PA1990.336)
			Object fixed or within the curtilage of the building	Chimney Pieces/ wall panelling, painted or plaster ceilings	PPG15.3.31
	Monuments (1979.61.7)	Scheduled Monuments Any monument of national importance (1979.1.3) Exclude any: ecclesiastical building in use; Dwelling occupied by a non caretaker person; any object or structure not of matter of public interest	Building		(1979.61.7)
			Structure		(1979.61.7)
			Work		(1979.61.7)
			Cave		(1979.61.7)
			Excavation		(1979.61.7)
			Site	Remains of Building	(1979.61.7)
				Remains of Structure	(1979.61.7)
				Remains of Work	(1979.61.7)
				Remains of Cave	(1979.61.7)
				Remains of Excavation	(1979.61.7)
				Remains of Vehicle	(1979.61.7)
				Remains of Vessel	(1979.61.7)
				Remains of movable structure of public interest	(1979.61.7)
				Remains of Aircraft	(1979.61.7)
			Monument + Land		(1979.61.9)
			Garden		(1983.33.7)
			Area		(1983.33.7)
	Areas with Archaeological Importance (Any area which appears to merit archaeological treatment)				(1979.33.)
	Conservation Areas Architectural and historic interests			Varied aspects	(1990-71) (PPG15.4.15)
	Parks / Gardens				(PPG15.6.38)
	Battlefields				(PPG15.2.25)
	Landscapes				(PPG15.6.40)

Table 2.1: Historic environment categories as presented by this study based on the English statutory conservation programmes.

2.3.2 Conservation Areas

The first consideration of the idea of giving protection to areas can be traced back to the case Iveagh v. Minister of Housing and Local Government. The court in this case held that a building might be of special architectural or historic interest by way of its setting as one of a group. Although in this instance it was determined that the buildings were not of sufficient merit to warrant protection individually, the Court of Appeal concluded that a more general power was needed to protect matters of 'group values' (Pickard, 1996). A private member's Bill widened the idea of giving protection to areas, and the Council of British Archaeology (CBA) began the selection of a list of historic towns. The CBA stated that the inclusion of any town in this list required the preparation of a comprehensive survey of its historic environment, illustrating its layout, historic buildings, its urban quality and any other special characteristics (Pickard, 1996). The CBA was aiming to define an obligatory part for the listing process by making specific provisions for the conservation of features emphasised by the survey. In 1966, four consultant pilot studies were produced covering Bath, Chester, Chichester, and York.

However it was not until 1967 that discussion was broadened concerning the need for conservation policies for areas of architectural and historic interest. This was the result of a report entitled Preservation and Change, which was published by the Ministry of Housing and Local Government (MHLG). MP Duncan Sandys promoted the issue, in the Civic Amenities Act of 1967 (Larkham, 1996). Section 1 of this Act required LPAs to determine which parts of areas were of special architectural and or historic interest, the character and appearance of which it was desirable to preserve or enhance, and to designate such areas accordingly. This was embodied in planning legislation by an amendment Act of the following year, and included in the Town and Country Planning Act of 1971. After 1974 the Secretary of State for the Environment was empowered to designate conservation areas. In 1990 LPAs chose to formulate and publish proposals for the preservation and enhancement of many conservation areas within their district, and to submit them to public consultation (s.71 of the LBCA Act of 1990). This process continued with the eventual publication of Planning Policy Guidance 15 (PPG15) in

September 1994. PPG15 showed the government's commitment to conservation areas. It states:

'It is fundamental to the government's policies for environmental stewardship that there should be effective protection for all aspects of the historic environment. The physical survivals of our past are to be valued and protected for their own sake, as a central part of our cultural heritage and our sense of national identity. They are an irreplaceable record, which contributes..., to our understanding of both the present and the past. Their presence adds to the quality of our lives, by enhancing the familiar and cherished local scene and sustaining the sense of local distinctiveness which is so important an aspect of the character and appearance of our towns, villages and countryside.' (Para.1.1).

PPG15 also emphasised the importance of including firm conservation area policies in local plans, to be based on a clear definition of what constitutes special architectural or historic interest in every case. Since that time, LPAs have all designated at least one conservation area but some have chosen to designate many small areas individually, covering a larger area in total (Pearce et al., 1990). Conservation areas despite being defined by the same national legislation as listed buildings, and the subject of central government policy advice PPG15, the primary responsibility for defining and designating conservation areas lies with the planning authorities. No attempt has been made at the national level to prescribe criteria for which it is desirable to preserve or enhance (s 69 of the 1990 Act). Furthermore there is no grading of the relative importance of conservation areas covering major historic cities as for far more modest ensembles of cultural heritage (Pendlebury, 2001).

Types of Conservation Areas

The first type of designated area ranges from historic centres, such as town and village centres, to those tightly drawn around specific religious buildings or monuments. More recently this has been widened to involve historic street patterns, perhaps a village green, or features of local historic or archaeological interest. Indeed there is no standard specification for a conservation area in the whole English conservation system. It may be large or small, taking in a whole town centre or a small group of buildings. It is more often based on listed buildings, but this is not a requirement; some areas may have no listed buildings at all (Civic Amenities Act 1967). PPG 15 Para 4.2 states that a conservation area might depend on the historic layout of property boundaries and

thoroughfares; on a particular 'mix' of uses; on characteristic materials; on appropriate scaling and detailing of contemporary buildings; on the quality of advertisements, shop fronts, street furniture and hard and soft surfaces; on vistas along streets and between buildings; and on the extent to which traffic intrudes and limits pedestrian use of spaces between buildings. Para 4.4 of PPG15 claims that although conservation areas vary greatly, certain aspects will almost always form the basis for a coherent assessment:

- The topography - for example, thoroughfares and property boundaries - and its historical development;
- The archaeological significance and potential; the prevalent building materials;
- The character and hierarchy of spaces; the quality and relationship of buildings in the area, and also of trees and other green features.

The assessment should always note those unlisted buildings which make a positive contribution to the special interest of the area.

2.3.3 Designation Problems of Conservation Areas

English programmes are facing difficulties in the conservation of areas (Morton, 1991; Walker, 1995; Mageean and Hulmes, 2000; Hobson, 2004). This problem is not a new one. In 1975 Roy Worskett, the chief Planning Officer in Bath, identified key problems with conservation areas: 'a major weakness lies in the varying standards of designation' (Mageean and Hulmes, 2000). He stated that 'Designation has been rampant in some areas but in one or two countries has been non-existent...standards seem to vary in direct proportion to the personalities of planning officers and their staff'. In 1991, Graves and Ross (1991) also mentioned that since the criteria for designation are only loosely governed by statute, the system is open to abuse and is being abused. Morton (1991) stated that the conservation areas designation has become devaluated as areas of less special interest have been designated. Davies (1991) argued that historic areas are losing their individual character through inadequate attention to detail. In 1992 the English Historic Towns Forum published a report entitled Townscape in Trouble. It argued that the processes by which LPAs designate, control, monitor and enhance their conservation areas were weak, haphazard and ill considered. In 1995 the Cambridgeshire Guide argued that areas defy simple classification, and are so diverse that the planning policy guidance PPG does not give any specific advice about the criteria for selecting areas for

designation (Walker, 1995). The area must clearly be special, and the local planning authority must be able to demonstrate its special aspects to justify designation.

Even after the publication of guidance for conservation areas appraisals in 1997, the designation of conservation areas continued to be ambiguous. Selbourn (1996), Mageean and Hulmes (2000) and Hobson (2004) state that problems of area designation arise when moving towards a more specific understanding and an interpretation of what concepts such as 'special character' mean, and more particularly how change which respects the qualities of special character can and should take place.

English criteria for the designation urban areas are in their turn facing most of the deficiencies listed in the Lebanese case. The difference is that:

- England has a specific legislation and policy framework for conservation areas
- English experience in the conservation of urban areas is richer than that in Lebanon.
- Planning legislation for urban areas is more involved with the conservation of such areas than is the case in Lebanon.
- Guidance publications provided by English Heritage concerning the management of urban areas are diverse, and play a role in informing local authorities about the form and content of conservation area appraisals.
- Designation criteria of the other heritage resources categories help the officers in assessing the heritage significance of conservation areas. Conservation officers might refer to criteria proposed for listed buildings, scheduled monuments or gardens for assessing the heritage significance of the areas that contain such resources.

Despite being more efficient than in Lebanon, the English criteria for the designation of conservation areas still need to be:

- More concerned with recent views of heritage conservation, and with the kind of variables that must be reviewed when assessing each set of conservation values.
- More concerned with a standardised approach to certain aspects of conservation areas.
- More concerned with the democratisation of the urban heritage appraisal process.

This study believes that the standardisation of appraisal procedures is the first step towards effective areas designation, conservation and management. Mageean and Hulmes (2000) have also mentioned the importance of such standardised procedure.

2.3.4 Conservation Areas Appraisals

English Heritage (1997a) defines appraisal as the action taken to assess the character and appearance of the conservation area. It believes that appraisal is the first stage of appropriate heritage conservation and enhancement, meaning that the appraisal is a basis for conservation policy. Ward (1992) states that appraisal is needed to justify the designation, and should go much further than simply a statement acknowledging the special architectural and historic interest of the area. He (1992) suggested that appraisal should also, where appropriate, address issues such as how the council will undertake enhancement work when resources permit.

The English Historic Towns Forum (1998) suggests that appraisal is necessary in order to justify the designation when making development control decisions and at appeals; to make sympathetic proposals for the preservation and enhancement of the area's character and appearance, including the identification of development opportunities; help residents, traders, council members, potential investors and other interested parties to understand the background for the designation; help potential developers to formulate their applications, obtain funds or encourage inward investment. This study in its turn believes that such appraisal is an important action in the proper assessment of the heritage significance of an urban area and its resources. No proper policy can be implemented without an efficient appraisal of these resources.

2.3.5 Process of Conservation Areas Appraisals

The most appropriate time to prepare an appraisal is as part of the designation process, to establish the special qualities of the place as a basis for subsequent action. Mageean and Hulmes (2000) argue that in terms of existing Conservation Areas, appraisals should be undertaken as soon as possible, priority being given to those where the pressure for change is greatest. Indeed PPG15 identifies the importance of appraisal as a basis for policy development; however it is less than clear about the methods that might be adopted to translate description into prescription. Recent output from the English Historic Towns Forum provides some further guidance, by suggesting that proposals for preservation and

enhancement might follow a clear and careful assessment of the special architectural or historic interest or appearance of an area. English Heritage is more helpful. It sees a clear distinction between appraisals and the necessary but separate work problem analysis, development control statements, and design guidance. Mageean and Hulmes (2000) argue that all of these should come together as components of the subsequent conservation area study. This study agrees with English Heritage concerning the separation of appraisal from the problem analysis, development control statements and design guidance. The reason is that this study believes that:

- Appraisal must immediately follows any attempt to designate an urban area; first to justify such designation, and second to recognise what resources, variables and elements give the area its heritage significance.
- Appraisal is a mean to inform the local authority about the heritage significance of the area. This in turn helps the local authority to decide upon the focus of its problem analysis, development control statements and design guidance.

2.3.6 Commitment and Efficiency of Conservation Areas Appraisals

The Royal Town Planning Institute (1993) claims that the production of conservation area character appraisals by local authorities is limited, while the appraisals produced often concentrate on only one or two elements of concern. Despite the publication of conservation area appraisal guidance by English Heritage in 1997, English local authorities produce few conservation appraisal reports. Indeed, of those produced only a handful could be said to represent fully considered appraisal (Mageean and Hulmes, 2000, Department for Culture, Media and Sport, 2004).

In an attempt to review the nature of advice on conservation areas appraisals in England, Mageean and Hulmes conducted an analysis survey on the use of conservation areas appraisals by local authorities. The work focused upon those who adopted their development plan before publication of the conservation areas appraisals guidance. The survey found that from fifty-five local planning authorities almost half had no intention of producing conservation areas appraisals, though conversely more than half were committed to producing appraisals or had completed them in some form (Table 2.2). Mageean and Hulmes (2000) linked this lack of commitment and progress with appraisals to several factors:

- The lack of resources.
- The heavy duties of conservation officers.
- The lengthy process of conservation area appraisal, both in the formulation of the methodology to be followed and the fieldwork and research required.
- The high number of conservation areas that some local authorities are required to manage.
- The lack of clarity within the available guidance.
- The delay in production of the appraisal guidance, which led many authorities to perceive a lack of urgency for the establishment of appraisals.
- The belief of many local authorities that appraisals are necessary when an area is faced with some particular development.
- The high proportion of authorities without any development plan for appraisals.
- The lack of clarity within the guidance about what to include in the development plan.

Approach to Conservation Area Appraisals (CAAs)	% of authorities contacted
Have no development plan policy on CAAs, and have not begun to prepare any CAAs	42.9
Have no development plan policy on CAAs but committed to producing CAAs	11.4
Have no development plan policy on CAAs but have begun producing CAAs	20.2
Have development plan policy on CAAs, but have not begun producing CAAs	11.4
Have development plan policy on CAAs and have begun producing CAAs	14.3

Table 2.2: General overview of attitude to conservation areas appraisals (Mageean and Hulmes, 2000)

2.3.7 Content and Details of the Completed Appraisals

In the spirit of the English roots for conservation areas, they have not proposed a common blueprint for urban heritage appraisal, but have instead set out guidance that proposes a checklist to be used in putting an appraisal together. It has been recognised that for small or very simple conservation areas, an assessment can probably be completed swiftly and briefly; a larger, more complex area, with varied characteristics and many overlays of development, will call for weightier analysis.

In preparing this guidance leaflet, English Heritage consulted various national bodies. A cross-section of local authorities was also canvassed, to gain their experience. The checklist introduced by this guidance (English Heritage, 1997a) includes:

- The origins and the development of the area.
- The prevailing or former uses within the area and their historic patronage, and the influence of these on the plan form and building type.
- The archaeological significance and potential of the area, including identification of any scheduled ancient building.
- The architectural and historic qualities of the buildings and the contribution made by key unlisted buildings.
- The character and relationship of spaces within the area.
- Building materials, textures and colours.
- Local details.
- The setting of the conservation area and its relation to the landscape.
- The extent of loss, intrusion or damage, i.e. negative factors.
- The existence of neutral area

Mageean and Hulmes (2000) have also examined the content of completed appraisals against the criteria set out in the guidance (Appendix II). They found that:

- Some issues were not taken into consideration in the appraisals process (the archaeological significance, the potential of the area, the existence of any neutral areas and the consideration of local details). Mageean & Hulmes related this to the fact that the appraisers are less familiar with how to consider these elements, and therefore prefer to leave them out; or they are unaware of recent guidance.
- Some inconsistencies in the treatment which authorities give to each issue. This is seen through the varying degree of detail associated with the consideration of particular topics.
- The treatment of issues is less comprehensive.

- The varying treatment of issues within appraisals is partially a product of different perceptions of the role and status of these documents.

Based on this finding it can be said that it is not enough simply to give guidance about the content of the appraisal. There is a need to develop an obligatory model that can be used by all local authorities, whatever the resources and circumstances of each.

2.3.8 Quality and Status of the Appraisal Documents

Very little guidance on the presentation of character-appraisal documents is given. The only clear guidance is again from English Heritage (1997a), which suggests that whilst such documents should be as factual and objective as possible, emphasis should be placed on effective graphic presentation to make an immediate and readily comprehensible impact. Illustrations may include the following:

- Maps or sketches that demonstrate the area's historical development.
- A townscape analysis showing, for example, important views into and out of the conservation area, landmarks, and open or green spaces.
- A map showing listed and unlisted buildings, and groups of buildings which contribute to the character or appearance of the area.
- Photographs or drawings of buildings and local details.
- Reports.

In their survey, Mageean and Hulmes (2000) also examined the quality and status of completed English appraisal documents against the criteria set out in the guidance (Appendix III). They found a significant variation in these forms, which were in some ways confusing. This is again an indication that a standard presentation form is needed, to simplify their understanding by local people who are not involved in the appraisal of other national conservation areas.

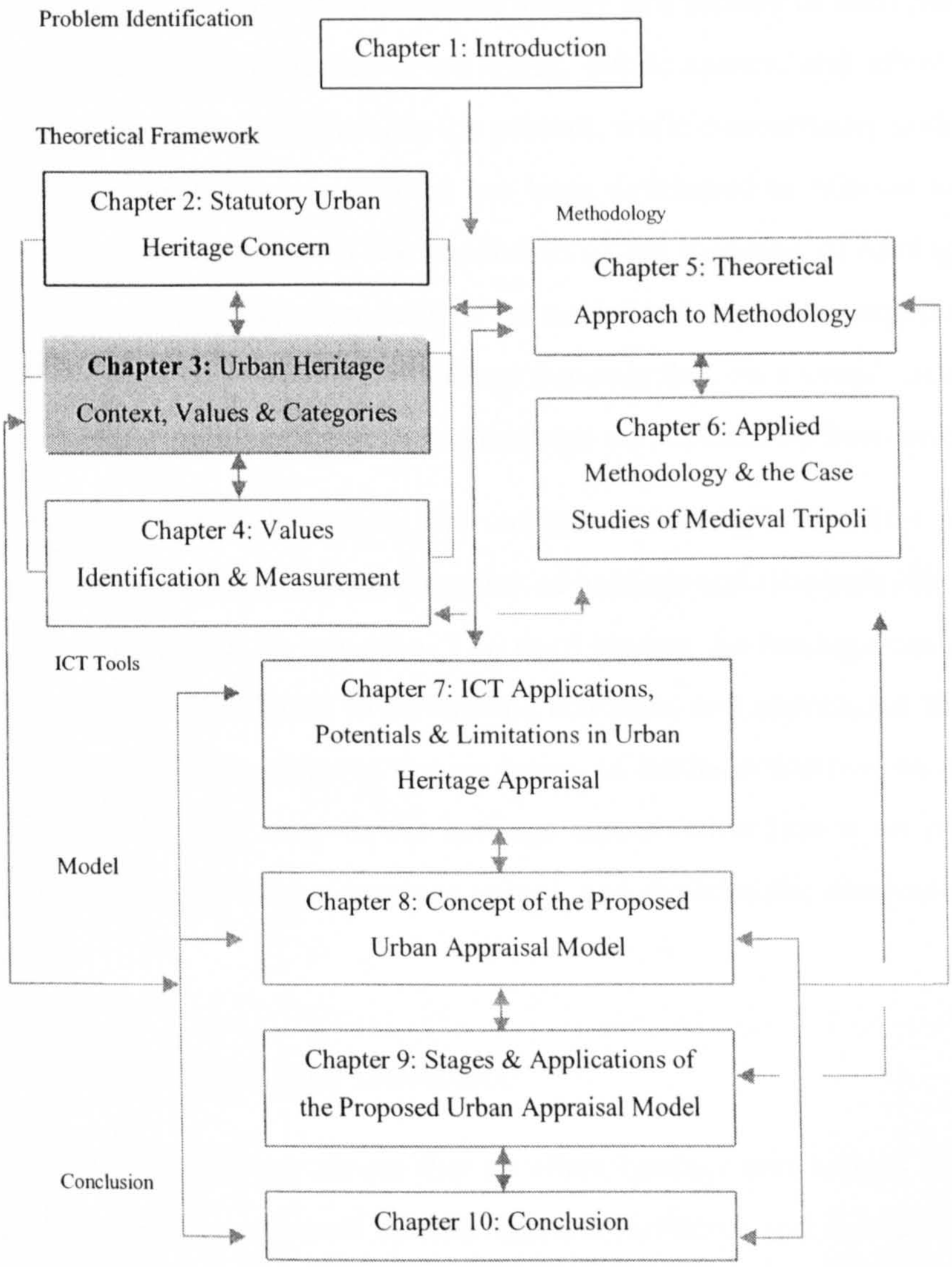
2.4 Conclusion

This chapter indicates that Lebanese programmes lack any systematic criteria or guidance for the selection of resources to be conserved. Heritage resources are listed for their historical, artistic and public interest, but there is no description of these interests in Lebanese legislation. Lebanese programmes deal with individual resources, and do not

conform to current views of urban heritage conservation. They do not list the types of urban areas that should be conserved, nor the procedures that must be followed concerning their designation and appraisal. The Lebanese conservation programmes are leaving the way for conservation officers to select or omit what they wish, with no care for the democratisation of the urban appraisal process.

Although the English programmes are more involved with the designation and appraisal of urban heritage areas, they need to provide a better framework for the appraisal of urban areas. The commitment and progress of English appraisals are not entirely satisfactory. English urban heritage appraisal is in some ways inconsistent; some issues are omitted or only treated partially, and they show varying degrees of detail associated with the consideration of particular topics. This is an indication that developing guidance for the appraisal of urban area is not sufficient. There is a need to provide a better understanding of the meaning of heritage, its values system and the methods and tools that suit the assessment of its values. In other words, there is a need to develop a standardised model for the appraisal of urban areas, a model that is flexible enough to accommodate local peculiarities. Chapter 3 of this thesis provides an identification of the meaning of urban heritage, and the categories of its values and resources. Chapter 4 reviews the variables that give each value its aspects. Chapter 5 describes the methods and tools that suit the assessment of urban heritage areas. Chapter 8 introduces a model that can standardise the appraisal of urban areas, while retaining the necessary flexibility.

Urban Heritage Context, Values & Categories



3. Urban Heritage Context, Values and Categories

3.1 Introduction

For the modern conservation movement, urban heritage includes a wide array of tangible and intangible heritage resources. This array includes archaeological sites, ancient monuments, individual buildings or groups, streets and ways connecting those groups, places surrounded by buildings, and objects (Daher, 1996). It also involves human beliefs, traditions, memories, ways of life and many other aspects of heritage activity and productivity (Tunbridge & Ashworth, 1996). This variety of heritage aspects has made the recognition of urban heritage characteristics a complex task. Orbasli (2000:13) states that urban heritage cannot be narrowed down to individual buildings or monuments of historic interest, nor can it be interpreted simply as a totality of built parts. Urban heritage exists in the physical attributes of buildings, public spaces, and urban morphology. It is experienced by users (inheritors) in the present, while concurrently making the heritage of the next generation. Such a concept has been developed in relation to heritage theories and has expanded along with the expansion of the meaning of heritage, from being the record of the past to the renaments of industrialisation and the regeneration of heritage. Effective understanding of urban heritage depends thus on a sound understand of both the heritage context, and the categories of heritage values derived from modernity.

This chapter attempts to review the context of heritage. The first part introduces the chapter. The second identifies the context of heritage and illustrates the confusion derived from the evolution of its meaning. The third studies the heritage categories. The fourth analyses heritage in relation to its cognate concepts, and approaches the concept of urban heritage. The fifth investigates the evolution of heritage motives as an attempt to bring together the different motives for heritage conservation into a set of values. The sixth analyses the proposed set of heritage values, and explains the categories of values for that heritage

3.2 Urban Heritage Context

The previous chapter has shown that an urban heritage area ranges from historic centres, to those tightly drawn around specific historic buildings and monuments. It can be based on listed buildings, but this is not a requirement, however it can also have no listed

buildings at all. It gathers its value from the resources that contribute to its special character both tangible and intangible. This study argues that the meaning of urban heritage cannot be studied in isolation of the general meaning of heritage because urban areas include, as mentioned in the introductory section of this chapter, a varied of resources that fall under the varied categories of heritage.

Urban heritage area like heritage lacks any full, or even remotely accepted theorisation of its context. It encompasses a wide array of tangible and intangible aspects which are combined with multi-use and multi-consumption and which make any attempt at synthesis both complex and prone to constant qualification (Harvey, 2001).

What is Heritage?

Originally, the word heritage was the collective generalisation derived from the idea of an individual's inheritance from a deceased ancestor, or bequeathed when dead to descendants (Harvey, 2001). A glance through current conservation theories reveals that the term 'Heritage' has subsequently acquired different meanings, and is applied in a wide variety of contexts. Hall & Mcarthur (1998:5) claim that heritage is an expression of appraisal that represents an entirely subjective, relative concept or a process which happens to some things, and can happen to almost anything. Ashworth & Howard (1999:34) state that anything can become heritage, and can acquire a set of meanings that give it a heritage value. Anything can be heritage when it plays a part in the history and culture of a present society. Anything can be conserved as heritage when it invites our recognition and our participation. Any past or present product can be listed as heritage when it is purposively developed in respond to current needs, demand for it, and is shaped by those requirements (Tunbridge and Ashworth, 1996). It is the new cult, whose shrines and icons multiply in daily life (Lowenthal, 1996). It is also the objectivation of the spirit of community that provides a sense of place, a sense of difference, uniqueness, a belonging and continuity to an area and community (Conzen, 1966; Pertson, 1994; Miller, 1995; Orbsli, 2000). It is in addition, the things that attract the attention of visitors to an area. Urban heritage areas include for example archaeological or historical sites and objects that are appreciated for their age-value and nostalgic atmosphere, and appropriated for the affirmation of identities and political ideologies (Holtorf, 1998; Graham et al. 2000). More often than not heritage is the things with special value from the viewpoint of aesthetics, history, science, art, archaeology, ethnology or anthropology (UNESCO, 1972).

Hall & Mcarthur (1998:5) declare that heritage resources are defined according to individual and collective attitudes, values and perceptions, wants, technology, economy, politics and institutional arrangements. It follows that what is considered a heritage resource in one community may be 'neutral stuff in another'. This is not a new view of heritage; Carr claimed in 1961 that 'all heritage is someone's heritage, and that someone determines that it exists' (Tunbridge and Ashworth, 1996). Similarly Zimmermann in 1951, and Mitchell in 1979 announced that what heritage features are not, they become; they are not static but expand and contract in response to human wants and human actions (Orbsli, 2000). This is not to say that heritage is unimportant; rather, it is to emphasise that the meaning and significance of heritage to various groups, interests and individuals are dependent on a range of different and changing sets of individual and collective values. The problem for heritage officers is therefore to be able to understand the way in which heritage and the demands placed upon it are shaped, and how this knowledge can then be used to influence and satisfy the various interests in it (Hall & Mcarthur 1998:6).

Heritage cannot be considered anymore as it was traditionally used either as having one value which dominate the others or as being a black box which all aspects of heritage values collapse into 'significance'. Heritage is expected to be multivalent and contingent because of its social nature that changes and its categories of values that are not immutable. Heritage field cannot be anymore relatively isolated, composed of small groups of specialists and experts that determine what constitute 'heritage' and how it should be conserved (Mason, 2002). In recent decades, its concept has evolved and expanded and new groups have joined the specialists in its identification. In this changed environment, the articulation and understanding of values have acquired greater importance when heritage decisions are being made about what to conserve, how to conserve it, where to set priorities, and how to handle conflicting interests.

Pocock (2002) states that heritage values are produced out of the interaction of an artefact and its contexts; they don't emanate from the artifact itself. They can only be understood with reference to social, historical, and even spatial contexts, through the lens of who is defining and articulating the value, why now, and why here? For conservation professionals, this requires some substantial rethinking of the kinds of research and knowledge that are needed to support conservation. Traditionally, values were articulated by experts' analysis of heritage as a work of art or a record of the past. Only recently has the conservation field begun to embrace such factors as economics, cultural change,

public policy, and social issues, and they have yet to be fully integrated into the field. While it is important to understand heritage values and the way of shaping heritage, it is also interesting to list and categorise the kinds of things that can be addressed as heritage.

3.3 Heritage Categories

Heritage comprises an interdependent spectrum of relics, ranging from the great collective features of the environment to the most trifling of souvenirs or personal memorabilia (Lowenthal & Binney, 1981). It is combined creations and products of nature and man that in their entirety make up the environment in 'which we live in space and time', and which encompass past and continuing cultural practices, knowledge and living experiences (ICOMOS, 1982; 1999). In other words heritage is any sort of intergenerational exchange or relationship that includes artistic performance and productivity, social behaviour, economic performance of industries and the range of contemporary cultural, sporting or media activity. Tunbridge and Ashworth (1996) identified the new heritage as having five meanings; these meanings being Figure 3.1:

- A synonym for any relict or physical survival of the past that is significant enough to be included in a museum collection, or an archaeological site or designated monumental building. This may include places associated with past events and personalities.
- Non-physical aspects of the past when viewed from the present, in terms of ideas of individuals and the collective memories and heritage of everyday life.
- All accumulated cultural and artistic productivity, whether produced in the past or currently (high culture).
- Elements in whole or in part from the natural environment; 'heritage landscapes' or heritage flora and fauna that are survivals from the past, or are seen in some sense as being original or typical.
- A major commercial activity, loosely grouped into what is increasingly termed the 'Heritage Industry'.

Heritage context, as shown, through this chapter has become extended from the past inheritance to cover a wide array of meanings. The process of this evolution has led to some important changes in heritage conservation strategy. Ashworth & Larkham, in 1994,

reduced and drew down the summary of this evolutionary progress into a number of distinct steps (Figure 3.2). Each of these steps involves decisive shifts in the planning approach. Preservation approaches dominated the first concern for the surviving relics of the past. These approaches focused upon features such as artefacts and buildings, selected according to sets of supposedly objective and obvious intrinsic criteria for age, beauty, solidity, etc.

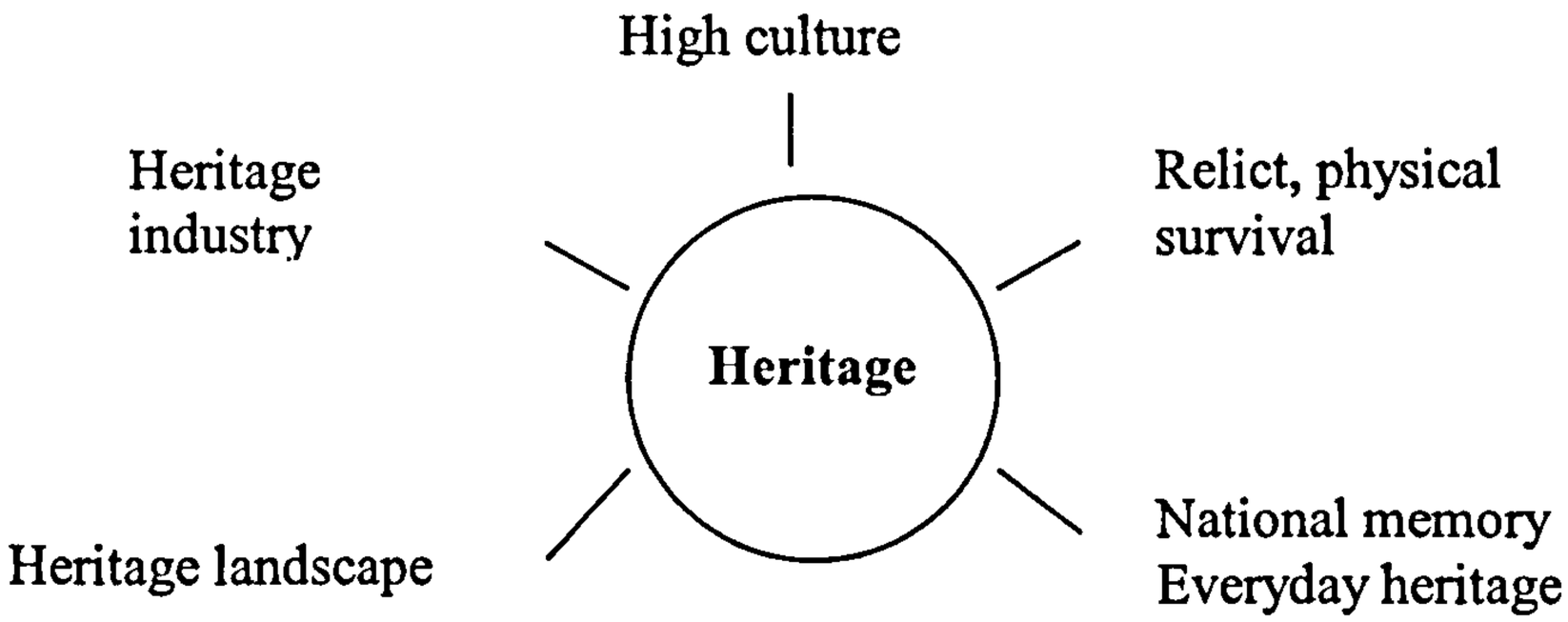


Figure 3.1: Five meaning of heritage identified by Tunbridge and Ashworth.

The shift in conservation widened the objects of attention to ensembles and areas, and thereby inevitably involved the modern functioning of such districts. The goal has subsequently become widened to the generation or rehabilitation of areas. Finally the shift to a market orientation focused upon the relics of history (the past) as a product, selected according to the criteria of consumer demand and managed through intervention in the market.

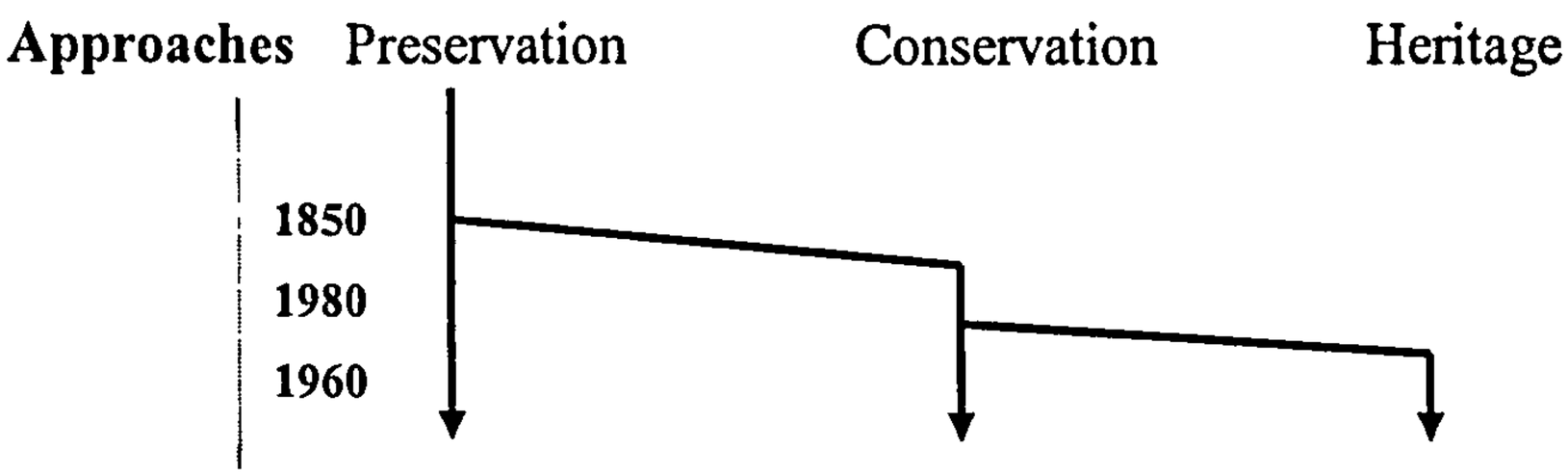


Figure 3.2: Steps in the heritage evolutionary process as gathered from Ashworth & Larkham.
(Ashworth & Larkham, 1994)

Tunbridge and Ashworth (1996) highlighted the intrinsic dangers in the rapidly extending uses of heritage, and in the danger of the resulting stretching of the concept to cover so much. Inevitably precision is lost. This in turn conceals issues, and magnifies problems. This problem is seen first in the relation of heritage with its cognate concepts; second in the identification of heritage conservation motives; third in the understanding of heritage values.

3.4 Relation of Heritage with its Cognate Concepts

The ambiguity involving heritage understanding is seen in the relationships of heritage with its cognate concepts. The most obvious of these are history, culture and authenticity. The terms 'Historical', 'Cultural', and 'Heritage' are widely used in most conservation charters, programmes and theories in adjectival relationship to each other. So the terms 'Authenticity' and 'Heritage'; however the meanings of these terms are not always the same. The misunderstanding of the terms introduces ambiguity in heritage conservation strategies. It is therefore appropriate to investigate and identify the meanings of 'History', 'Culture' and 'Authenticity' and to highlight their relationships with Heritage.

3.4.1 Heritage & Culture

Culture and heritage are widely used in the same context. In many situations heritage is replaced by the word culture, and via versa. The Burra charter states that the term 'Cultural Significance' is synonymous with 'Heritage Significance'. However, heritage is not culture. Heritage is generally defined as a selective use of culture, to be experienced or to be saved for future generation. Heritage is thought of in terms of acknowledged cultural values (Hall & Mcarthur, 1998). More often, any cultural item, from which arise issues of identity, is considered heritage (Knox & Pinch, 2000). Ashworth & Howard (1999) argue that heritage is incorporated into culture, because the productivity of the past or the present is included alongside in what is identified as culture; or more comprehensively, because culture is defined as the mentifacts of a social group. They add that in some countries the natural heritage is also part of the cultural heritage. The authors explain that in much of Europe, there is almost nothing natural. The land has been intensively occupied for so long that natural habitats no longer exist; all nature is cultivated and thus cultural. This contradicts Lichfield's view. Lichfield (1988:64) argues that natural resources are not part of man's cultural heritage. Similarly, UNESCO (1972) places cultural and natural heritage under different categories. Whether natural is included in culture or not, the term culture is very close to the modern meaning of heritage. Further explanation of that relationship is developed by this study in the third part of Chapter 4.

3.4.2 Heritage & History

The Britannica dictionary defines history as 'known or established in the past'. This relationship to the past relates history to heritage, heritage being popularly known as 'the

thing that gives a sort of existence to the past' (Ashworth & Howard, 1999:36-37). However definition of heritage and history vary. Arnold et al. (1996) assert that 'History offers us true stories about the past. Heritage sells or provides us with the past we appear to desire'. Ashworth & Tunbridge (1994; 1996:6) explain heritage as a specific use of history and not a synonym for it; history is the remembered record of the past. It is what a historian regards as worth recording, whereas heritage is what contemporary society chooses to inherit and to pass on. According to Lowenthal (1996), history explores and explains pasts grown ever more opaque over time whereas heritage clarifies pasts, so as to infuse them with present purposes.

Therefore both history and heritage make a selective use of the past. The distinction is that in heritage, the features include things that historians would regard as ahistorical. Ashworth and Larkham (1994) argue that it is not history that is used for modern conservation purposes, but heritage. For further information about the history and heritage refer to the fourth part of Chapter 4.

3.4.3 Heritage & Authenticity

Ashworth & Tunbridge (1990:23) argue that 'exploration of conservation motivation must come to terms with two freely used, but loosely defined, expressions which embody distinctly different approaches to historic artefacts and thus to the historic city; authenticity and heritage are terms often used in adjectival relationship to each other. They are also often used separately as self-explanatory justifications for the selection and presentation of artefacts, yet neither provides a set of clear guiding principles. Authenticity appears to offer pure rather than applied justifications that can be implemented with objectivity'. For an urban centre it is argued that authenticity, as a fixed truth must be replaced by a more flexible concept. Ashworth and Tunbridge (1990:26) state that 'authenticity defined as the accurate presentation of the past through the conservation of its relic features has little relevance to the definition of the historic city'. That is to say, urban heritage conservation is not necessarily a basis of authentic analysis.

3.4.4 Conclusion

Heritage is the concern of the modern conservation movement. It is a complex domain that encompasses high culture, heritage landscape, heritage industry, relict physical

survival, national memory and everyday heritage. Heritage is not necessarily a product of the past, and in an urban context it is not necessarily authentic; it might include resources that are considered ahistorical or inauthentic. Heritage includes sense of cultural identity; however it is not identical to culture, but heritage uses parts of culture, nature and history to save it, experience and develop it. This can be recognised through understanding the categories of culture, nature & history in relation to the values that make them worth conserving. The following section will study how the motives that animate conservation changed with time, as an initial step in the identification of Heritage values. The identification of culture, nature and history categories will appear later, in the third section.

3.5 Motives for Heritage Conservation

3.5.1 Introduction

The motives that established heritage conservation played a major role in shaping its meaning. These motives have evolved together with modernity. They can be recognised in the new sense of humanity, historicity, the establishment of nation states and the romantic nostalgia for the past. Likewise they can be seen in the development of cultural studies, the sustainability trends in environmental management and in the attempts to explore the economic assets of urban areas. This part shows how the motives that animate conservation change with time. The aim is not to study the effects of those changes on the meaning of heritage employed, but to identify the set of resources to be assessed and the set of values to be sought out for a proper appraisal of the special character of urban heritage.

Any effort to break down and describe the values attached to a particular heritage site immediately encounters conceptual and practical difficulties. There are so many different kinds of values, and the interactions among them are so complex, that a more effective way of treating this issue has to begin with a clear, effectively neutral, agreed-upon way of characterizing different types of heritage value as seen by the wide variety of stakeholders in conservation efforts. A study of the heritage motives would be an effective guide to heritage values recognition and would move conservation stakeholders closer to having a lingua franca in which all parties' values can be expressed and discussed. By studying the motives that established heritage conservation the values

placed by different stakeholders can be voiced and compared more effectively. This is needed to facilitate the assessment and integration of different heritage values in conservation planning and management. The importance of studying heritage motives is that it lends comparability to the evaluation of different projects.

Motives for heritage conservation implicitly minimize some kind of values and elevate others. Motives for heritage conservation might also foreground conflicts between the cultivation of certain values at the expense of others.

3.5.2 Chronological Development of Conservation Motives

The context of heritage conservation as known most recently has passed through different development stages. In the period between 1400 and 2000, this study has distinguished eight main movements in heritage recognition. The stages are considered in respect to the movements nominated in Figure 3.3. The stages identified by this study are:

- The Antiquity stage
- The Classical stage
- The Historical stage
- The Nation States stage
- The Cultural Heritage of Humanities stage
- The Cultural and Natural Heritage Resources stage
- The Heritage of Outstanding Universal Value stage
- The Heritage Industry stage.

These stages are related to the motives that recognised new dimensions for heritage values and heritage conservation. That is not to say that these motives have no roots in other stages or they do not passes from one stage to the others. But it is to indicate the period during which each of these motives has received a great deal of interest and has played a significant role in conserving heritage and in analysing some of its values.

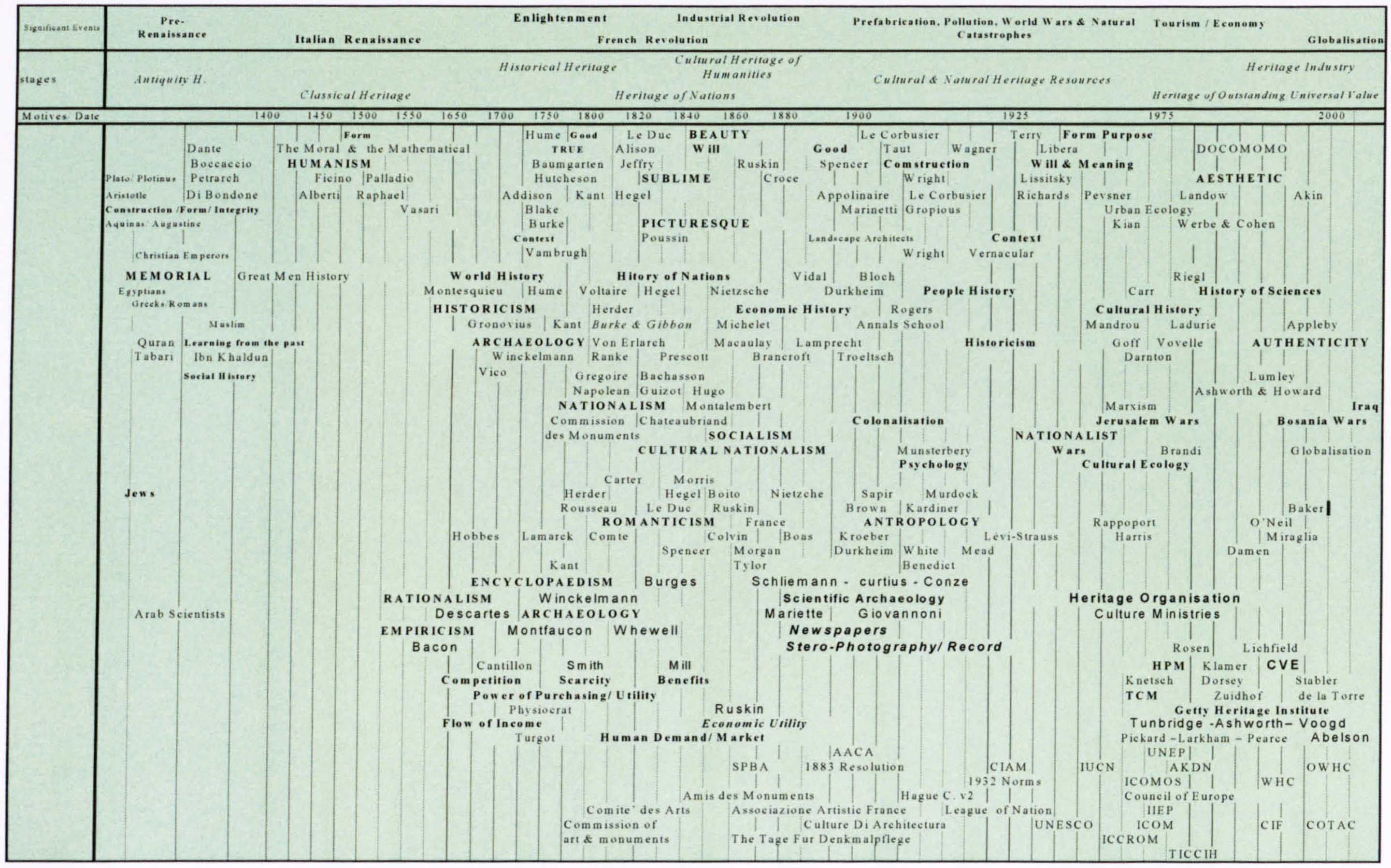


Figure 3.3: Chronological development of heritage conservation.

Different philosophical, political, industrial, scientific and cultural movements have issued such interest and have shaped heritage conservation motives. Figure 3.4 shows the chronological development of heritage motives in relation to main philosophical, political, industrial, scientific and cultural movements. This figure illustrates also that conservation motives overlap and their roots go to the pre-renaissance period.

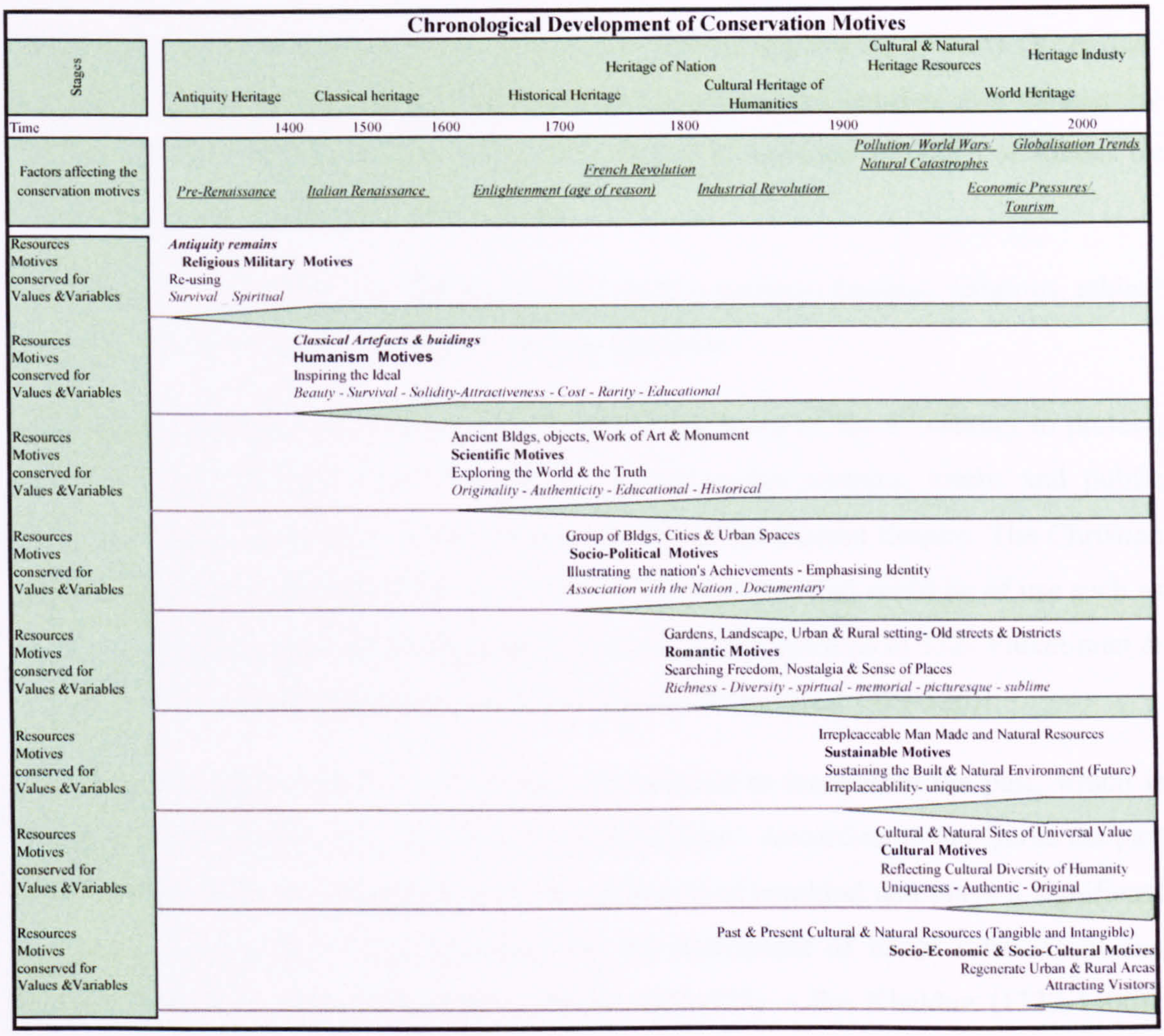


Figure 3.4: Chronological development of conservation motives

3.5.2.1 *Antiquity Stage*

The first stage represents the pre-Renaissance period where the origins of the modern approach to heritage conservation were formed by different cultures and civilisations. These cover, according to Jokilehto (1999a):

The **Egyptians** and the Persians who introduced the concept of a memorial, and built the mastabas, pyramids and other tombs.

The **Greeks** who aimed to rebuild or restore buildings' functions and aesthetic appearance while remembering their original name and significance (Justinian in the sixth C), and who related the word monument to memory and used it to encompass political and moralistic issues. (Pausanias writing around AD 170 – Inscription on the tomb of Alexander the Great).

The ancient **Romans** who proposed and applied different approaches to study (Vitruvius' in the 1stc BC) and repair the high artistic worth of the ancient temples after damage by fire, earthquake, use and activities (the restoration of Erchtrheum acropolis of Athens by the conservation architect Manlios Korres).

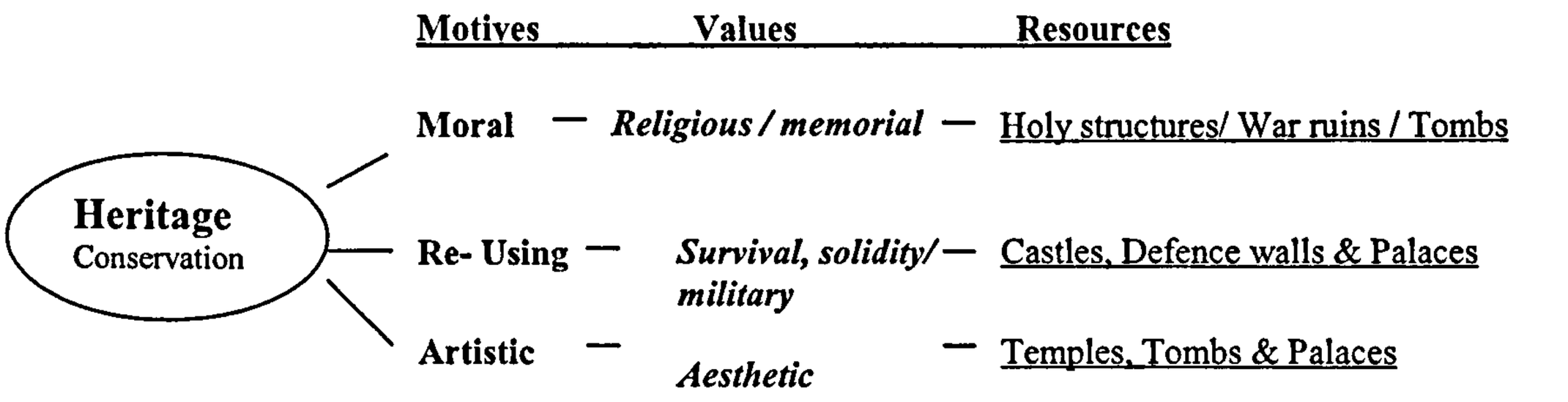
The **Jews** and the beliefs derived from their Torah to transmit familial, religious, ethical and national traditions and identity to future generations

The **Christian emperors** who had care from the beginning of the 4th century to protect, restore and prevent the destruction of the ancient pagan temples, tombs and public buildings that had been spoilt after Christianisation of the Roman Empire. The Christian emperors of this period called for restoration of all structures that could be of use such as palaces, aqueducts and baths [Emperors such as Julian the Apostate in 332- Valentinian & Valens in 365 – Leo & Majorian in 458, and Theodoric the Great (493-526)].

The **Muslims** (philosophers & historians) who desired to learn from the past, which is considered a living factor by their holy book 'the Quran'. According to the Quran the past is not dead, it must be studied, it is for the guidance of mankind and plays a significant role in the wellbeing of the individual and the betterment of social relations in any society, helping to form their future. [Tabari (839-923) – Ibn Khaldun (1337-1406)]. Apart from the development of the historical consciousness, those peoples also developed the system of the Waqf to maintain and repair community properties. The Waqf established and managed existing mosques, schools and caravanserais. It guaranteed upkeep and repair of historic buildings and avoided the division of larger properties between several inheritors, and laid the ground for common social responsibilities.

During this stage there was also much destruction; ancient monuments were modified for new uses, or their material was re-used in new constructions. While extension, repair and continuity was relevant in holy structures (such as Mecca), castles and defence walls for purely military and religious purposes.

At this stage and despite the desire to transmit ethical and national tradition to future generations and the desire to learn from the past, the conservation motives mainly focused on the moral, artistic and regenerational aspects of the historic resources. Figure 3.5 summarises this stage.



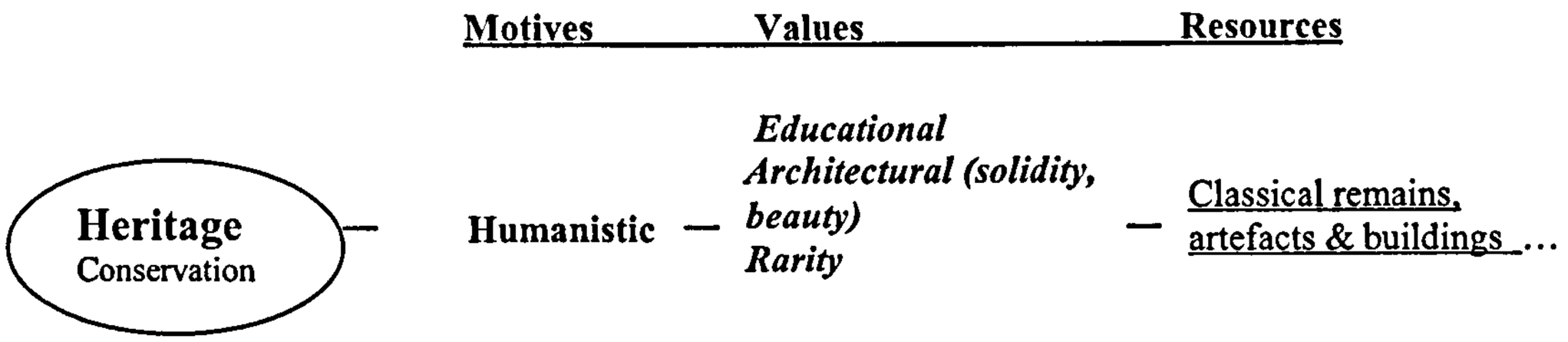
Aims: Transmitting religious and memorial inheritance _ Preserving the beauty, survival and solidity of architectural structures

Figure 3.5: Heritage conservation motives, values & resources as drawn from the Antiquity Stage

3.5.2.2 *Classical Stage*

The second stage occupies the period from the beginning of the fourteenth century, to the late seventeenth century. This is the stage of the Italian Renaissance who recognised in classical antiquity both an epoch of the past, and an ideal model that could inspire contemporary culture and open it to future development in all fields. During this stage the humanists began to collect, document, measure and analyse even the most fragmentary classical remnants. Medieval Italian writers such as Dante Alighieri (1265-1321), Giovanni Boccaccio and Francesco Petrarch (1304-74) who described the ideal of classical remains played a main role in this domain (Jokilehto, 1999a; Danto, 2001b). This could be compared also to the role played by Giotto di Bondone (1261-1331), Alberti (1404-72), Marsilio Ficino, Raphael (1483-1520) Andrea Palladio (1508-1580) and many others who encouraged the investigation, restoration and teaching about the remains from antiquity to advance the cause of modern art and architecture by returning to the perfect forms and proportions, as they were conceived to be, of the past (Earl, 1996; Jokilehto, 1999a; Danto, 2001b). In this period, the classical works were considered ideal, attractive or desirable and precious for their rarity. This concern for the fate of the classical heritage culminated in a letter attributed to Raphael and his circle. The letter recalled the greatness of the classical heritage and the world they represented, it recalled also their value as a testimony of Italy's past and as models for new magnificent constructions to show the holy seeds of peace and Christian principle (Jokilehto,

1999a:32). For these reasons, this stage has been termed that of Classical Heritage. Conservation motives in this stage were humanistic, aiming to find the ideal of life, the ideals of art and architecture. The conservation motives of this period were summarised by Alberti who was concerned about the quality of architecture. Alberti mentioned that historic buildings are worthy of protection because of their inherent architectural qualities, solidity, beauty, their educational value and their historical value (Jokilehto,



1999a:27). These beginnings in Italy soon influenced other countries; the acquisition and restoration of antiquities become a fashion that spread through the 'grand tours', to many European countries. Figure 3.6 summarises this Stage and Figure 3.3 shows the contribution of this stage to the chronological evolution of heritage conservation.

Aims: Inspiring the ideal that antiquity projects

Figure 3.6: Conservation motives, values & resources as drawn from the Classical Stage

3.5.2.3 *Historic Stage*

The third stage, beginning with the late seventeenth century is the Enlightenment, or the age of reason. Jokilehto (1999a:16) defines the Enlightenment as a movement of thought concerned with interrelated concepts of God, reason, nature and man. The distinct issue of this stage is the rise of historicism that proposed material relics as essential adjuncts of historical study, and a prime source of empathetic understanding of the past (Lowenthal & Binney, 1981:18). In this stage the remains of the past were identified as scientific material and documentary evidence by Giambattista Vico (1668- 1744), David Hume (1711-1776), Edmund Burke (1729 –79), Immanuel Kant (1724-1804), Johann Gottfried Herder (1744-1803), Georg W. F.Hegel (1770-1831), and Edward Gibbon (1737-94). They studied the past to understand and to investigate the real significance of its achievements and to recognize the origin of matter, to make a distinction between true and false, original and copy, to explore the world and submit everything to critical considerations. All that encouraged the documentation and the critical study of ancient

objects, works of art and monuments. They encouraged also the publication of documents and studies such as Prussian collections catalogues by Lorenz Beger, Greek antiquities by Jacob Gronovius, Roman antiquities by Johann Georg Graevius and History of Architecture by Johann Bernhard Fischer von Erlarch. These were followed by an important interest in archaeological study, excavation [Johann Joachim Winckelmann (1717-1768), the father of archaeology] and recording (Town of Herculaneum, Pompeii and Stabiae). This stage marked the first steps towards using scientific methods for the study, evaluation and definition of ancient objects. At the same time it marked a significant contribution toward the clarification and development of modern conservation principles. This study calls this period the 'Historic Stage' as historic resources are considered essential for the advance of science.

Motives emphasised in previous stage continued in this one. However the scientific motives were the most significant. Conservation motives focused on analysing the past materials that are of historical value, to understand the world and the matter of things and to develop sciences and technology. This study locates this stage between the beginning 18th century (the beginning of the new sense of scientific enquiry) and the beginning of the 19th century (the period by which no one could deny the important of the past to scientific analysis). Since this period, support given to the historic value of heritage has increased exponentially. The conservation motives, the heritage values and the heritage resources discussed in this stage are described in Figure 3.7. Figure 3.3 shows the contribution of this stage to the chronological evolution of heritage conservation.

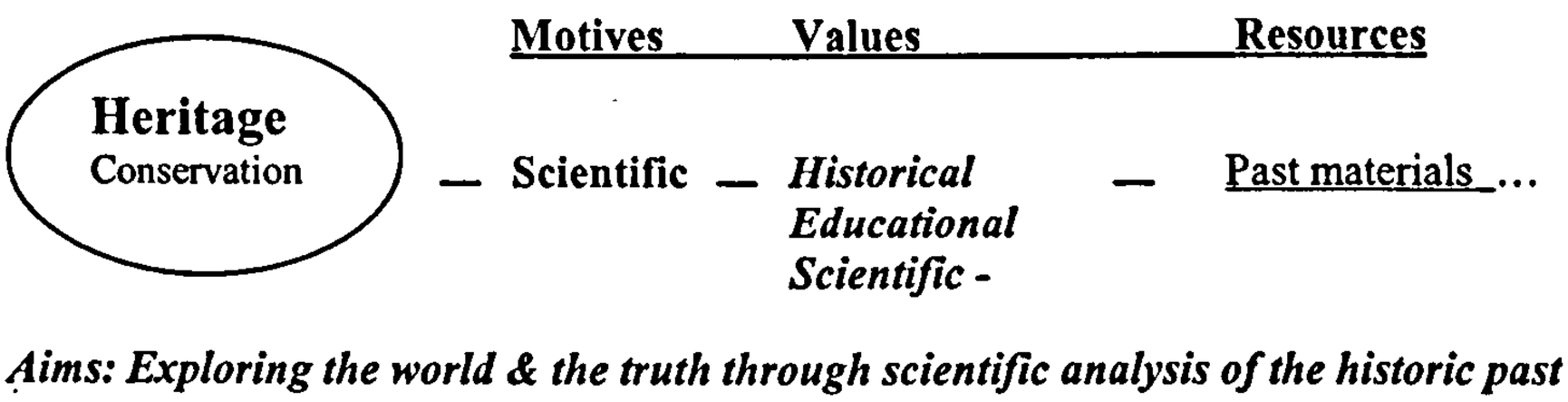


Figure 3.7: Heritage conservation motives, values & resources as drawn from the Historical Stage

3.5.2.4 *Nation States Stage*

The fourth stage covers the period of the French Revolution, which marked a turning point in the understanding of heritage. The French revolution which led to the loss of many important works of art and historic buildings generated the idea of national heritage which belongs to all citizens, and which should be protected on the behalf of the state.

The rise of such concepts invited attention to national buildings and monuments, and not only to that of Greece and Rome. Jokilehto (1999a:75) argues that the French Revolution was the moment of synthesis for various developments in the appreciation and conservation of the cultural heritage. This revolution sharpened historical consciousness, revealed the complexity of reality, and showed the force of passions, the insufficiency of theories and the power of circumstances. The French Revolution brought together various lines of thought from previous decades, establishing some fundamental concepts related to the heritage of nation. These included the idea of monuments of history, science and art being useful for maintaining the national identity and to learn from the glories and errors of the past, and that therefore there is a national responsibility to care for them.

In 1792, the French National Assembly decided that 'the sacred principle of liberty and equality no longer permit the monument raised to pride, prejudice and tyranny to be left before the people's eyes', considering that any description, signs, monuments or symbols reminiscent of the king or of feudalism were to be destroyed without delay, and melted to provide metal' (Jokilehto, 1999a:70). In Paris alone such beliefs led to the demolition of dozens of medieval churches and convents and to the tearing down of dozens of rood screens, funeral monuments and statues. It also led to the forcible entry of palaces and castles and the sale or vandalisation of their collections and furniture. Notre Dame of Paris for example, lost the row of statues of kings in its west front.

The serious destruction of the material heritage caused by the French revolution generated a reaction in which heritage became valued as a collective good, owned by society to be enjoyed by all. Possessions of the church, of feudal lords and of the king were considered national properties; the nation had the responsibility for their care and protection. The same laws that authorised the destruction of feudal and royal symbols rejected the collapse and the vandalism of Europe's absolutist ancient regimes. The regimes itself started to recognise the importance of a past to legitimate the new concept of state and citizen (Ashworth & Howard, 1999; Jokilehto, 1999a). As a result, different committees were developed to care for these possessions, and to prepare inventories and decide upon classification. The inventories covered architectural monuments, works of art and archives. On October 1790, in France, The Commission des Monuments was given the task of caring for works of art and to prepare these inventories. In October 1791, the Comité d'Instruction Publique (later replaced by the Commission Temporaire des Arts in 1793) was established. Its task was to survey and prepare an inventory of all objects

useful for public education, belonging to the nation. On 14th August 1792 the Commission des Monuments was particularly charged to control the conservation of those objects, which could be seen as having special interest because of their artistic quality. On January 1793 the commission stated:

'All you who because of your republican virtues are the true supporters of the liberty that is emerging...you must ensure the strictest control in this respect. Indifference would be a crime here because you are merely the guardians of a heritage which our great family has the right to expect you to give account of...each one of you should behave as though he was truly responsible for these treasures the nation has entrusted to him.' (Jokilehto, 1999a: 70-71). Thus penalties were foreseen for those who damaged national property. On October 1793 a document prepared by the Commission Temporaire decreed that it was 'forbidden to remove, destroy, mutilate or alter in any way with the excuse of eliminating traces of feudalism or royalty from libraries, collections, private galleries, public museums...books, manuscripts, engravings, drawings, paintings, relieves, statues, antiquities...that interest art, history and education'. From this point onwards, Republican virtue is allied to an interest in the arts and the freedom to destroy, which had burgeoned during the most violent period of the revolution, gave way to the freedom to conserve as a demonstration of equality between citizens because they would all now be able to enjoy the national heritage on equal terms (Ashworth & Howard, 1999). These beginnings in France soon influenced other countries. The monuments commissions created in France after 1790 were quite soon copied in other European countries, resulting in national protective legislation and the restoration by the state of many historic buildings.

Abbé Gregoire (1750-1831), François P. G. Guizot (1787-1874) and Camille Bachasson (1801-80) who created the French heritage organisations and committees played a significant role in restoring among the French, the feeling of appreciating their heritage. They prepared the way for the concept of the heritage of a nation. François René Vicomte de Chateaubriand (1768 - 1848), Victor Hugo (1802-85) and the Comte de Montalembert (1810-70) contributed in a different way to opening the public mind to seeing the national importance of heritage. For instance Hugo, who was influenced by Chateaubriand and supported by Montalembert, claimed around the 1830s that the destruction of heritage meant depriving the country of income. It was a question of the national interest, to save and maintain them. There were also the questions of an appropriate inventory, and conservation work (Jokilehto, 1999a).

The nationalism movement founded in the 19th century after the Napoleonic wars, and the development of nation states in Europe, contributed new interest to the idea of national heritage. Nationalism, which is an ideology based on the belief that a people with common characteristics such as language, religion or ethnicity constitutes a separate and distinctive political community, proposed heritage as that which can be used to maintain identity, to legimate resources and overthrow competitors (Tunbridge and Ashworth, 1996; Ashworth and Howard, 1999; Jokilehto, 1999; Graham et al., 2000).

This study terms this stage as the 'Nation states' for its consideration of a national responsibility. This stage overlaps with stages three and five. It starts with the late 18th century when possessions of the church, of feudal lords and the king were considered national properties. The stage continues to late 19th century. Conservation motives emphasised in the previous stages continued, however this time with a national concern and a desire to maintain the position of the nation and to overthrow competitors (in commerce or industry), and to provide lessons for the people toward rebirth and glory. At this period, historic buildings came to be conceived as national monuments, and were restored in the most appropriate style as an illustration of the achievements of the nation and society. The national concept of heritage derived from this stage was furthered and emphasised with the next stage. Figure 3.8 summarises this stage. Figure 3.3 shows the contribution of this stage to the chronological evolution of heritage conservation.

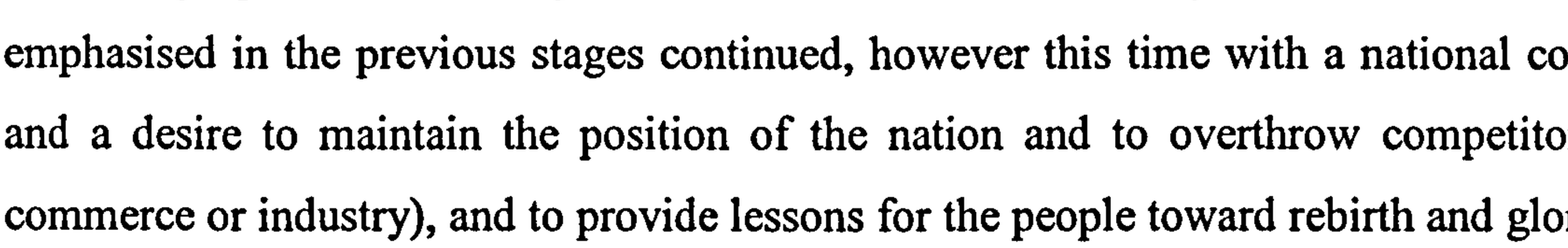


Figure 3.8: Heritage conservation motives, values & resources as drawn from the Nation State Stage

3.5.2.5 *Cultural Heritage of Humanities Stage*

Stage five is given to the period that expands conservation concerns to cover historic gardens, cultural landscape, and the interpenetration of human spirit and the urban and rural setting. This stage is seen in the romantic return to nature, in the supremacy of feeling and emotion over reason, in the search for freedom and the nostalgic wish to re-live the past as the present; and in the opposition to mass production and a return to fine craftsmanship in the vernacular tradition (Ashworth & Howard, 1999; Jokilehto, 1999a).

It is seen in the search for a new reality and the seeking to escape from a world growing uglier, more mechanical, and materialistic under the pressure of industrialization, urbanization and democratisation. This stage was shaped by the Romantics who can be divided into three groups (Capon, 1999: 123-130). The first was involved with exploration of imagination and thus concerned with organic theories [Hegel in Germany]. The second was concerned with the aesthetic feeling for landscape and poetry [John Ruskin (1819-1900) and William Morris (1834-96) in England]. The third was involved with revolution and liberty [Jean J. Rousseau (1712-1778) and Victor Hugo in France]. The view of the three Romantic groups influenced value judgements and prepared for a new era of heritage evaluation and management. One of the significant efforts of this era was the extending of conservation interest beyond the previous specific area of monuments and buildings.

Romantics recognized the future and did not like what they saw; consequently, they turned to the Middle Ages, nature, and religion for escape [Ruskin, Scott]. They rebelled against earlier conventions and styles and introduced the concept of 'age' and 'picturesque', first in relation to painting and later extending it to ancient ruins and medieval churches [John Carter (1748-1817), Ruskin, Sidney Colvin (1845-1927)]. Such romantic beliefs were best described in Monsieur Castagnary's words who attacked, in 1864, the restoration made to Notre Dame de Paris by Violet Le Duc: 'I am among those who believe that decay suits a monument. It gives it a human aspect, shows its age and by bearing witness to its vicissitudes reveals the spirit of those generations that passed by its shadow (Jokilehto, 1999a:155-156). Romantics introduced also the concept of the 'sublime' and extended it from nature to spiritual monuments [Ruskin]. They rebelled against the loss of identity of old towns, if buildings were destroyed to permit new developments in urban areas such as making way for new squares and wider streets. Ruskin warned against taking false pride in these, and drew attention instead to the values found in the old districts and dark streets of the old town. He stated that a historic city did not consist only of single monuments, but was an ensemble of different types of buildings, spaces and details. Ruskin emphasised that the interest in historic towns in countries like France and Italy did not depend so much on the richness of some isolated palaces, 'but on the cherished and exquisite decoration of even the smallest tenements of their proud period' (Jokilehto, 1999a:180). So did Hugo and Anatole France (1844-1924). Hugo claimed that a cathedral is not an isolated monument, but most importantly a part of

the historic city. Similarly France emphasised the importance of preserving the national memory in the authentic stones not only of historic buildings, but also of historic towns.

In this stage the relation of heritage to different cultures was emphasised with the effort of people like Friedrich Wilhlem Nietzsche (1844-1900). Nietzsche noted that the cultural processes that lead to the dissolution of values and orders could not be achieved within one social group and not even within one state; the process must be broader. He meant that each cultural region would need to go through its own process, and define relevant values (Jokilehto, 1999a:214).

This study calls this stage the 'Cultural Heritage of Humanities', for its deep concern with human spirit and culture. Its root is located between the beginning of the nineteenth century and the beginning of the twentieth century. Motives highlighted in this stage were diverse and include all the motives emphasised since the renaissance but with a specific concern of the romantic ones. These romantic motives widened the concerns of conservation from the isolated building to its setting and then even wider, to the whole city. Buildings, cities, landscapes and ruins began to be appreciated for their memorial, contextual, spiritual, picturesque and sublime values, or for their relation to the life of a social group (William Morris). Figure 3.9 summarises this stage. Figure 3.3 shows the contribution of this stage to the chronological evolution of heritage conservation.

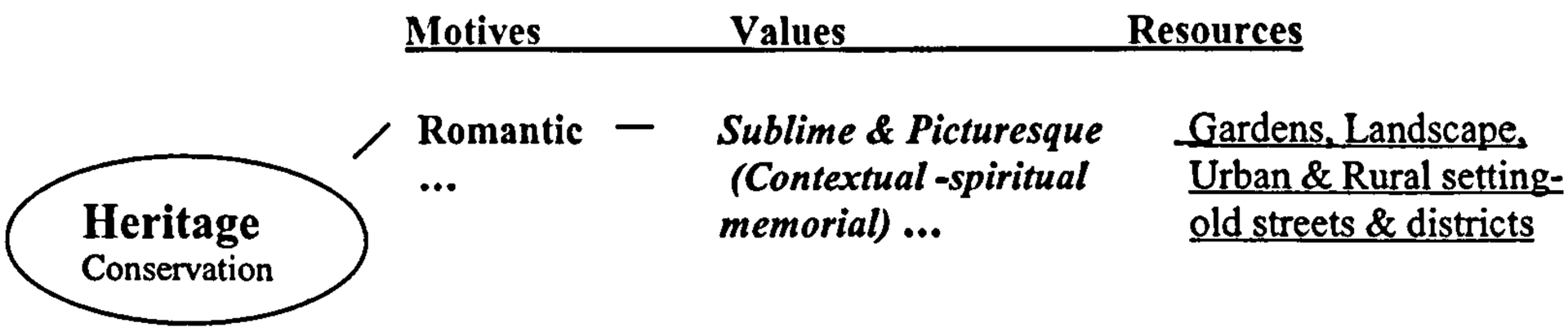


Figure 3.9: Heritage conservation motives, values & resources as drawn from the Cultural Heritage of Humanity Stage.

It must be noted in this stage that the heritage practice was strongly influenced by stylistic restoration [Violet Le Duc, George G. Scott (1811-78)] but this approach was increasingly placed under attack by some conservationists [Ruskin, Morris, and Clemen Boito (1836-1934)]. The Italian architect Boito succeeded in evolving from within restoration and conservation a new way of dealing with restoration, more scientific and respectful of all monuments' values. He considered it risky to do as Le Duc proposed, to

put oneself in the place of the original architect. Instead one should do everything possible and even impossible to maintain the old artistic and picturesque aspects of the monument; any falsifications should be out of the question. The better the restoration, the more the lie would triumph, emphasising thus that a building is a document that reflects in all its parts, the history of the past. It is not limited to the first structure; all subsequent alterations and additions were considered equally valid as historical documents, and therefore to be preserved as such. At the same time he was also critical of Ruskin's approach, which he grossly simplified and misinterpreted to mean that one should not touch a historic building and, rather than 'restoring' it, should let it fall in ruins. He declared that the aim of restoration and conservation should be conceived as respecting each of the three classes of a building's value (the archaeological, the picturesque appearance, and architectural beauty) and that is: 'archaeological restoration', 'pictorial restoration' and 'architectural restoration' (Ashworth & Howard, 1999:139-140; Jokilehto, 1999a:200-202).

3.5.2.6 *Cultural & Natural Heritage Resources Stage*

Stage six is identified as Cultural and Natural Heritage Resources. By this stage the historic environment, whether cultural or natural was seen as an irreplaceable resource. This stage begins together with the twentieth century, which was characterised by a new sense of social order resulting from a series of major changes in the infrastructure of society. Those changes were shaped by 'the explosive increase of population concentrated in urban and metropolitan areas, the mechanisation of agricultural activities, the industrialisation of the production of consumer goods and the shift from manual construction to decentralised prefabrication of buildings and ensembles' (Jokilehto, 1999c). As a result there had been a gradual loss of traditional skills and knowledge, change of land use in urban and rural areas, abandonment of previously active settlements, and increase of pollution from industry and traffic. All these, added to the damage and disaster caused by the world wars and natural catastrophes, led to a new era of concern for heritage. This era integrated heritage values into the general planning and management of the built and natural environment. It established a framework for international communication and collaboration for the protection of the cultural and natural heritage.

The First World War was the main incentive for the beginning of international collaboration. It led to the creation of the League of Nations, and the International Office of Intellectual Collaboration. Activities included the organisation of international conferences such as Rome (1930) that dealt with the conservation of art objects and collections, and Athens (1931), focusing on the conservation and restoration of monuments of art and history, organised by the International Museums Office. This was followed in 1933, also in Athens, by the fourth assembly of the International Congresses on Modern Architecture, which laid down the principles of a town planning charter. The charter also includes observations on the protection and rehabilitation of historic urban centres. This document resulted from the contribution of distinguished architects of the modern movement, including Le Corbusier. The Second World War, which led to wide and enormous destruction of cultural properties even greater than the First, produced a new international collaboration to avoid similar conflict and destruction. The League of Nations was replaced by the United Nations Educational, Scientific and Cultural Organisation (UNESCO). The International Council of Monuments (ICOM) replaced the Museums Office.

In 1948 the World Conservation Union was founded bringing together states, government agencies and a diverse range of non-governmental organizations in a unique world partnership (IUCN): over 980 members in all, spread across some 140 countries. As a Union, IUCN seeked to influence, encourage and assist societies to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

In 1956, UNESCO proceeded to create an international centre for the study of the preservation and restoration of cultural properties (ICCROM). More agencies and organisations were established later, such as the International Council on Monuments and Sites (ICOMOS), and others such as the Council of Europe, dealing with specific regions. ICOMOS had its founding meeting in Warsaw in 1965. One of the aims of these non-governmental organisations was defined as the need to 'encourage the adaptation and implementation of international recommendations concerning monuments, groups of buildings and sites' (Council of Europe, 1985).

At that stage the concept of cultural properties was widened, and involved not only the established and scheduled architectural, archaeological and historic sites and structures,

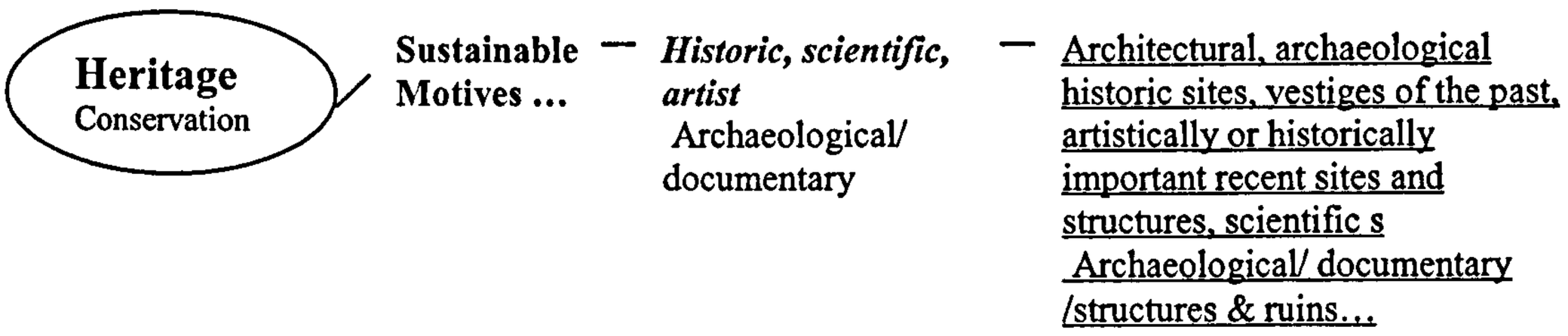
but also the unscheduled and unclassified vestiges of the past as well as artistically and historically important recent sites and structures. For the purpose of the Recommendation Concerning the Preservation of Cultural Property Endangered by Public or Private Works of 1968, heritage 'Cultural Property' applies to:

'Immovable property: such as archaeological and historic or scientific sites, structures or other features of historic, scientific, artistic or architectural value, whether religious or secular, including groups of traditional structures, historic quarters in urban or rural built-up areas and the ethnological structures of previous cultures still extant in valid form. It applies to such immovable constituting ruins existing above the earth as well as to archaeological or historic remains found within the earth.

Movable property of cultural importance including that existing in or recovered from immovable property and that concealed in the earth, which may be found in archaeological or historical sites or elsewhere.' (UNESCO, 1968).

This stage established many organizations for the care of heritage. In 1972 the United Nation Environmental programmes (UNEP) was established promoting international cooperation on environmental issues. In 1978, the International Committee for the conservation of the Industrial Heritage was established to promote international co-operation in the preservation, conservation, investigation, documentation, research and presentation of the industrial heritage. In 1977 and 1988, The Aga Khan Development Network (AKDN), which was founded in 1967, begun in its turn to care about the conservation of the cultural heritage.

In 1972, and more precisely with the World Heritage Convention, this stage gave way to the seventh. Conservation drives notable at this stage might be called sustainable motives, concerned with sustaining the built and natural environment. It was proposed to create a future heritage, not simply preserve the historic one. The consequences of such views are reflected in the growing need for education and communication, to undertake sustainable human development within the potential of existing cultural and natural resources. Figure 3.10 summarises this stage. Figure 3.3 shows the contribution of this stage to the chronological evolution of heritage conservation.



Aims: Sustaining the built & natural environment and building the heritage of the future

Figure 3.10: Heritage conservation motives, values & resources as drawn from the Cultural and the Natural Resources Stage

3.5.2.7 *Heritage of Outstanding Universal Value Stage*

The seventh stage began with the World Heritage Convention of 1972. According to this convention, heritage resources are arranged under natural and cultural categories. Article 1 of the 'Recommendation Concerning the Protection of the Cultural and Natural Heritage' identified 'Cultural Heritage', and Article 2 identified the 'Natural Heritage'. For the purposes of this Recommendation, the following shall be considered as 'Cultural Heritage':

'*Monuments:* architectural works, works of monumental sculpture and painting, including cave dwellings and inscriptions, and elements, groups of elements or structures of special value from the point of view of archaeology, history, art or science;

Groups of buildings: groups of separate or connected buildings, which, because of their architecture, their homogeneity, or their place in the landscape, are of special value from the point of view of history, art or science;

Sites: topographical areas, the combined works of man and of nature, which are of special value by reason of their beauty or their interest from the archaeological, historical, ethnological or anthropological points of view'.

For the purposes of this Recommendation, the following shall be considered as 'Natural Heritage':

'*Natural features* consisting of physical and biological formations or groups of such formations, which are of special value from the aesthetic or scientific point of view;

Geological and physiographical formations and precisely delineated areas which constitute the habitat of species of animals and plants, valuable or threatened, of special value from the point of view of science or conservation;

Natural sites or precisely delineated natural areas of special value from the point of view of science, conservation or natural beauty, or in their relation to the combined works of man and of nature'. (UNESCO, 1972).

During this stage it was declared that for a Cultural Heritage resource to have a universal value, it does not, in itself, imply that it is 'the best'; rather it means sharing a particular creative quality, uniqueness, and the quality of being 'true', original, authentic, as a constituent part of the common, universal heritage of humanity. This heralded a major advance at the UNESCO conference in Paris, in 1972. This stage was mainly concerned to nominate sites for the UNESCO World Heritage List; to revise the strategy for nomination and to identify the meaning of heritage authenticity and integrity. Since the adoption of the World Heritage Convention in 1972, considerable discussion has focused on ways of ensuring the representativeness, credibility and integrity of the World Heritage List. Prior to 1994, there was no systematic approach to the comparative evaluation of cultural properties for inclusion in the list (World Heritage Convention, 1998). Gaps, imbalances and duplications in the list have resulted. The large number of cultural properties included on the list may be compared to the proportionally smaller number of natural properties. The predominance of Western European monumental architecture, compared with the non-monumental heritage of other regions has raised particular concerns. Between 1987 and 1993, ICOMOS in co-operation with States Parties, contributed to the development of a Global Study. The Study had three objectives; to identify gaps in the World Heritage List, to guide States Parties in the preparation of nominations and tentative lists and to aid the Committee in the examination of cultural properties, by providing a comparative analytical framework of the world's cultural heritage. The global study approach relied variously on culture, themes, type, style, epoch, etc. as comparative factors. The Global Study had its critics. Most notably it was described as being a functional typology, based on historical and aesthetic classifications that bore little reality to the diversity of the world's cultural heritage or to living cultures (World Heritage Convention, 1998). It was necessary to find ways of ensuring that the List reflected cultural diversity, and therefore the intellectual,

religious and sociological diversity of humanity. At its sixteenth session, in 1992, the World Heritage Committee recognized that tentative lists are important tools for comparative site evaluation and for achieving a balanced List. ICOMOS presented a 'Framework for a Global Study' based on a mixed temporal, cultural, thematic and geographical approach using 'World Cultural Provinces'. In June 1994, experts meeting at the World Heritage Centre and ICOMOS made suggestions for further revisions to the cultural heritage criteria, and developed a non-typological approach called the Global Strategy. It also proposed the adoption of a thematic methodology to help redress the geographical, temporal and spiritual imbalances in the list. In 1998, the World Heritage Global Strategy Natural and Cultural Heritage Expert Meeting, in Amsterdam, noted that more in-depth discussion was needed on:

The application of the 'conditions of integrity' versus the 'test of authenticity',

The question of a unified or a harmonized set of criteria, and

The notion of outstanding universal value and its application in different regional and cultural contexts.

It must be noted that during this stage historic and architectural (including vernacular) areas received a great deal of interest, coming to mean 'any groups of buildings, structures and open spaces including archaeological and palaeontological sites, constituting human settlements in an urban or rural environment, the cohesion and value of which, from the archaeological, architectural, prehistoric, historic, aesthetic or socio-cultural point of view are recognized.' (UNESCO, 1976). Among these Areas, 'the prehistoric sites, historic towns, old urban quarters, villages and hamlets as well as homogeneous monumental groups were distinguished in particular'.

With the expansion of the concept of heritage to cover the urban and rural environment (such as villages and cities), many efforts were made to arrange the urban or rural heritage resources into different categories. Lichfield (1988) proposed a categorisation for general heritage characteristics, in relation to the concept of the urban and regional system. According to this categorisation, urban heritage may be arranged into the physical stock, and activities.

The physical stock includes natural and man made resources, both movable and immovable. The natural resources cover the land with its minerals, agricultural and timber

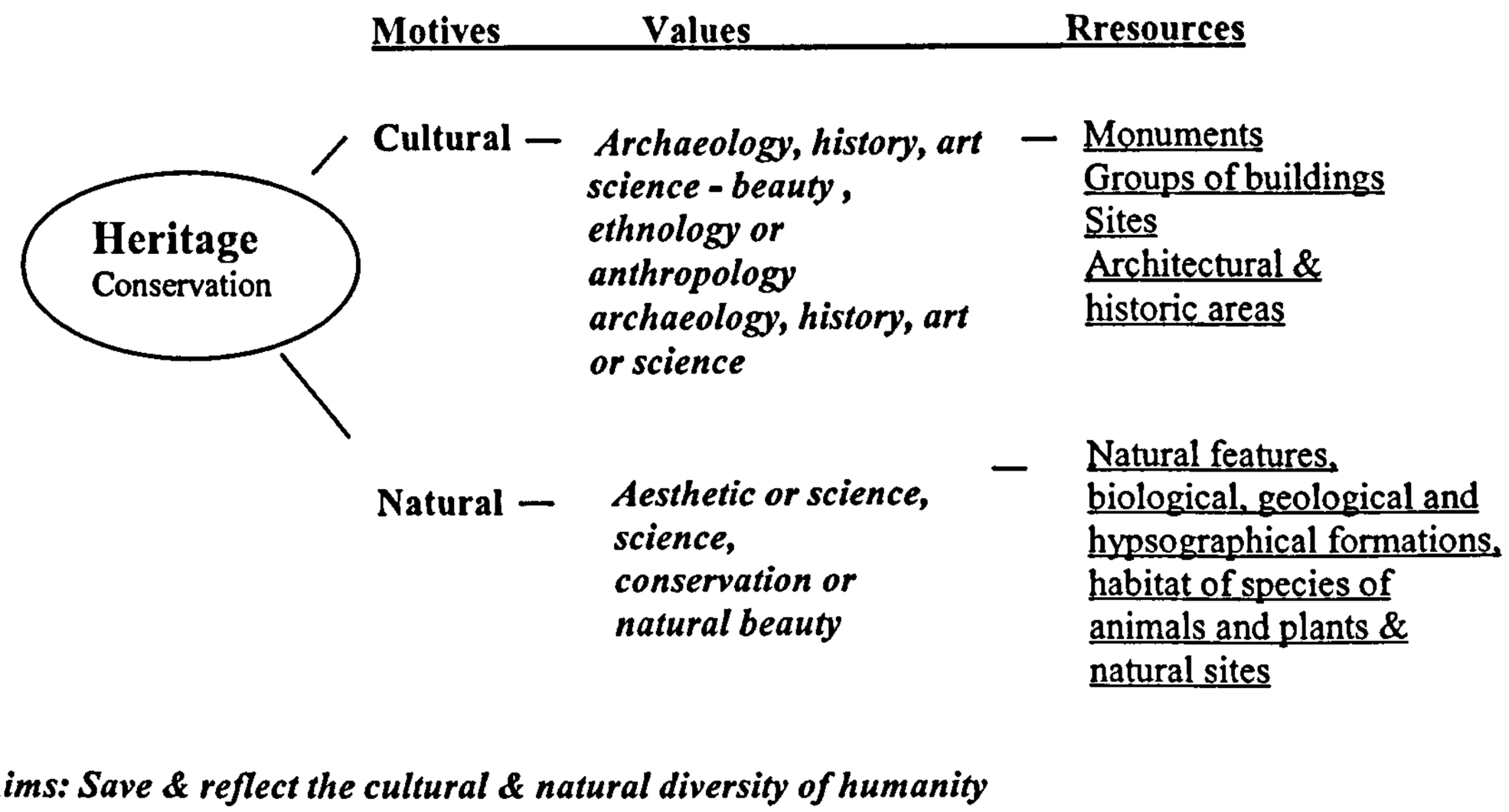
products, animal and bird life; the water, with fish and plant life; the environment, i.e. sun, air, rain and climate.

- Immovable man-made resources include works and buildings, which are attached to the land.
- Movable man-made resources describe works which are not attached to walls and buildings.

The activities include consumption, production, religion, arts, folklore, knowledge, tradition etc. Consumption: the quantity and kind of goods and services available to people, for their standard and quality of life. Production: the way in which society has learned to provide goods and services for consumption.

Religion, relating to the God of the country, and the institutions that serve that religion. *Arts, graphic, music, dance, literature, etc.* Knowledge, accumulated and transmissible through education and training of all kinds. *Folklore*, the collective memory of past generations absorbed through the family, teachers and so on.

Tradition, carrying out activities in manner reminiscent of previous generations



Aims: Save & reflect the cultural & natural diversity of humanity

Figure 3.11: Heritage conservation motives, values & resources as drawn from the Heritage of Outstanding Universal Value Stage

At that stage heritage, conservation covered all the resources mentioned in all earlier stages, and so did conservation motives. This stage overlaps with stage eight which begins with the 1980s, with the growth of the heritage attraction sector. Figure 3.11

summarises this stage. Figure 3.3 shows the contribution of this stage to the chronological evolution of heritage conservation.

3.5.2.8 *Heritage Industry Stage*

During this stage government, funding for heritage began to fall in historic areas. Heritage visitors became ever more important, as they provided the financial resources for conserving heritage and the subject matter of heritage quality in the tourism industry received some real attention. Tourism organisations began to develop a number of techniques to measure the effect of heritage quality in growing tourism, or to improve the heritage quality and achieve competitive advantages. In the UK alone tourism volume and value are estimated to have increased by roughly 5 % to 10 % respectively on an annual basis. These amounts to a 50% increase in the number of visitors to Heritage visitor attractions (HVAs) (Drummond, 2001a:7).

All through this stage apart from its intrinsic value (beauty, history and culture) heritage is considered a major economic resource and an irreplaceable capital asset that confers benefits as well as costs (Lowenthal, 1985 - 1996; Graham et al., 2000:18). It is proposed as a resource for continued use by the current generation, so avoiding the need for new investment resources to replace it (Lichfield, 1988). It is said that its maintenance and renovation save substantial amounts of energy and raw materials (Lowenthal & Binney, 1981:175). Heritage is emphasised also as a primary component of strategies to promote tourism, generate economic growth and revitalize rural and urban areas (Lowenthal, 1985; Newby, 1994; Strange, 1996; Graham et al., 2000:17- 20; Riganti & Elkadi, 2000). Stern & Tia Duer (1998) and Ashworth & Howard (1999) argued that heritage opens up possibilities for turning globalisation, infrastructure, and tourism challenges into opportunities, by means of contributing to the production of further goods and services that provide a return in profits, incomes, and jobs. Similarly, Drummond (2001a) claimed that heritage can on occasion provide the main motive for such programmes, and thus the central stimulus for local change: more often its effects are catalytic, stimulating action in other fields, or just amplifying their effects. Klamer and Zuidhof (1998) stated that handling of cultural heritage has stimulated a variety of economic solutions, varying from government involvement to pure market solutions, and including all kinds of informal arrangements based on gifts and reciprocity. In Britain, it has been found that historic buildings are contributing significantly through tourism to earnings of foreign exchange,

to local employment and to central government taxation. In Canada it has also been estimated that building restoration delivers 27.8 jobs for each million dollars invested, compared with 12.8 for the less labour intensive new building (Graham et al., 2000:130). Graham et al. (2000) justify the existence of economic values in heritage by showing first that heritage conservation costs money, but can also mean forgoing profitable opportunities in the alternative uses of buildings, sites and areas; secondly that heritage is worth money and also earns it, and can be utilized to provide a return in profits, incomes and jobs. Leaver (2000) argues that a nation would be foolish if it did not recognise, manage and protect those economic values. Heritage makes an active contribution to a nation's economy. It can be the leading economic sector of a nation, as a direct solution to economic failure in other sectors. To ignore economic values is to disregard one of the constitutive forces behind the heritage (Klamer & Zuidhof, 1998).

These views have been evolved from Washington Charter for conservation of historic towns and urban areas of 1987, which clearly stated that the conservation of historic towns and other historic urban areas should be an integral part of coherent policies of economic and social development and of urban and regional planning at every level. They also come from the change of values theories, the consideration of values as a product and the increasing world concerns with the services sector, finite resources and the irreplaceable nature of some of the global heritage visitor attractions (Drummond, 2001a:2). The concern about economic values has also widened, in different part of the world under a set of new pressures that have begun to affect the manner in which heritage management and conservation operates. Hall lists some of these new pressures (Drummond, 2001b)

- Demands for smaller government concentrating on 'core' activities;
- The development of a user-pays philosophy;
- Recognition of the significance of the tourism dollar for business and regional development;
- The emergence of public-private partnership
- Greater limitations on government expenditure

This study defines this stage as the Heritage Industry, because it developed heritage as a commodity that can be produced and sold. This 'commodification' of heritage spans

visits to museums, monuments and other heritage facilities, sales of heritage souvenirs from the ubiquitous retail shops, through to the growing number of historic theme bars, restaurants and hotels and the increase of organised package tours with heritage themes (Boylan, 1995). The demands of the heritage industry replaced the real authentic concept proposed in the previous stage, with a sensation of the authentic.

During this stage also heritage is recognised as intangible resources that embrace all forms of traditional, popular or folk culture that include oral traditions, customs, languages, music, dance, rituals, festivities, traditional medicine and pharmacopoeia, the culinary arts and all kinds of special skills connected with the material aspects of culture, such as tools and the habitat (UNESCO, 2003).

In this stage heritage is conserved not only for its aesthetic, cultural, historical and educational values, but also for socio-economic ones. Its meaning is extended to involve tangible and intangible cultural aspects. Figure 3.12 summarises this stage. Figure 3.3 shows the contribution of this stage to the chronological evolution of heritage conservation.

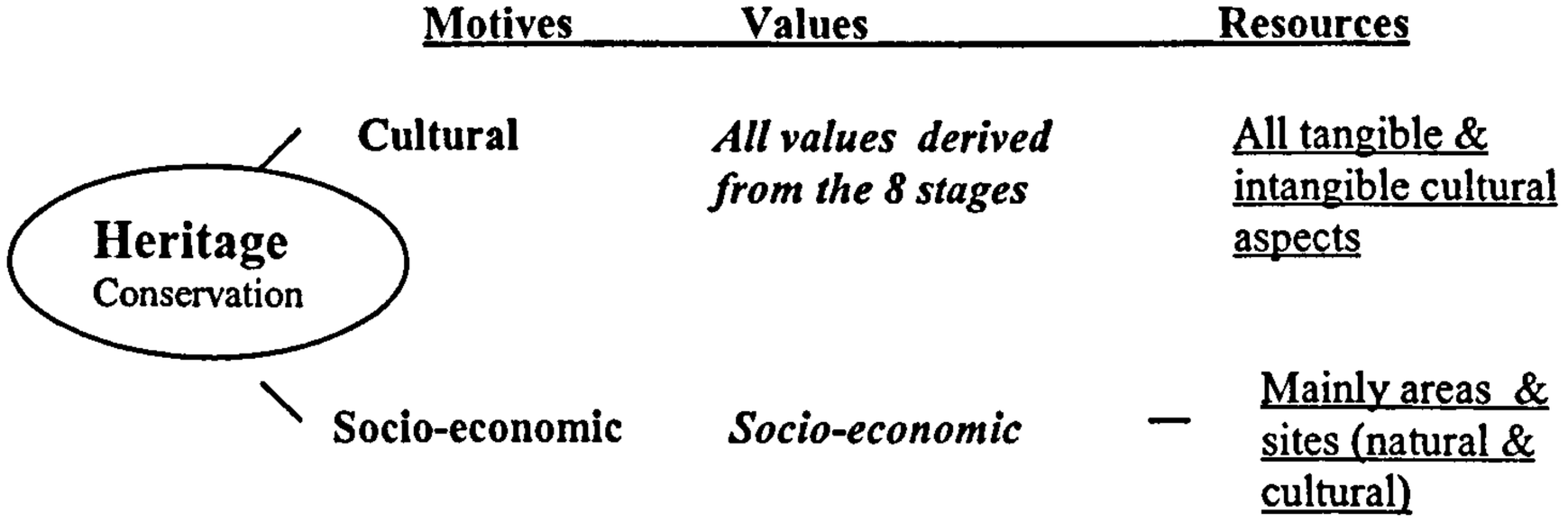


Figure 3.12: Heritage conservation motives, values & resources as drawn from the Heritage Industry Stage

3.5.2.9 *Conclusion*

This part has identified eight stages in the conservation movement, and has studied the motives established by each stage. However, conservation motives are not limited to one stage. Motives established in one stage might continue in others. Some motives in one stage might find their roots in previous one. Religious motives are recognised in the antiquity stage; they are also found in the cultural heritage of humanities stage, and have continued into the current stage. To summarise this section, it can be said that the Antiquity stage was founded upon different kind of motives but it was mainly concerned

with religious and military motives; the Classical stage began with humanism motives; and the Historical stage enhanced the scientific and more importantly, the historic motives. The Nation States stage came on with national motives; while the Cultural Heritage of Humanities stage established the romantic motives. The Cultural and Natural Heritage Resources stage was set upon sustainability motives. The Heritage of Outstanding Universal Values stage emphasised cultural motives. The Heritage Industry stage illustrates the socio-economic motives. Today's heritage conservation might be inspired by all the motives described in stage 1 to stage 8. Nowadays heritage can includes all kinds of resources mentioned in any of the stages. Any urban resource can be listed as heritage, whether it is a natural or man-made resource.

3.6 Heritage Values and their Categories

Each of the motives analysed for heritage conservation in the previous section points up a number of heritage values. Re-using and artistic motives of antiquity showed that past resources can be conserved if they convey functional, aesthetic, memorial, military, political, religious, artistic or use values. Humanistic motives, aiming to inspire the ideal, paid attention to the educational, architectural, and aesthetic values of classical works. They also showed up the rarity and solidity that characterise classical artefacts and buildings. Scientific motives, aiming to explore the world and the truth, identified the historical value of those past resources. National motives that established the sense of identity and searched for it in old buildings, cities and areas, clarified the socio-political values of them. Romantic motives that searched for freedom, nostalgia and a sense of place pointed out the contextual, spiritual, memorial, picturesque and sublime values of gardens and landscapes, old streets and districts, and urban and rural settings. Sustainability motives, with the aim of developing both better-built and natural environments discussed the unique historic, scientific, artistic, and architectural values of irreplaceable sites, structures and ruins. Cultural motives that attempted to understand human diversity emphasised the scientific, cultural, anthropological, ethnological and archaeological values. Socio-economic motives that sought to revitalise old urban and rural areas illustrated the economic and social values of such locations.

Heritage, as shown above is conserved for a variety of reasons (or values). Theorists and the international organisations have arranged such heritage values into different categories. For instance, Riegl proposed two groups for heritage values; memorial values

and present day values (Jokilehto, 1999a). Lemaire considered there to be four groups of heritage values: use, artistic, historical (archaeological) and picturesque (Jokilehto, 1999a). Brandi discussed three categories for heritage values: historical, aesthetic, and material (Ashworth & Howard, 1999:39). Feilden and Jokilehto (1993) suggested two categories for heritage values: cultural values and socio-economic values. Their cultural category included identity value, relative-artistic or technical value, and rarity value. Their contemporary socio-economic category included economic, functional, educational, social, and political values.

The international and regional organisations, in their turn, dissected heritage values and placed them in different categories. In 1972, UNESCO listed four categories for the heritage values of buildings, groups of buildings and sites. These categories are: archaeology, history, art, science, ethnological or anthropological. It distinguished three categories of values for the natural resources; these categories are science, conservation and the natural beauty. The Council of Europe in 1975 identified four categories of values for architectural heritage, these categories being spiritual, cultural, social and economic values.

Most of these categorisations describe the same set of heritage values, but slice them in subtly different ways. This diversity of categorisation is confusing, especially when no explanation is given by the individual or the organisation to the concept of the categorisation they propose, nor to the nature of the sub-values that come under each category. In the field of architecture, Capon has addressed the problems derived from such varied categorisation of the same values of architectural work. Capon introduced this problem and went on to describe and justify the categorisation he proposed from within architectural theory and western philosophy. What is special about Capon's categorisation for architecture is the connection he made between architectural theory and philosophy, and which makes it possible to apply his categorisation to help understand any object in the world. The coming section explains Capon's categorisation and the way this study has used it to categorise the heritage values of urban area.

Capon's Categorisation of Architecture

Capon considered words as the closest representation of the world that the mind can make in order to understand, judge and reason. However, he noticed that despite the existence of thesauri that provide the classification of words, the structure of the world is reflected

in varying degrees of imperfection in the structure of words and language. Thus he suggested further classification of words when dealing with specific areas such as that considered by Roget, in his attempt to reflect the structuring of the world.

Capon began his categorisation with an earlier book written in English which deals with the Vitruvian categories, Henry Wotton's 'The Elements of Architecture'. In this work, Wotton proposed a framework to serve as a useful adjunct to the index in identifying the categories under which any particular architectural topic could be discussed. He located the Vitruvian principles in a broad review of Western philosophy, beginning with the Greeks and embracing, in a broader sweep, a synopsis of medieval thought and the emergence and development of modern ideas. He turned his attention to the ideas of Plato and Aristotle, in whose work is found the first written statements on the subject of categories in the history of western thought. He looked at the work of Alberti and Cicero. He investigated the notion of categories in their philosophical context. He then took a more intensive look at the modern categories of Descartes, in the early seventeenth century. He moved forward to the following centuries, to talk about Roger Scruton who commenced his own work on the subject with the ideas of Immanuel Kant, N.L.Prak who worked his way back through the philosophical works of Suzanne Langer to the ideas of Ernest Cassirer, and Collin St John Wilson who has explored in his work the thoughts of Ludwig Wittgenstein. Capon shows through his analysis that the categories of architecture are a reflection of higher categories, that are interrelated with one another.

Capon developed three aids to clarify his work; first is the brief glossary of terms, a mini-thesaurus (Appendix I) , and an explanation of the diagrams which appear throughout his book. The diagrams are used as an aid to understanding the subject. Each diagram consists of a centre, a circle around that centre, and a number of radii extending out of the centre to intersect the circle. The centre represents the object or the thing under discussion (i.e. a building). The circle represents the sum of knowledge regarding the object. The radii represent the relations linking the thing to the surrounding concepts. These relations are not specific but each kind of relation points to a particular range, or category of concepts. The concepts are classified according to the dominant relationship to the object. Where two relationship types are equally dominant Capon proposed a notion of secondary categories, a notion which he later clarified. Capon classified the spectrum of concepts by the way in which they relate to the object; if they are specific to the object, or they are general and can be applied to many objects. He stated and demonstrated that general

concepts are few in number, and are known in philosophy as 'categories'. He labelled these categories on the diagrams but more often than not, because of their general nature, he labelled these categories according to their substitute slightly lower concept. (e.g. the concept of form, instead of the category of Disjunction).

The generation of each of Capon's diagrams went in four steps. In the first step, Capon proposed that each object of the world can be seen as being linked to other objects in the world, by various relationships. In the second step he proposed that human awareness of a particular object may be represented by a circle around that object. In the third step, he proposed that each object could be analysed by categorising the surrounding object according to dominant relationship type. In the fourth, he proposed summarising the resulting diagram by reducing the number of relationship lines in each category to one (Figure 3.13).

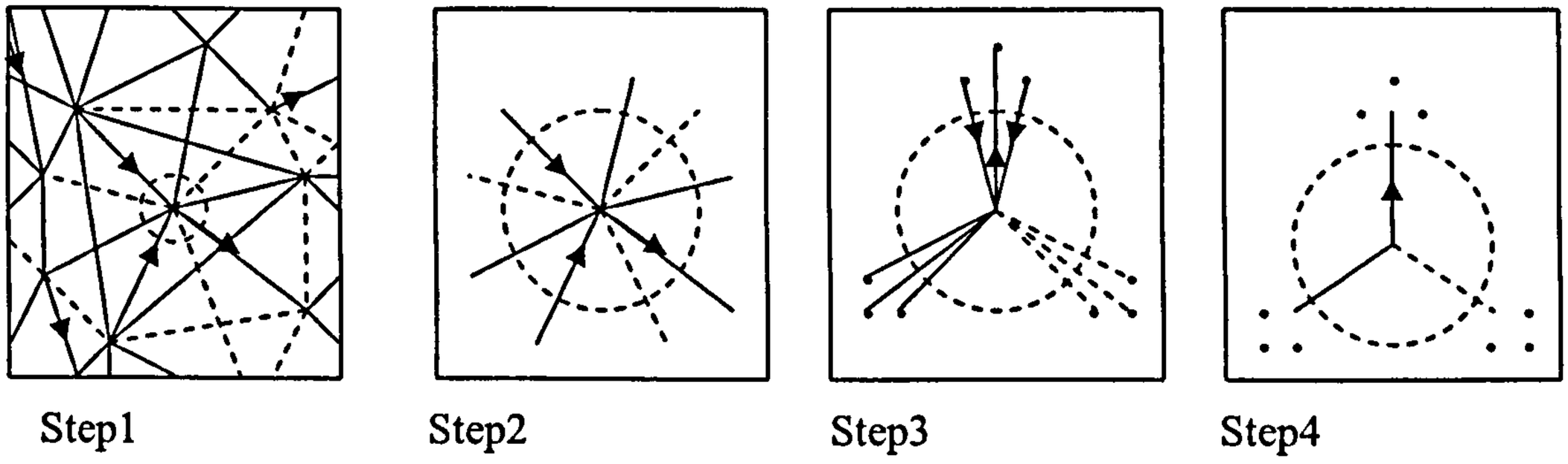
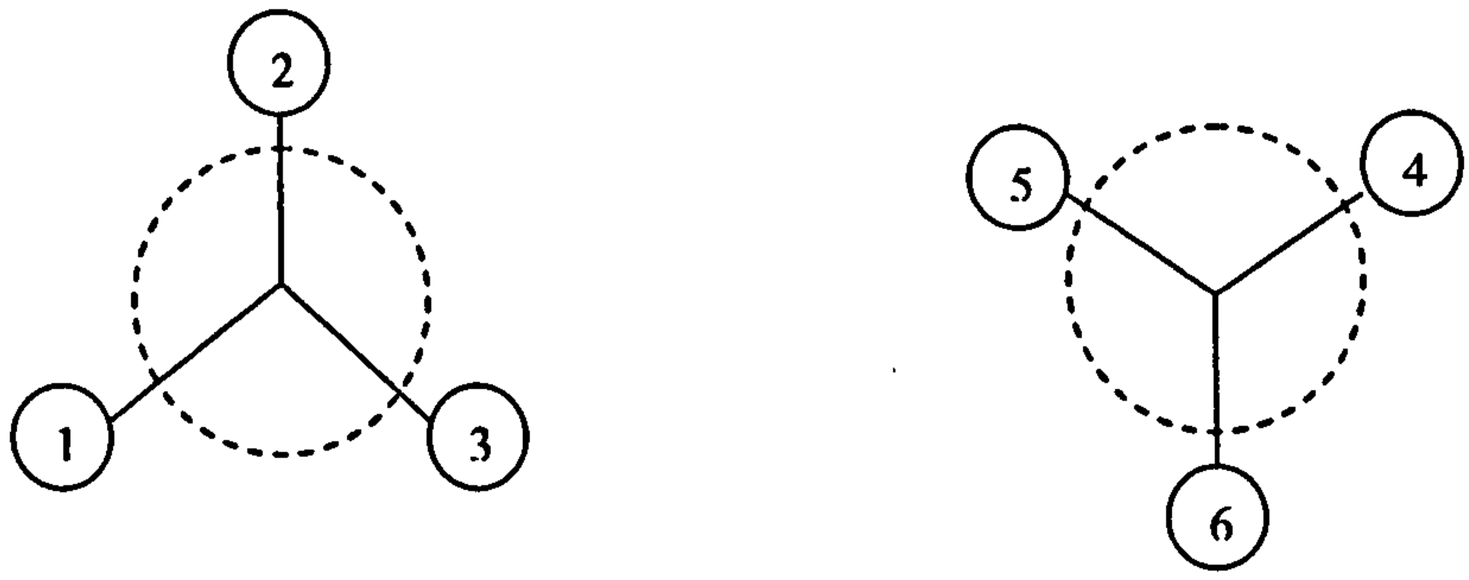


Figure 3.13: Four steps of Capon's diagrams

Capon's diagrams indicate first a general way of looking at the world which can be traced back to the ancient Greeks. Second. They show how every object may be subjected to this analytical technique by switching the focus of attention to that object. The third diagrams may be used to show not only different aspects, or facets, of the object but also the different points of view taken by any enquiring subject.

Capon's method resulted in the discovery of two sets of three categories closely interlinked with one another, and concludes with the consequences that this may have for architectural theory (Figure 3.14). For the sake of consistency, Capon presented all the diagrams with the following terminology:



Primary Categories

Secondary Categories

Figure 3.14: Two sets of architectural value categories proposed by Capon

The primary categories

Form: Capon developed the form category from the Vitruvian category of Venustas. He proposed it should represent not only geometry but also those aspects of beauty concerned with symmetry and proportion.

Function: Capon developed this from Utilitas. It is also translated as commodity or convenience, including much of the social element mentioned by Schinkel. Durand's Notion of Economy also belongs here.

Meaning: Capon developed this category from Venustas to represent those aspects of beauty concerned with taste, property and ornament. Schinkel's historical elements belong here too.

Secondary Categories

Construction: Capon evolved this from Firmitas and he translated it variously as strength, durability, and solidity.

Context: this is a complex category, Capon hinted it at by Fremin's 'Lieu', but included it also the 'poetical' element of Schinkel. The two concepts of place and feeling were linked, for example, in the doctrines of the picturesque.

Will: Capon gathered this from the nineteenth century and from Schinkel's concept of freedom as well as other concepts of a more political nature.

Capon investigated the words said about architecture and presented a mini thesaurus (Appendix I). Hawkes (1999) stated that the six categories proposed by Capon are drawn from all corners of the territory, and this meant that they represented little more than an

apparently indiscriminate list of ideas and events. Hawkes (1999) added that the problem was that in this form, the Principles of Architecture proposed by Capon became so generalized as to be almost meaningless and 'after all of the effort it is difficult to see how the principles might be used, either to offer a new interpretation of the past, or to inform action for the future'.

Saying that the desire of Capon to study the architectural subject from different corners generated confusion is to some extent true. Capon broadened his investigation of the subject to a point where confusion resulted. He introduced some of the diverse views about architecture and philosophy very briefly and in very short paragraphs, while he described other views very deeply almost without explaining why. However that is not a reason to deny his categorisation of the subject of architecture and its values, nor a reason to say that he generalised the principles of architecture such as to become almost meaningless. The categories proposed by Capon can be justified from his writing and the diagrams he has drawn from what philosophers, architects and others have said about the categories of objects in the world, and the categories of architecture.

To understand Capon's categorisation, this study has reduced all his diagrams to five. The new diagrams use the same design and terminology applied by Capon, but each is divided into different cycles. Each of these presents the categories provided by one movement, philosopher or theorist. The first diagram summarises all the diagrams that Capon developed to relate the famous categories considered in architecture and Western philosophy to Vitruvius' categories (Figure 3.15). The other diagrams summarise the diagrams that Capon developed to represent the categories considered during the medieval era in architecture and Western philosophy, the categories proposed by the Greeks, those suggested in the modern era, the nineteenth and the twentieth centuries. (Figure 3.17 to Figure 3.21). The last diagram brings altogether the categories proposed by both the architectural and philosophical movements (Figure 3.22).

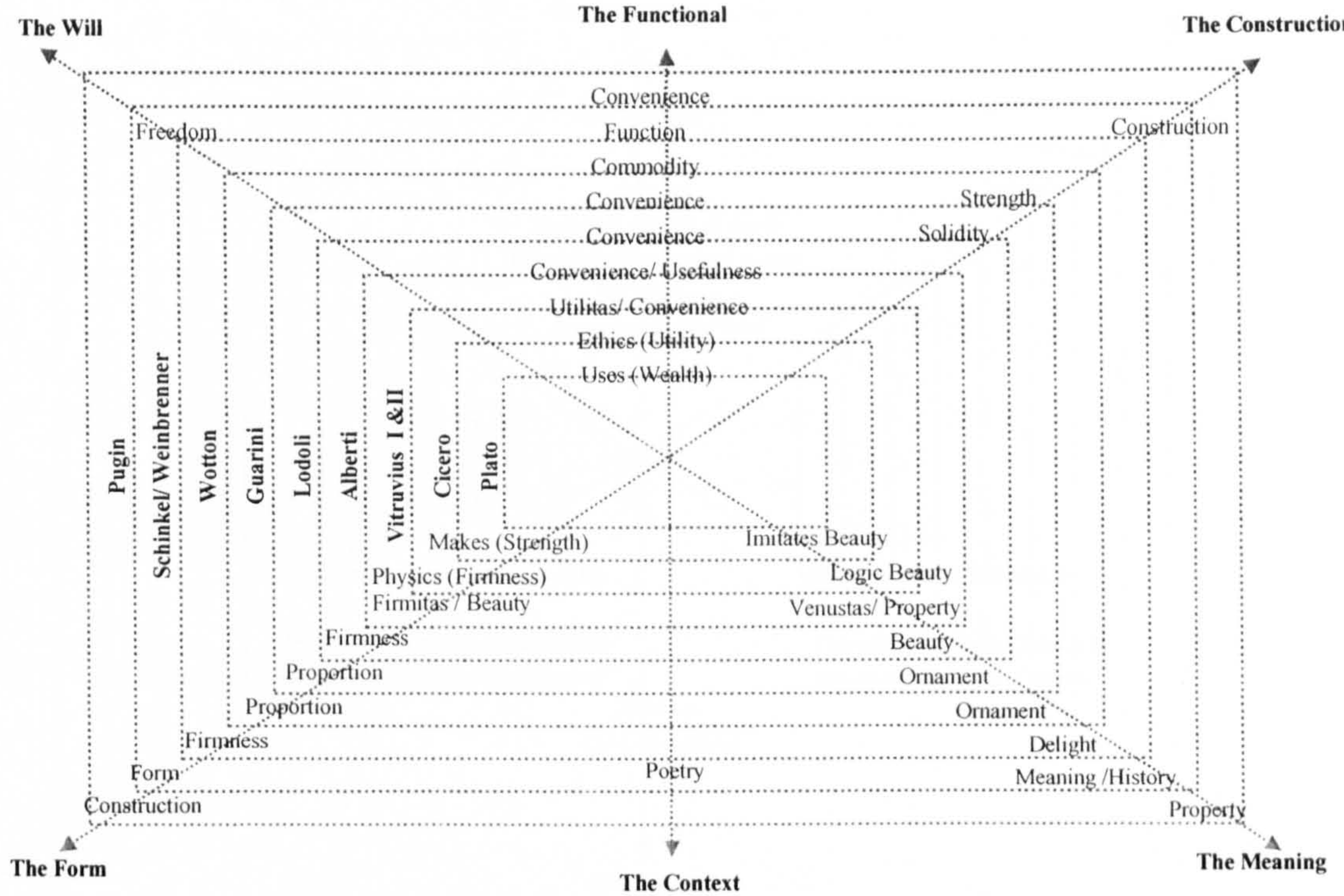


Figure 3.15: Categories developed in architecture and western philosophy in relation to Vitruviun categories (Organised by this study based on Capon's interpretation)

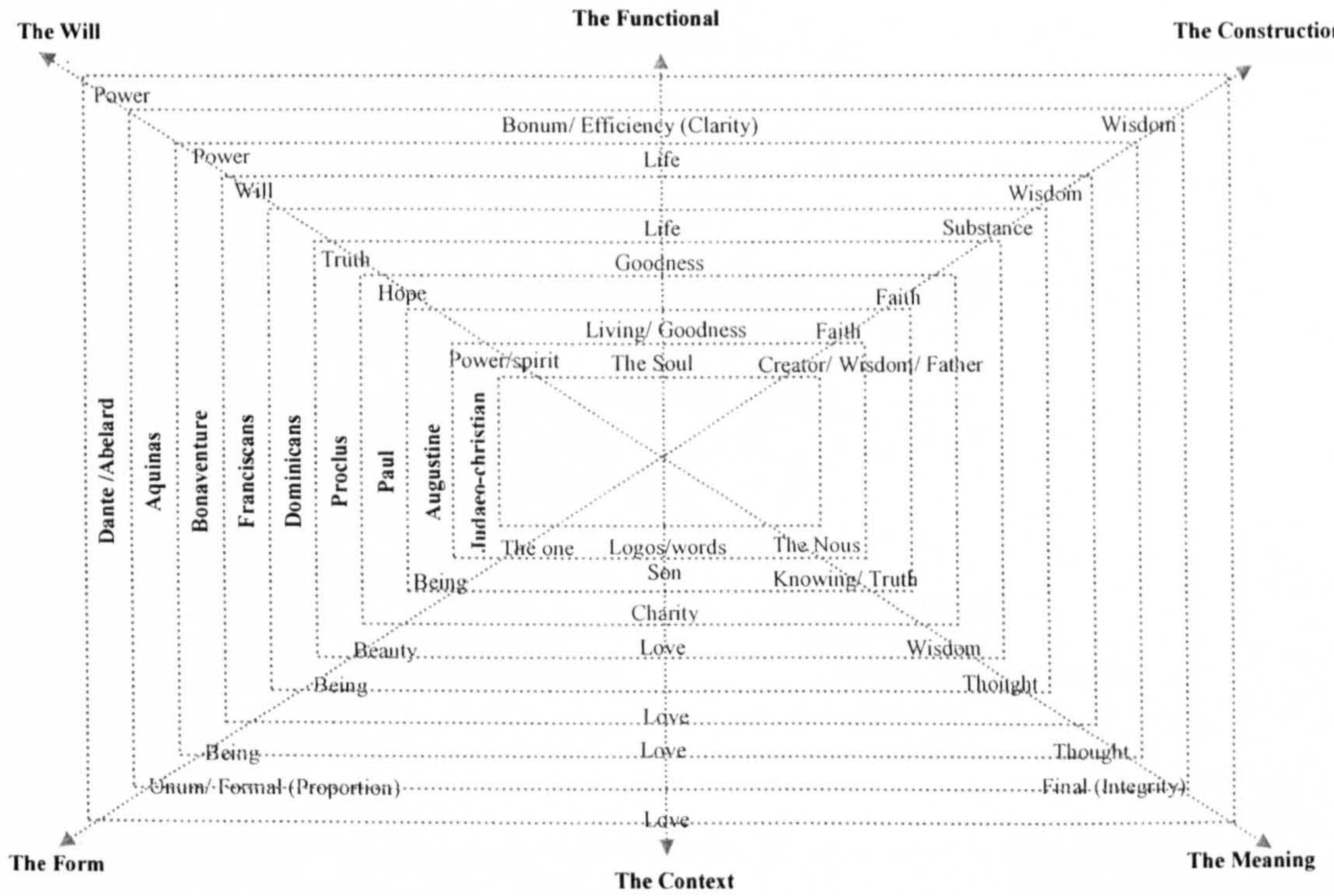


Figure 3.16: Greek categories developed in architecture (Organised by this study, based on Capon's interpretation)

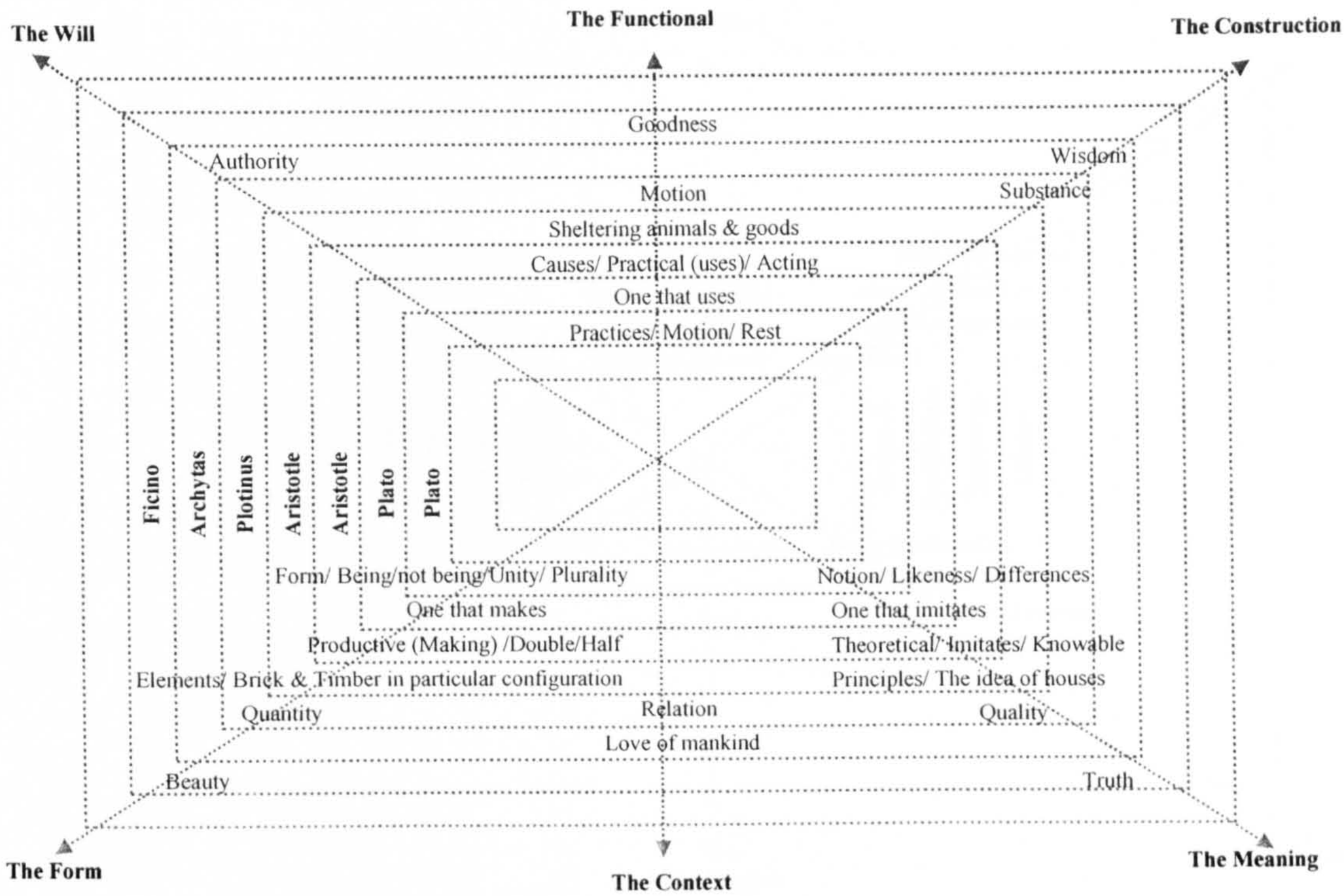


Figure 3.17: Medieval categories developed in architecture.

(Organised by this study, based on Capon's interpretation)

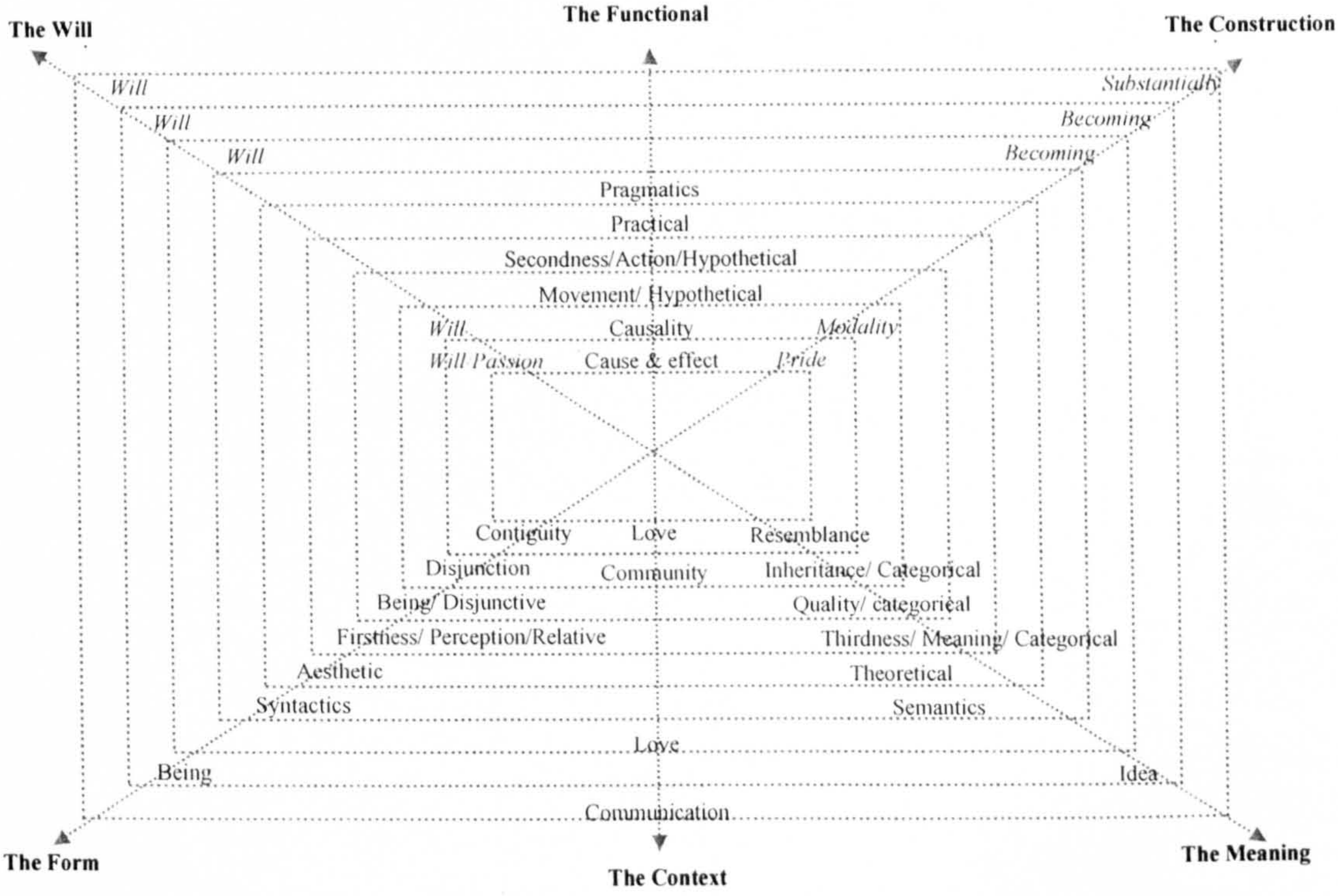


Figure 3.18: Modern categories developed in architecture

(Organised by this study, based on Capon's interpretation)

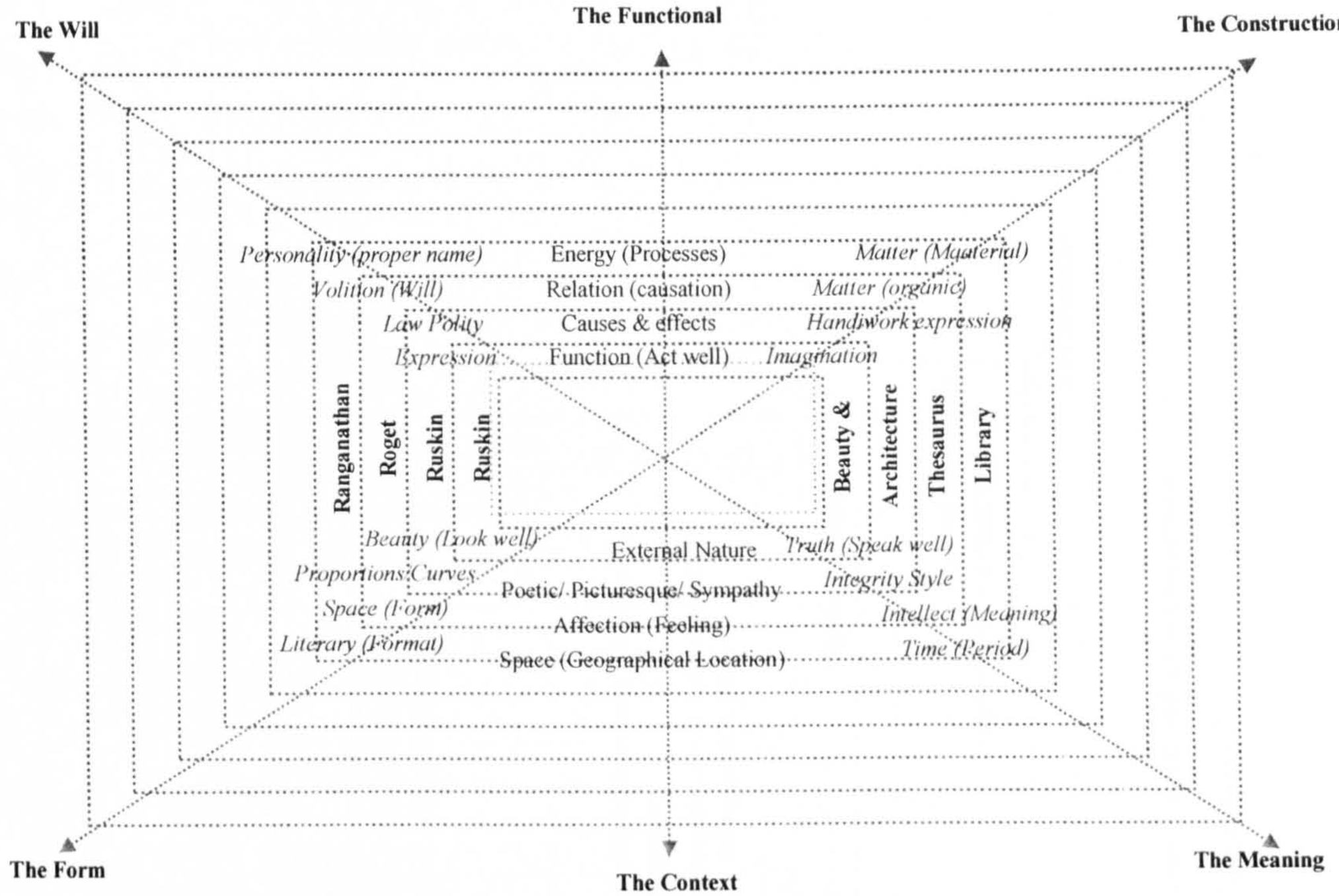


Figure 3.19: Nineteenth century categories developed in architecture.

(Organised by this study, based on Capon's interpretation)

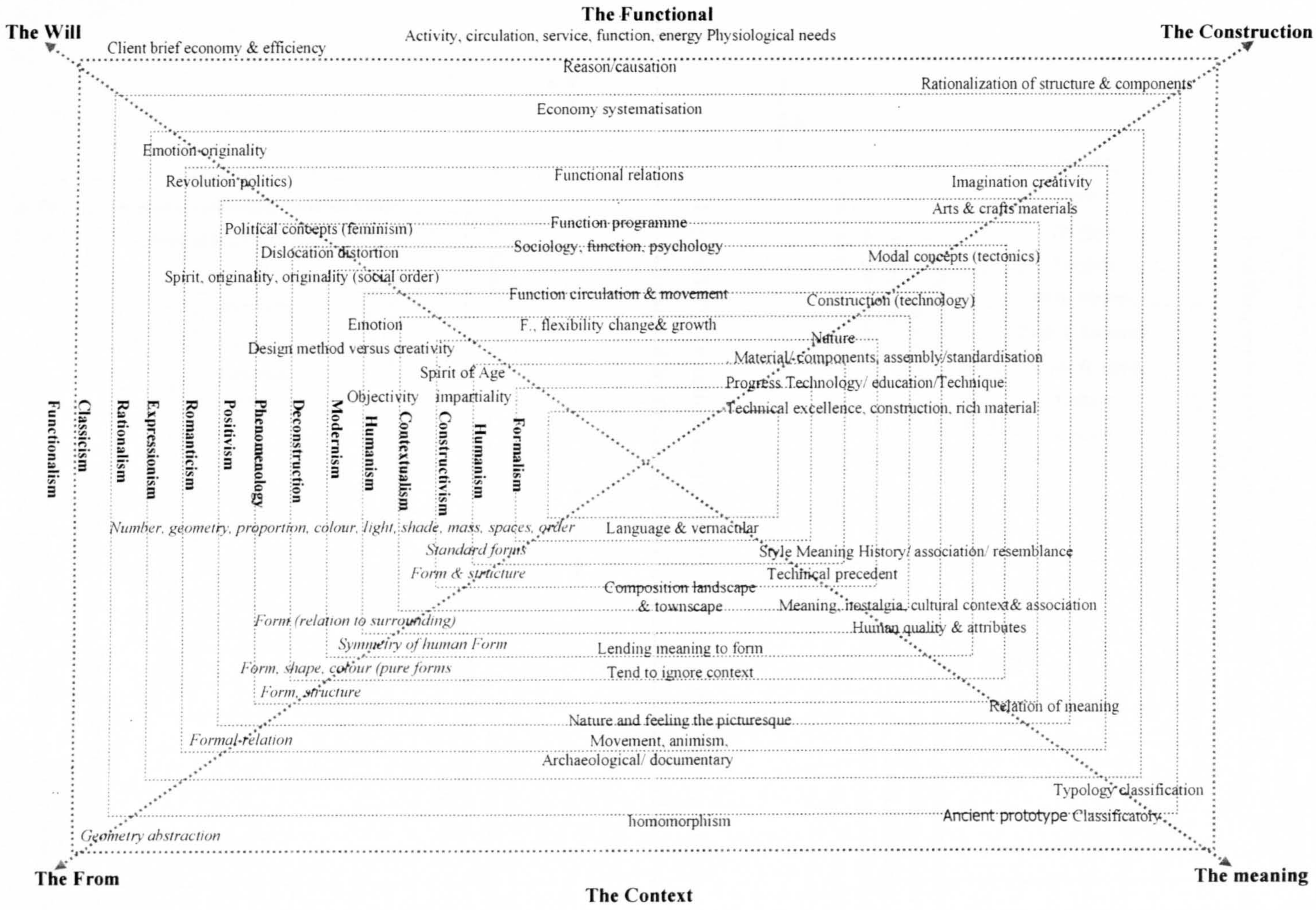


Figure 3.20: Architectural and philosophical movements' categories developed in architecture

(Organised by this study, based on Capon's interpretation)

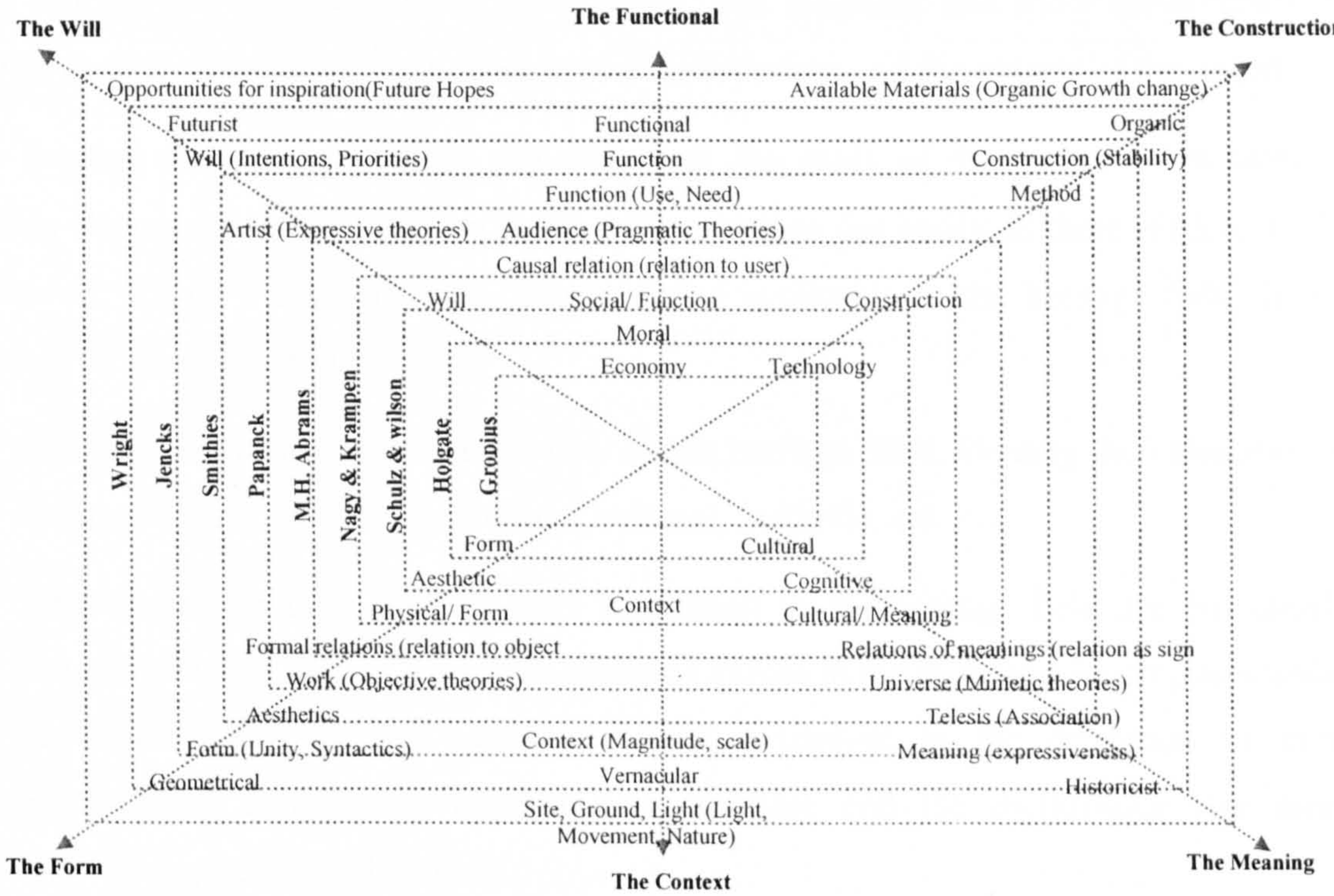


Figure 3.21: Twentieth century categories developed in architecture (Organised by this study, based on Capon's interpretation)

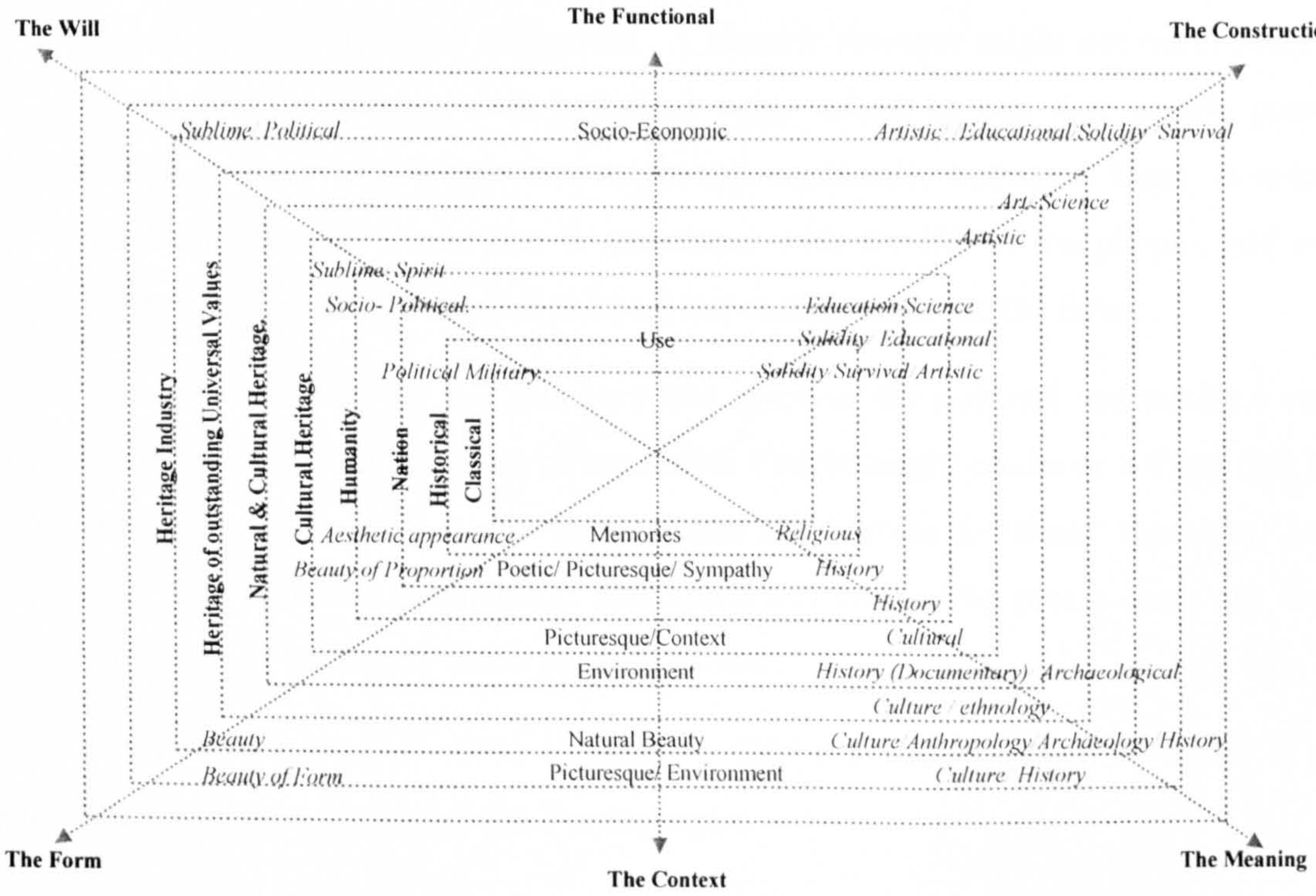


Figure 3.22: Heritage categories proposed by the individuals and organisations referred to in this study.

These diagrams, with the support of the thesaurus show how and why Capon proposed and justified the six categories of architecture. The diagrams also show the diversity of words used to address the same categories of architecture and the objects of the world.

By locating the heritage values gathered from the study of the conservation motives within Capon's category, one can see that these values can easily fit there (Figure 3.23). However, Capon's categorisation, despite being applicable to the heritage field, is not perfect for the following:

- The names of the categories are new in the heritage field. Usually the categories of heritage values are named historical, cultural, aesthetic, etc.
- The aesthetic values that are very significant in the heritage field are not clearly categorised by Capon. Capon lists aesthetic values in the thesaurus he proposes under the form category. But aesthetic values, according to the definition in most dictionaries, include the beautiful, the sublime and the picturesque (for more information refer to Chapter 4).
- The Meanings category proposed by Capon is very much condensed for the heritage field. It includes three of the most significant aspects of heritage values (the cultural, the historical and the beautiful meanings). For a heritage subject these aspects must be located under different categories. A historic resource might not necessarily be a cultural one; a resource with historical value might be one that people conserve because it documents a past that might not necessarily belong to them. A resource with cultural value is one that is associated with the life of the people, and which might not necessarily belong to the past but to the present or the future.
- So is the case with the will category that involves the political and sublime values. Again, these two values must be separated. People might conserve a thing that has a sublime value because it provides a sense of pleasure for them. However, people might also conserve other things that might not necessarily please them nor elevate their mind, to legitimate some political benefit.

This study would suggest some changes to Capon's categorisation to make it more representative of the heritage field. For example:

- First to divide the Meaning category into the historical, the cultural and the beautiful.
- Second to divide the Will category into the sublime and the political.

- Third to divide the Functional category into the good and the economic.
- Fourth to divide the Construction category into scientific and beautiful constructions.
- Fifth to call the Context category the picturesque instead.
- This study then suggests collecting all the categories that give pleasure to people into one category called the aesthetic. The aesthetic category must involve the sublime, the picturesque, the good, the beautiful (meaning and construction) and the form.

As a result the categories that this study proposes for heritage values are: the aesthetic, cultural, historic, economic, socio-political and scientific (Figure 3.23)

Aesthetic value involves beauty, those picturesque and sublime characters that provide pleasure and elevate the mind, including all the variables of these; memorial, contextual, solidity and spiritual variables, etc.

Socio-political value legitimates social and political dominance and justifies and celebrates forms of power and privilege, including the characters of things that have social and political character and their associated variables.

Economic value covers economical and wealth values and their associated characters, including cost, survival, use, investments, etc.

Scientific (educational) value covers the characters of things that advance research; artistic, architectural, mathematical and technical methods, etc.

Historic value is the historical, archaeological, and documentary characters of things that provide true stories, evidence and records of the past.

Cultural value has come to mean all the values of things from which arise issues of identity and sense of differences. This covers those things that carry cultural meaning, such as beliefs, customs, shared dreams and the learned ways of making a life, and which are worth conserving for future generations. It involves anthropology and ethnology characters when they are used as a means of generating some sense of differences and uniqueness

Concerning rarity value, this study argues that things before being rare might have a value that falls under one of the value categories proposed by this study. It is often said that a thing is a rare historic remnant, or is a rare aesthetic object.

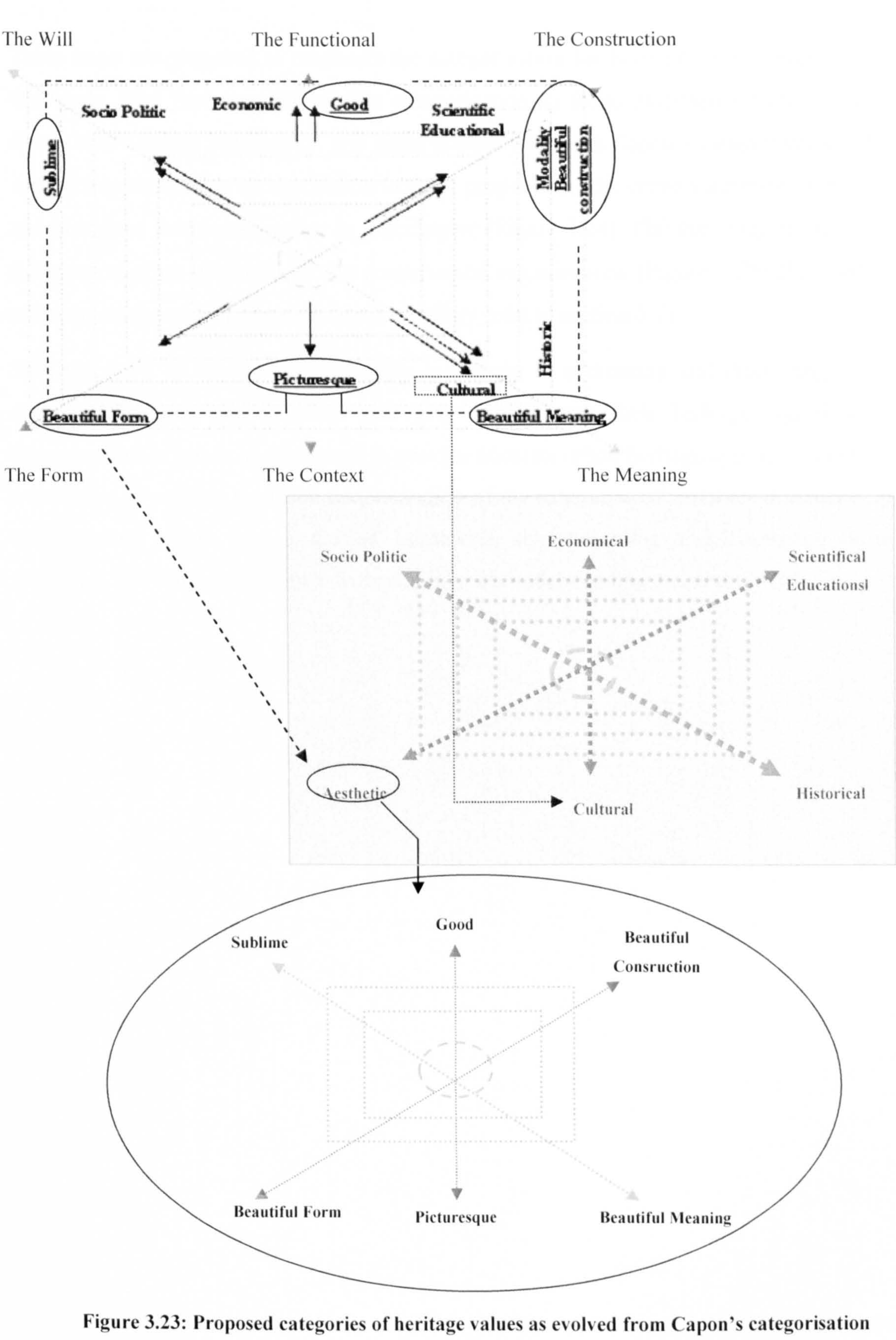


Figure 3.23: Proposed categories of heritage values as evolved from Capon's categorisation

Three steps are proposed to emphasis the categorisation for heritage values proposed by this study. The first step relates this categorisation to those proposed by architectural theory and Western philosophy, and more precisely through Capon's categorisation. The second step relates this categorisation to those proposed by the conservationists, architects and historians mentioned earlier in this chapter (Figure 3.24). The third step relates it to the categorisation proposed by the conservation organisations (Figure 3.25) (for further information about the proposed values typology refer to section 6.7).

This typology, as mentioned previously is to help in addressing and discussing in an organised manner, those values that give urban areas their heritage significance. However, this is not in itself enough to provide accurate urban heritage appraisal. There is a need also to provide a unified understanding of the categories of variables that make up each heritage value, and a unified framework for addressing and discussing these variables. The following chapter will establish this understanding and framework.

Conservationists, Architects, historians & others	Proposed Categories for Heritage Values							
	Aesthetic			Historical	Scientifical	Socio-Political	Cultural	Economical
	Beautful	Picturesque	Sublime					
	Heritage Values Proposed by Conservationists, Architects, Historiams and Others							
Alberti	Beautiful							
	Solidity/ Attractive/ Desirable			Historical	Educational			Cost/ Survival
Palladio					Educational			
A. Gregoire					Educational			
Morris		Picturesque	Substantial	Historical	Educational/ Artistical			
Ruskin		Picturesque/ Memorial	Emotional/ Sublime					Economical
Adolf Loos, Gustavo Giovannoni, and Benedetto Croce		Picturesque						
Camillo Boito	Beautiful							
Riegl		Memorial			Presesnt day			
Lemaire		Picturesque		Historical / Archaeological	Artistical			Use (Utility)
Brandi	Aesthetic			Historical	Materialistic			
Cantacuzino								Survival/ Use
Lowenthal & Binney		Patina of Age/ Trait of the Past						
Conzen/ Pertson/ Miller & Orbşhli		Sense of Place& Belonging					Sense of Difference & Uniqueness	
Rypkema		Contextual/ Sense of Place				Social	Cultural	
	Aesthetic							
	Architectural							
Larkham				Historical	Didactical		Fashion	Financial
Ashworth & Howard					Educational/ Artistical	Politic/ Social	Identity	Economical / Functional
Ashworth					Technical	Social	Cultural	Economical
Tunbridge & Ashworth						Political Instrument		
Klamer & Zuidhof	Aesthetic					Socio-Politic	Cultural	Economical
Spennemann								Investmental
Lumley						Political & Social Identity		

Figure 3.24: Proposed categories of heritage values in relation to those proposed by the conservationists, architects and historians

International & Regional Charters, Conventions & Recommendations	Proposed Categories for Heritage Values							
	Aesthetic			Historical	Scientifical	Socio-Political	Cultural	Economical
	Beautiful	Picturesque	Sublime					
	Heritage Values Proposed by Regional & International Heritage Organisations							
Athens Charter				Historical	Scientifical/ Artistical			
Hague Convention & New Delhi Recommendation				Historic	Artistical			
	Architectural							
Paris Charter 1962	Beautiful	Picturesque						
Venice Charter	Aesthetic			Historical			Cultural	
Paris Charter 1968 UNESCO			Spiritual	Historical	Scientifical/ Artistical			
	Aesthetic							
Paris Charter 1972 UNESCO	Beautiful			Historical	Scientifical/ Artistical		Anthropological	
	Architectural							
Declaration of Amsterdam	Aesthetic			Historical			Cultural	Use (Utility)
	Architectural							
Amsterdam Charter Council of Europe			Spiritual			Social	Cultural	Economical
Nairobi Recommendation				Archaeological		Social	Cultural	
	Aesthetic			Prehistorical/ Historical				
	Architectural							
Burra Charter	Aesthetic			Historical	Scientifical	Social	Cultural	
	Architectural							
Deschambault Declaration	Aesthetic/ Natural			Historical		Social	Cultural	
Florence Charter				Historical	Artistical			
Appleton Charter		Contextual					Cultural	
Paris Convention Council of Europe	Environmental			Historical/ Archaeological	Scientifical/ Artistical/ Technical	Social	Quality of Life	
Carta De Metropolis ICOMOS Brazil							Cultural	
Washington Charter ICOMOS - CIVVIH	Natural			Historical				
CIF international training committee, ICOMOS					Artistical/ Technical		Cultural	
Information note: Nara Document on Authenticity. Experts meeting.				Historical	Scientifical/ Artistical			

Figure 3.25: Proposed categories of heritage values in relation to those proposed by the heritage organiations

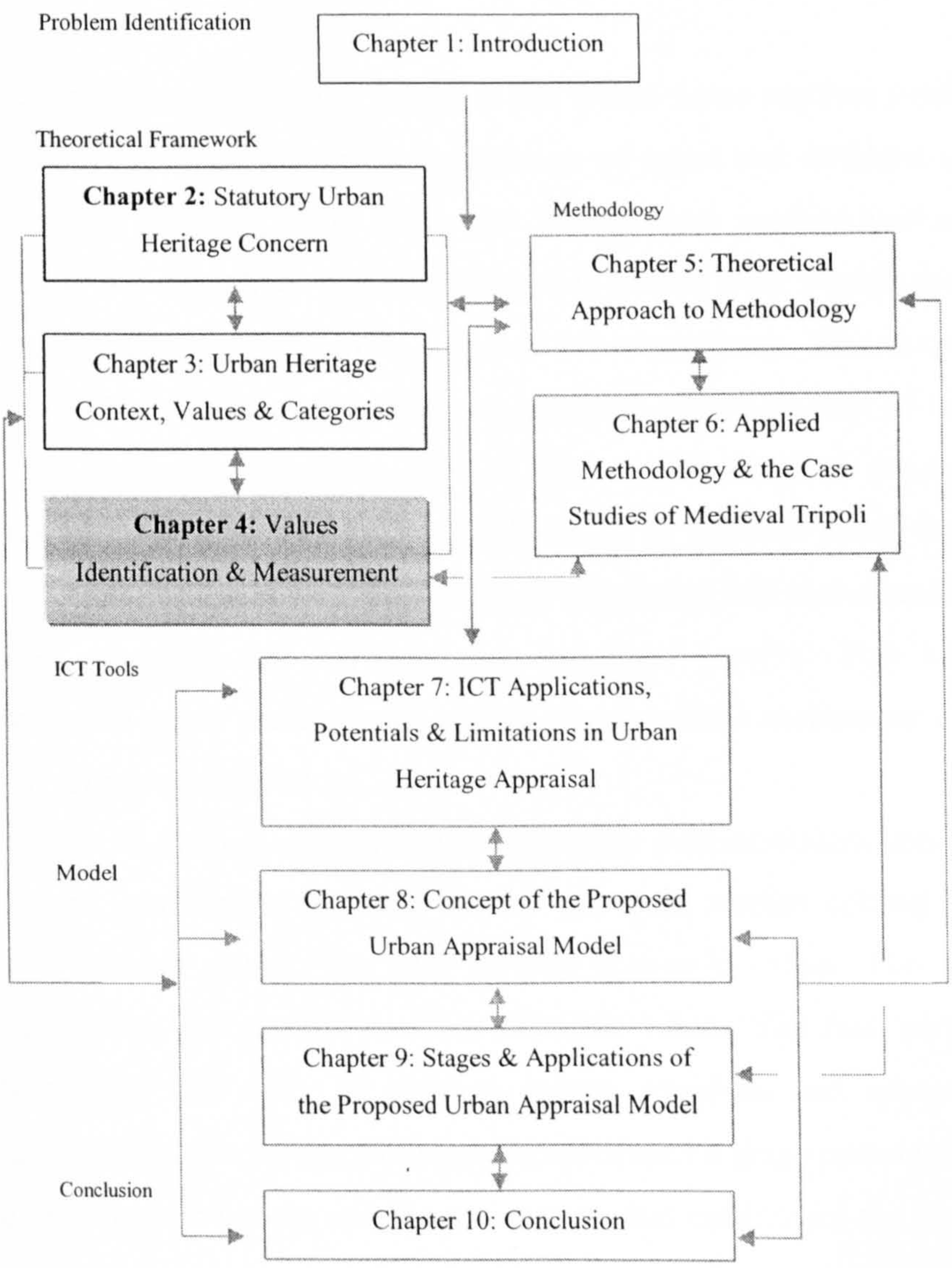
3.7 Conclusion

A glance through the theory of heritage conservation reveals that heritage is applied in wider varied of contexts; anything can become heritage and can acquire a set of meaning that gives it heritage significance. Heritage is confused with history, culture and authenticity and it is widened to encompass a vast number of resources, values and stakeholders. Conservation officers are faced with the problem of understanding such complex context of heritage. This problem is the7-79 most apparent in urban area. Urban area involves a complex number of resources that might be conserved for different motives, by different departments. This chapter reviews the context of heritage, its relation to its cognate concepts, its conservation motives and it illustrates the dangers derived from the evolution of its meaning. The aim is to identify the categories of heritage resources and values. This chapter widened its analysis to covers the whole context of heritage arguing that urban heritage is a very complex context that might involve all kinds of heritage resources, values and stakeholders.

This chapter identifies urban heritage as a concept that has evolved from being a relics of the past to its industrialisation and regeneration. It is not necessarily a product of the past nor authentic. It includes a sense of identity. It uses parts of culture, nature and history to save, experience and develop it. This chapter argues that heritage values and resources can best be recognised, by studying the motives that established the conservation concern. This chapter identifies the conservation motives from within eight main stages in heritage recognition, and goes on to discuss urban heritage resources and values according to these stages. However, it notes that conservation motives are not limited to one stage; motives established in one stage might continue in others. This chapter concludes that heritage conservation today might be inspired by all the motives described in stage 1 to stage 8. Nowadays heritage can include all kinds of resources, mentioned in any of the stages. Any urban resource can be listed as heritage, whether it is natural or a man-made resource.

This chapter then analyses the categories of urban heritage values. It reviews the categorisation of things and values produced by theorists and international organisations. This chapter found that most of these categorisations describe the same set of heritage values, but slice them in subtly different ways. It indicates that most of the current categorisations of heritage values are confusing; they do not provide any justification for

the proposed categories, nor to the nature of the sub-values that come under each category. The last part of this chapter depart from Capon investigation of the categories of architecture and things, and the categorisation proposed by other theorists and international organisations concerning the categories of heritage to propose six categories of heritage values. These categories are: Aesthetic, cultural, historical, economical, socio-political and scientific. This chapter ends by addressing the importance of theoretically studying each category of urban heritage values for identifying the variables and the methods against which it can be measured.


Problem Identification
Chapter 1: Introduction
Theoretical Framework
Chapter 2: Statutory Urban Heritage Concern
Chapter 3: Urban Heritage Context, Values & Categories
Chapter 4: Values Identification & Measurement
Methodology
Chapter 5: Theoretical Approach to Methodology
Chapter 6: Applied Methodology & the Case Studies of Medieval Tripoli
ICT Tools
Chapter 7: ICT Applications, Potentials & Limitations in Urban Heritage Appraisal
Model
Chapter 8: Concept of the Proposed Urban Appraisal Model
Chapter 9: Stages & Applications of the Proposed Urban Appraisal Model
Conclusion
Chapter 10: Conclusion

4. Values Identification and Measurement

4.1 Introduction

Conservation is value based; its success depends on the quality and depth of the investigative approaches brought to the definition and measurement of Heritage values. Such investigation is a very important activity in any conservation effort. It strongly shapes decisions that are made for heritage conservation. However, even though values are widely understood to be critical to heritage understanding and planning, many conservation resources lack sufficient identification of their heritage values, and the proper listing of the variables against which such values might be measured. There is a little knowledge about how, pragmatically, the whole range of heritage values can be assessed in the context of planning and decision-making (Larkham, 2000; Mason, 2002; Hobson, 2004).

The understanding of heritage values in the fullest sense requires casting a wider net of philosophies and theories, and consideration of more and different contexts of values identification. Pocock (2002) states that conservation professionals must reach out to other fields and disciplines which have already gained some experience in assessing such contextual issues, and bring more rigour to this engagement. This chapter is a step in this direction. It builds a theoretical framework for the identification of each set of heritage values. It studies the meaning of each set, its chronological perception, the conflict involved in its judgment and the variables used by different fields for its measurement. Such a theoretical framework will facilitate discussion and understanding of the different valuation processes that heritage appraisal must involve. This kind of knowledge ultimately can guide practitioners' choice of appropriate assessment methods for a wide range of urban heritage values.

This chapter is divided into eight parts. The first part introduces context of this chapter. The second investigates aesthetic values. The third studies cultural values. The fourth identifies historic values. The fifth reviews economic values. The sixth studies socio-political values. The seventh analyses scientific values. The final part is the conclusion, which outlines the study of heritage values, variables and approaches. To aid the investigation of these values, this study has produced a graph presenting values in relation to the motives, the people and the movements that established the conservation process. This graph is the same as presented in the previous chapter, but this time it is offered in relation to heritage values (Figure 4.1).

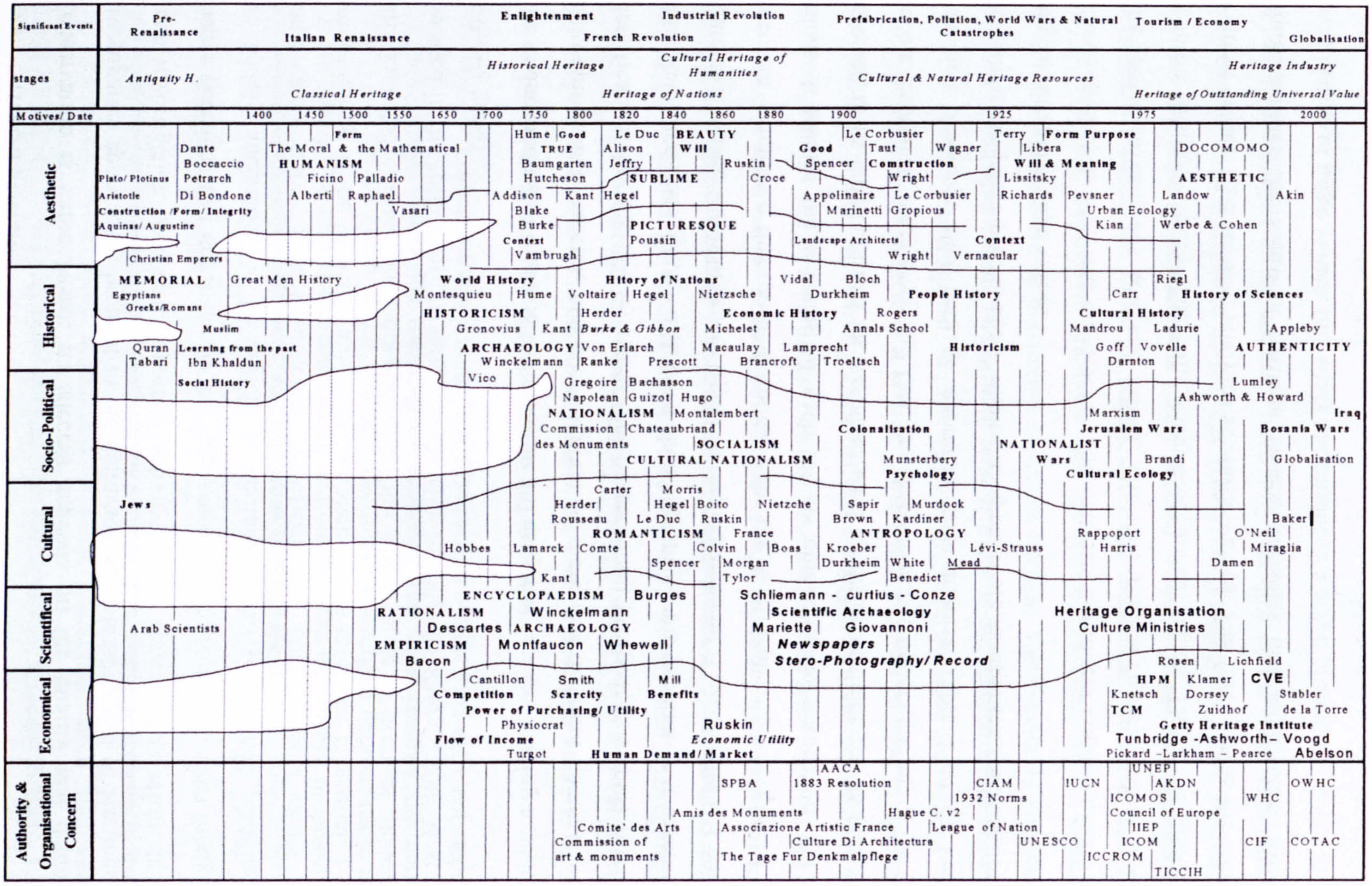


Figure 4.1: Evolution of each set of heritage value in relation to the motives, the people and the movements that established its its conservation process.

4.2 Aesthetic Value of Urban Heritage

4.2.1 Introduction

Various interpretations of the aesthetic have long been among the most important criteria for labelling things and places as heritage (Datel and Dingemans, 1988; Pocock, 2002). However, the issue of aesthetics is rarely debated within heritage management heritage management practice has failed to engage with the theoretical discourse, and failed to produce adequate assessment methods and processes (Pocock, 2002). Conservation officers' use of aesthetic as a criterion to assess heritage significance is simplistic, and subject to misrepresentation. The criteria lead directly to the problems that the report by Lucas et al. (1997) warns against, in particular that aesthetic qualities are reduced 'solely to visual amenity', and that there is a lack of consistency in methods used to document and assess aesthetic values. Moreover current heritage management practice confines aesthetic to physical aspects and to a particular class and culture, and an inert view of only one.of many sensory experiences. Pocock (2002) states that aesthetic, as a criterion to assess significance, require constant reassessment and re-evaluation. This value is constantly changing and subject to the influence of technology, society and management. It is therefore worth considering, in a contemporary heritage context, how this value might best be assessed so as to allow the aesthetic value of the past, present and future to be included in a management regime. This part is a step in this direction.

This part is divided into five sections. The first section outlines the different steps in this part. The second studies the meaning of aesthetic. The third reviews the concept of aesthetic, and the evolution of this concept. The fourth investigate approaches to studying aesthetic value. The fifth is the conclusion, and outlines the framework proposed by this study for the assessment of aesthetic value in urban heritage areas.

4.2.2 Aesthetic Concepts

Encyclopaedia Britannica defines Aesthetic as a 'term from German ästhetisch, from New Latin aestheticus, from Greek aisthEtikos of sense perception, from aisthanesthai to perceive. Aesthetic is relating to, or dealing with the beautiful. It means Artistic, a work of aesthetic value, pleasing in appearance; attractive, appreciative of, responsive to, or zealous about the beautiful; also responsive to or appreciative of what is pleasurable to the senses'.

Similarly, Matthew Kieran and Wirth, in 1997, refer aesthetic to beauty, pleasure and sense of recognition. Wirth explains 'Aesthetic' is that which can be perceived by the senses; it is that which offers itself to sensory experience. Kieran, writing in the journal Philosophy, sums up the conception of Aesthetic value: 'An object is of intrinsic aesthetic value if it appropriately gives rise to pleasure in our contemplation of it' (Williams, 1998). However aesthetic is not only a matter of Beauty. Since the eighteenth century it has also been considered a matter of the Sublime and Picturesque. Indeed, there is a distinction between the beautiful character and both the Picturesque and the Sublime. Beauty, Sublime and Picturesque were identified as distinguishable in the eighteenth century by Uvedale Price (1747-1828) and Richard Payne Knight (1750-1824). According to Price, Beauty and the Picturesque were founded on opposite qualities. 'The one on smoothness, the other on roughness; the one on gradual, the other on sudden variation; the one on ideas of youth and freshness, the other on that age, and even decay (Jokilehto, 1999c). Sublime is the painful, the awe-inspiring or any thing which elevates the mind.

4.2.3 Evolution of Aesthetic Concepts in Different Context

From Plato (428–347 BC), Aristotle (384-322 BC), Plotinus (204-270), Augustine (354-430) and Aquinas (1226-1274) through Alexander Baumgarten (1714–62), Kant and Ruskin to Benedetto Croce (1866-1952), Le Corbusier (1887-1965), and Frank Lloyd Wright (1867-1959), many studies have been developed to investigate and judge the aesthetic features (artistic and non-artistic) that are Beautiful, Picturesque or Sublime in character. Despite all these efforts, the criteria applied to measure the aesthetics of the built environment are not as yet properly developed. They are either too subjective, with no rules; or too objective, with no flexibility. In both cases many aesthetic things within the built environment are ignored, lost or even destroyed. The problem can be seen in the difficulty of measuring the aesthetic, and in the lack of useful coordination between aestheticians and conservationists. Since Plato aesthetic theorists have attempted to identify the pleasing elements of Beauty, and since the 18th century they have similarly endeavoured to identify the pictorial Picturesque and the awful Sublime. Aesthetic theorists struggled to develop objective criteria to measure Beauty, Picturesque and Sublime using mathematical, physiological, psychological or biological criteria. However none of these criteria are used for statutory Heritage listing. The coming sections investigate Beauty,

Sublime and Picturesque, in an attempt to search the criteria that can be used for measuring the aesthetic value of urban heritage areas.

4.2.3.1 *Beauty*

Beauty was the first recognised aesthetic character. Greek philosophers and those of the Middle Ages considered it a motive of attraction, which truly calls out love; it is the good, which pleases when seen, as a window through which to see the divine (Capon, 1999). It was perceived by Plato, Plotinus, Aristotle, Aquinas and Augustine in colour or light (clarity) and form or proportion, and also in perfection or wholeness (integrity). Philosophers of that period saw beauty in a thing that possessed a geometrical regularity, harmony unifying many souls into one, an idea attached to the mind; an image which represents an ugly thing faithfully. Muhammad, founder and Prophet of Islam, identifies it as the key things that any person may differentiate from the background. It may mean something located in'water, greenery, and a beautiful face' and the spiritual submission to a divine (Wikipeda, 2004). In architecture, it exists in proportion, in luminous windows and coloured stones, and also in the use of mystical form. Dum Scotus claimed that 'Beauty was not some kind of absolute quality in beautiful objects, it was rather the aggregate of the properties of such objects; for example, magnitude, shape and colour and the sum of all the connections among themselves and between themselves and the objects, but also between the object and the picture in one's mind' (Capon, 1999:69). Methods considered to measure beauty at that stage were geometrical or arithmetical, and moral or divine. Figure 4.2 summarises the categories of beauty and their variables as understood in that period.

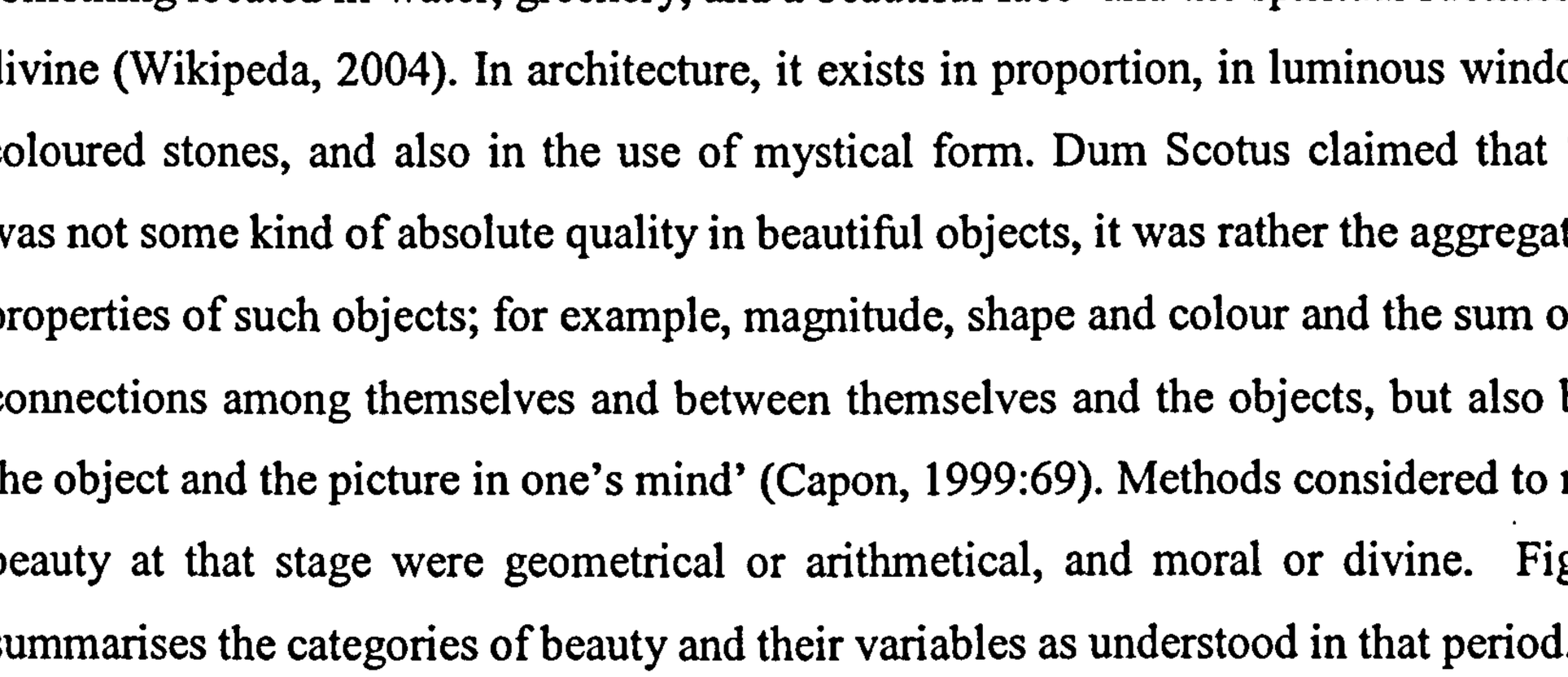


Figure 4.2: Greek and Medievalists' categories of Beauty.

During the 15th and 16th century the philosophers of the Italian Renaissance continued in the same vein, seeing beauty in proportion, harmony, unity and the divine with an

appreciation of human imagination, invention and mysticism. Alberti (1404-72) said: 'I shall define beauty to be a harmony of all the parts, in whatever subject is appears, fitted together with such proportion and connection that nothing could be added, diminished or altered but for the worse.' (Capon, 1999:8). Palladio declared 'Beauty will result from the beautiful form and from the correspondence of the whole to the parts, of the parts amongst themselves, and of these again to the whole.' (Landow,1994c).

Alberti, Palladio and other fifteenth- and sixteenth-century Italian architects based their elaborate systems of proportion on Pythagorean conceptions of musical harmony known to them through Plato's Timaeus, and Ficino's commentary on the Timaeus. Renaissance architects believed that number, geometry, and music were varying appearances of one principle, and they therefore used these terms interchangeably, speaking of their buildings as spatial music (Landow, 1994c). Figure 4.3 describes the categories of beauty and their variables as understood at that period.

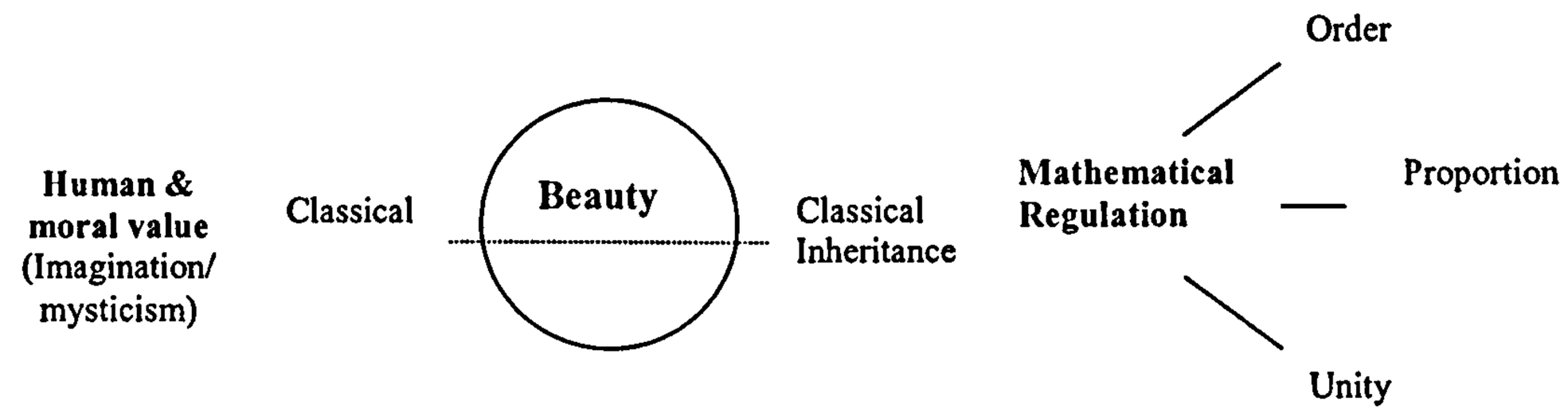


Figure 4.3: Renaissance categories of Beauty

During the 18th and beginning 19th century, the Enlightenment divorced beauty from the study of morals and made it a separate discipline, 'the subject of aesthetics'. Neoclassicism, empiricism, and rationalism replaced the Renaissance emphasis on the imagination, on invention and experimentation and on mysticism. The Enlightenment theorists put emphasis on order and reason, on restraint, on common sense, and on political, economic, and philosophical conservatism. Gould (1998) defines such empirical Beauty as rational, and profane. Pruitt (1994) argues that Beauty was firmly entrenched in Neoclassicism and geometry, in probability and good taste and proportion. That was a Newtonian universe where all ran smoothly and dictatorially. The Enlightenment re-related beauty to the good. The relation of beauty to the good goes back to Aquinas and LaRochelle. Aquinas thought of the beautiful 'as a way in which the good makes itself manifest.' and wrote that 'anyone who desires the good, by that very fact desires the beautiful.' (Williams, 1998). This view was echoed by John of LaRochelle, who concluded 'beauty is good when it pleases the

apprehension' (Williams, 1998). Hume said 'a great part of beauty... is derived from the idea of convenience or utility... the order and convenience of a palace are no less essential to its beauty than its mere figure and appearance' (Landow, 1994b). Violet le Duc (1814-79) in the 19th century proposed the view that the beauty of a gothic cathedral lay in the fact that its buttresses and vaulting clearly expressed a structural purpose (Capon, 1999: 113). Methods applied to measure beauty were rational at that time, based on the study of order, harmony, balance, utilities and purposes. Figure 4.4 describes the categories of beauty and their variables as understood in that period

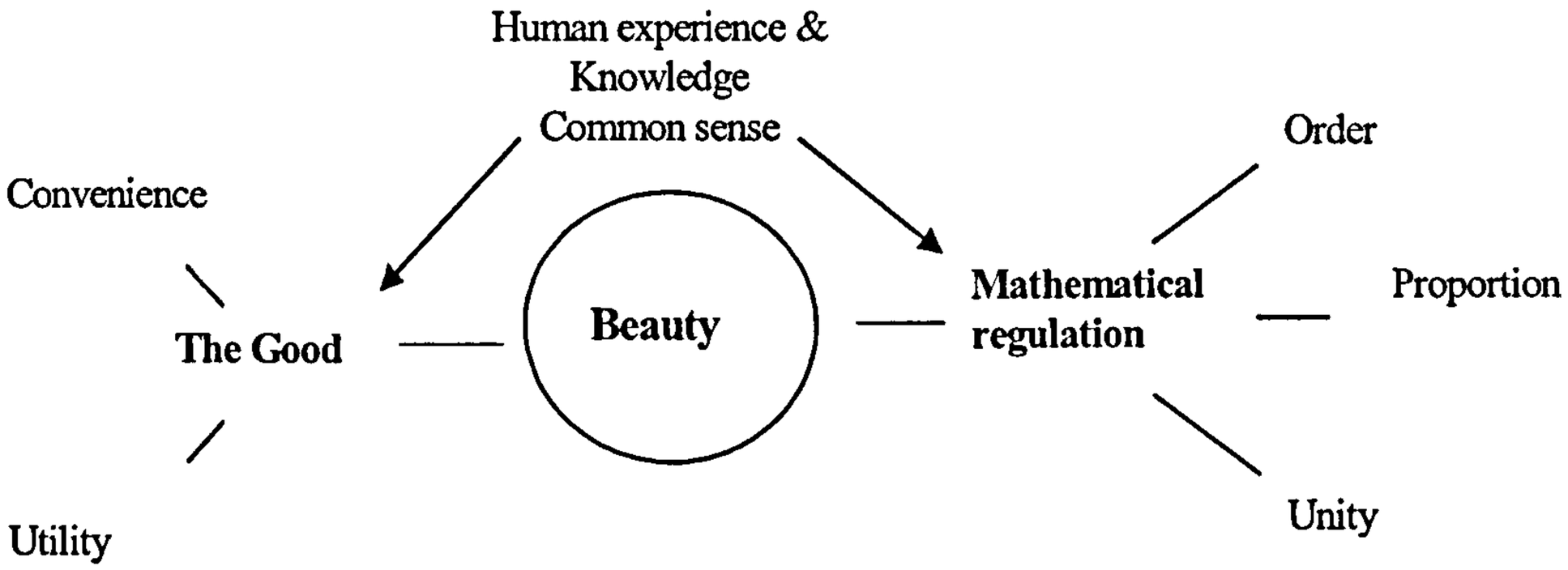


Figure 4.4: Enlightenment categories of Beauty.

During the same century the word Aesthetic was introduced by the German philosopher Baumgarten, as a reaction to the rational philosophy of Descartes and the mechanistic science of Newton. Baumgarten contended that it is a mistake to exclude sensations and perceptions from knowledge, and those sensations and perceptions provide an equally valid conception of reality as Cartesian logic (Leath, 1996). Baumgartner attempted to derive, from within philosophical discourse, the rules for experiencing beauty as the sensory recognition of perfection, with the suggestion that aesthetics should be a separate, independent concern dealing only with pleasures of perception. Similarly Frances Hutcheson (1694-1746), Hume, Archibald Alison (1757-1839) and Kant (1724-1804) noted that beauty is not an inherent quality of things. They meant that it is not the quality of the thing that make it beautiful, but the sense of pleasure that such a thing provides. Hutcheson highlighted that the realm of aesthetic should be distinguished from the realms of utility and knowledge. He proposed that 'the capacity to perceive beauty may correctly be called a sense, because the pleasure it produces does not arise from the knowledge of principles, proportion, causes, or of the usefulness of the object' (Capon, 1999:107). According to Alison, the aesthetic derives from association. He believed that the observer finds certain

proportions beautiful merely because he has become accustomed to them and because he associates pleasant thoughts with them (Landow, 1994b). Similarly Hume asserted that beauty exists merely in the mind which contemplates them, and each mind perceives a different beauty (Capon, 1999:108; Cracyk, 2002). He also distinguished between impressions, which enter the mind through the internal sense, and ideas, which may be associated and cross-related in the mind. For Kant, the inner sense is developed into the notion of 'consciousness' whereas the external is in representation. All these lead to the identification of two kinds of beauty; absolute beauty, and relative beauty. Hutcheson considered the first in terms of intrinsic harmony and variety, and the second in terms of imitation or resemblance (Capon, 1999:107). These two meaning of the aesthetic value derived from both the Enlightenment and the Romanticism thoughts.

Romanticism rejected the precepts and rationality that typified Classicism, 18th-century Neoclassicism and the Enlightenment in general. Romanticism highlighted the idea that human beings do not see the world directly, but through a number of categories, the facts that lead theorists to consider beauty as an emotion, and discuss it not in terms of the external qualities of the object, but in terms of the psychological experiences of the beholder. Romanticism shifts the essential nature of truth of Enlightenment, from an external empiric reality to an internal one based on emotion. Aesthetic philosophy as well as scientific thought shifted to reflect this. Romanticism saw beauty as the imitation of nature. A beautiful painting was considered that which commemorates historical events or encourages morality. Beautiful music was that which inspires piety or patriotism. Especially appreciated was drama which serves to criticize society and so leads to reform. Jeffry, writing in the Edinburgh Review in 1806 said 'A beautiful object is one that is associated either in our past experience or by some universal analogy with pleasure, or emotions that upon the whole are pleasure' (Capon, 1999:116) According to Romanticism, the beauty of: 'Outward objects, is nothing more than the reflection of our inward sensations, and is made up entirely of certain little portions of love, pity, and affection, which have been connected with these objects, and still adhere, as it were, to them, and move us a new whenever they are presented to our observation.' (Landow, 1994a). In the same way, Kant, Hegel and Croce discussed beauty. Kant analysed beauty as a kind of 'perfect fit' between an object and a human subject (Tymoczko,2000). Hegel considered it everything that the human spirit finds pleasing and congenial to the exercise of spiritual and intellectual freedom. He believed that certain things in nature can be made more congenial and pleasing, and it is these natural objects that are reorganized to satisfy aesthetic demands

(Encyclopaedia Encarta, 1997). In Italy, the philosopher and historian Croce exalted intuition, but he considered it the immediate awareness of an object that somehow gives that object form. Consequently beauty and ugliness are not qualities of the object, but qualities of the spirit expressed intuitively in it (Encyclopaedia Encarta, 1997). In Britain, Ruskin spoke of beauty as both quality and feeling (Wallach, 1994). He suggested that everyone receives identical emotions from certain visual qualities, much as everyone receives identical sensations of sweetness from sugar. Romanticism, of this period, therefore shifted the measurement of beauty from objective analysis to the subjective, but despite the studies made by Ruskin and others, the concept of beauty arrived at the 20th century with no definite identification. Figure 4.5 describes the categories of beauty and their variables as they were understood at this period.

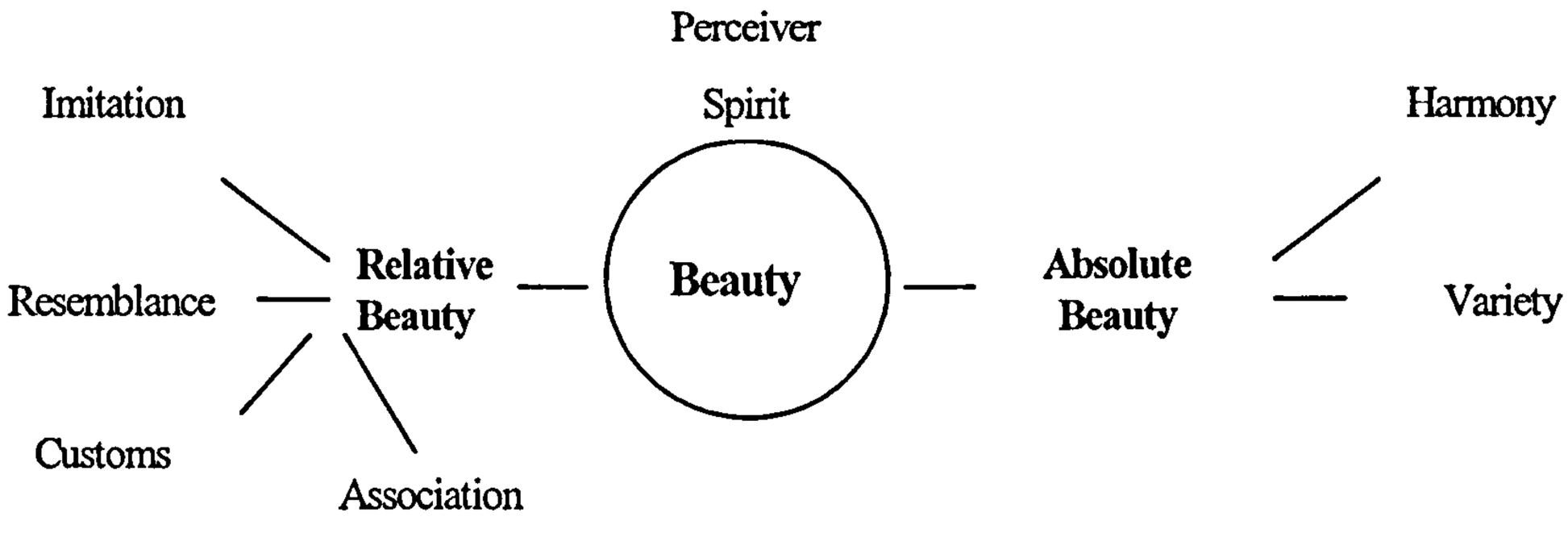


Figure 4.5: Romantics' categories of Beauty.

The 20th century emphasised the relation of beauty to form, function, truth, will, context and meaning. For Instance, Adelberto Libera related beauty to form. Quinlan Terry attached it to symmetry. Otto Wagner derived it from the adaptation to function. El Lissitsky associates it with politics, and Wright attached it to materials and the sympathic coordination with nature, ground and the purpose of city and town (Holgate, 1992; Capon, 1999).

In this century two movements, Marxism in the fields of economics and politics and Freudianism in psychology emphasised the economical, the functional and the psychological variables in aesthetic judgement. Herbert Spencer (British social philosopher 1820-1903) argued that 'beauty follows the principle of economy' (Capon, 1999:113). While Wright, Bruno Taut (1880-1938) and Le Corbusier related beauty to purpose, function and Utilitarism. Wright saw beauty as 'integral... the form itself in orderly relationship with purpose and function' (Capon, 1999b: 46). Taut perhaps expressed the

view most clearly when he wrote 'beauty originates from the direct relationship between building and purpose...everything that function well looks well. We simply do not believe that anything can look unsightly and function well.' (Capon, 1999b: 76). Le Corbusier related beauty to usefulness. In describing beauty in architecture, he mentioned 'architecture goes beyond utilitarianism needs...suddenly you touch my heart, you do me good, I am happy and I say 'this is beautiful'; that is architecture. Art enters in.' (Capon, 1999b: 75). According to psychologists beauty depends on the individual, his origins & education. In 1929, the British critic and semanticist Richards (1893-1979) noted that highly educated people are conditioned by their education, by handed-down opinion and by other social and circumstantial elements, in their aesthetic responses (Danto, 2001a). Ashworth & Howard (1999) assert that the problem of defining beauty is that widely different societies may have quite different ideas about what is beautiful, which will have consequences for the designation of international heritage. Even within a society, the views of the professionals may not correspond to those of the ordinary people; also taste varies over time. Figure 4.6 summarises the variables of beauty in the 20th century.

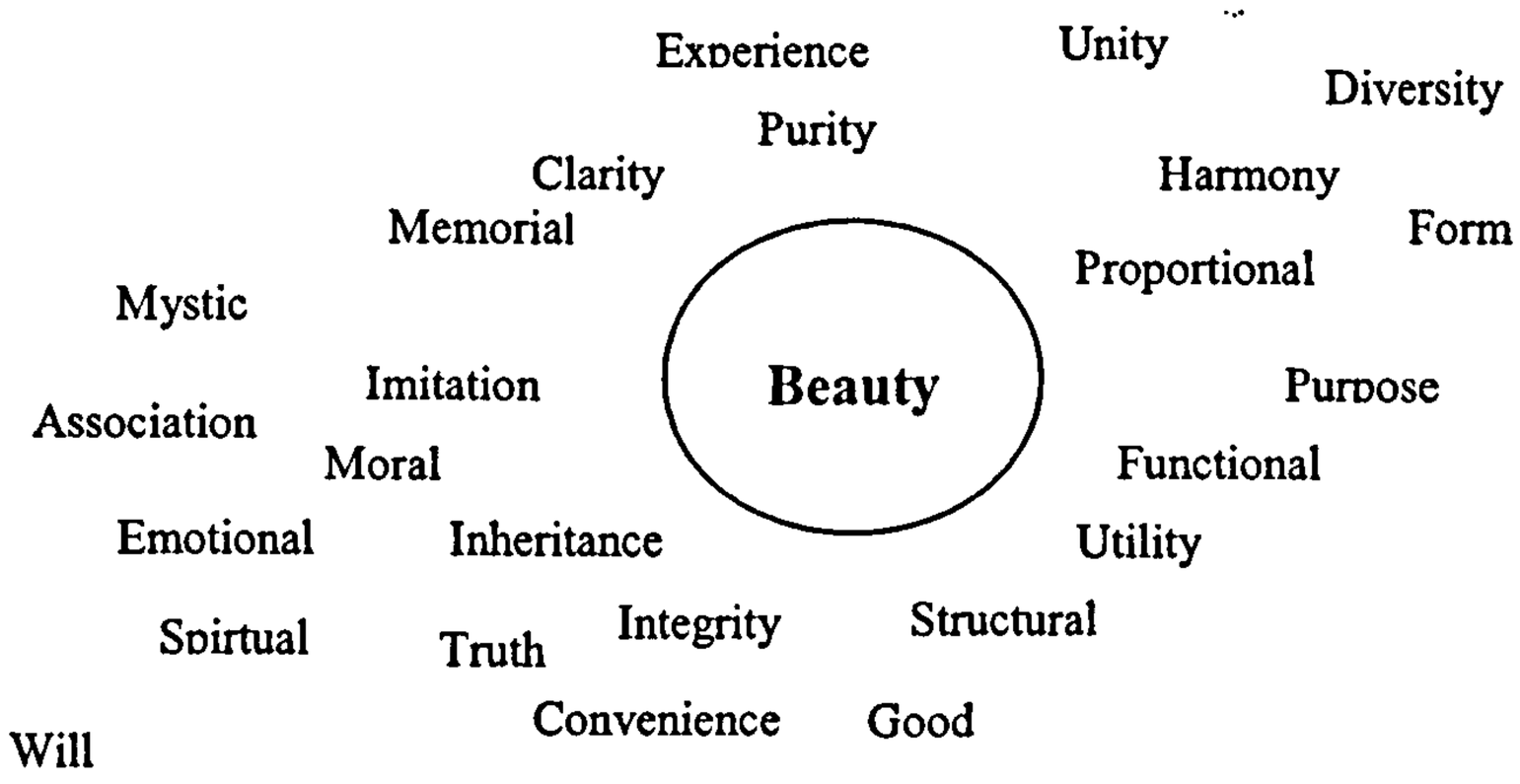


Figure 4.6: Beauty variables in the 20th century

Beauty reached the current century with a large number of variables. It is not only limited as many argue, to the form of the built heritage resource in isolation from its natural, cultural and socio-economic context (Pocock, 2002). Different variables might contribute to the beauty of a resource. These variables can be categorised in six groups. These groups are (Figure 4.7): beauty of form, function, meaning, context, construction and will. These categories are the same as those defined by Capon, however Capon does not limit his categories to beauty. This study argues that beauty can address the six categories proposed by Capon when these categories provide a sense of positive pleasure to people.

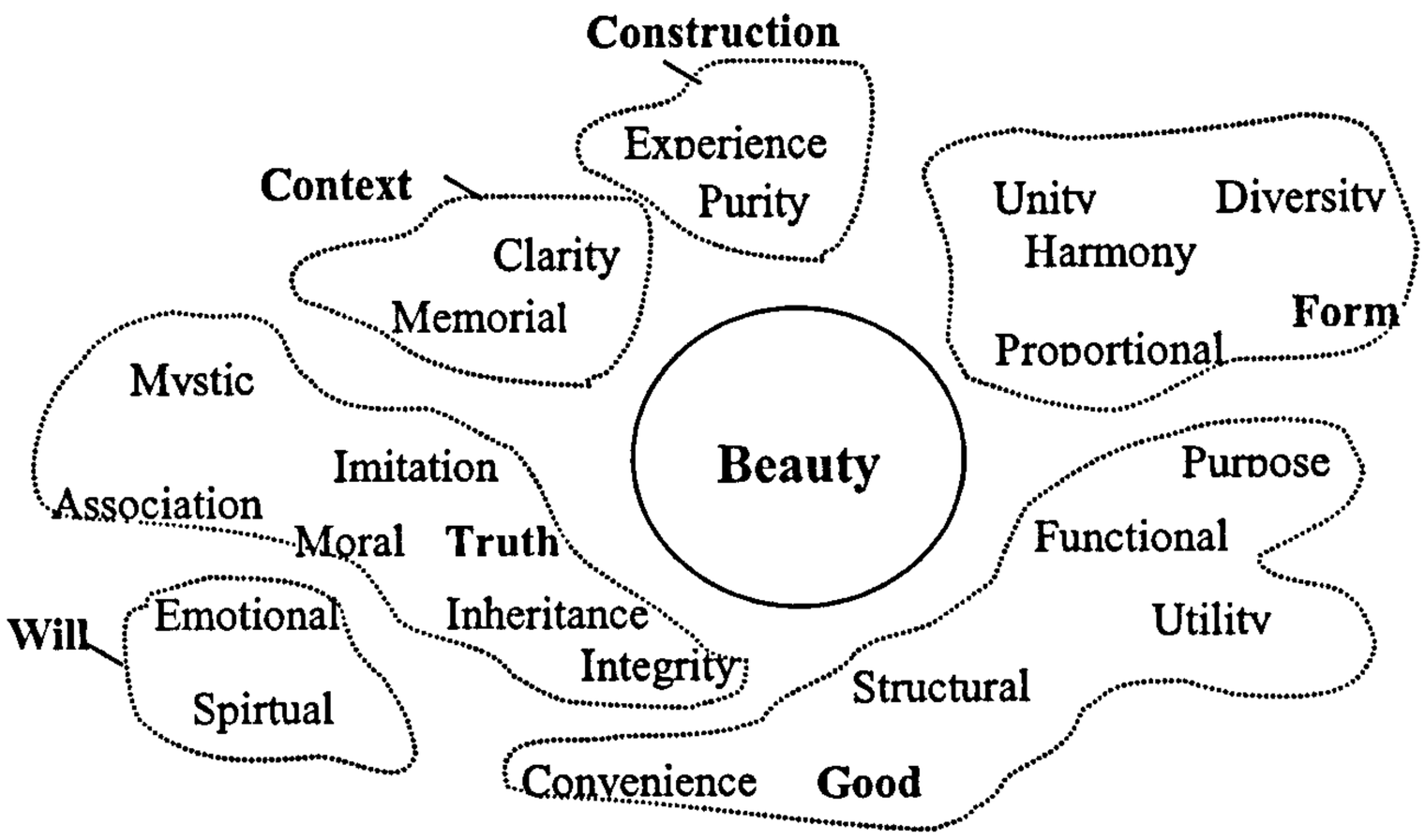


Figure 4.7: Categories of Beauty as identified by this study

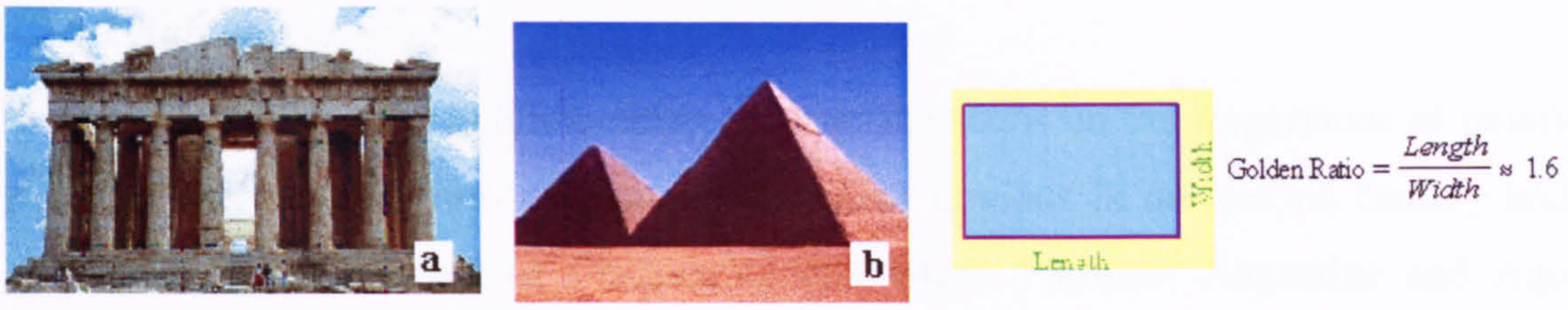


Figure 4.8: Parthen Acropolis (a) & Great Pyramids of Giza (b)

These two monuments can be examples of monuments with beautiful ratio form (golden ratio).

(Photo by Howard David, 2002).

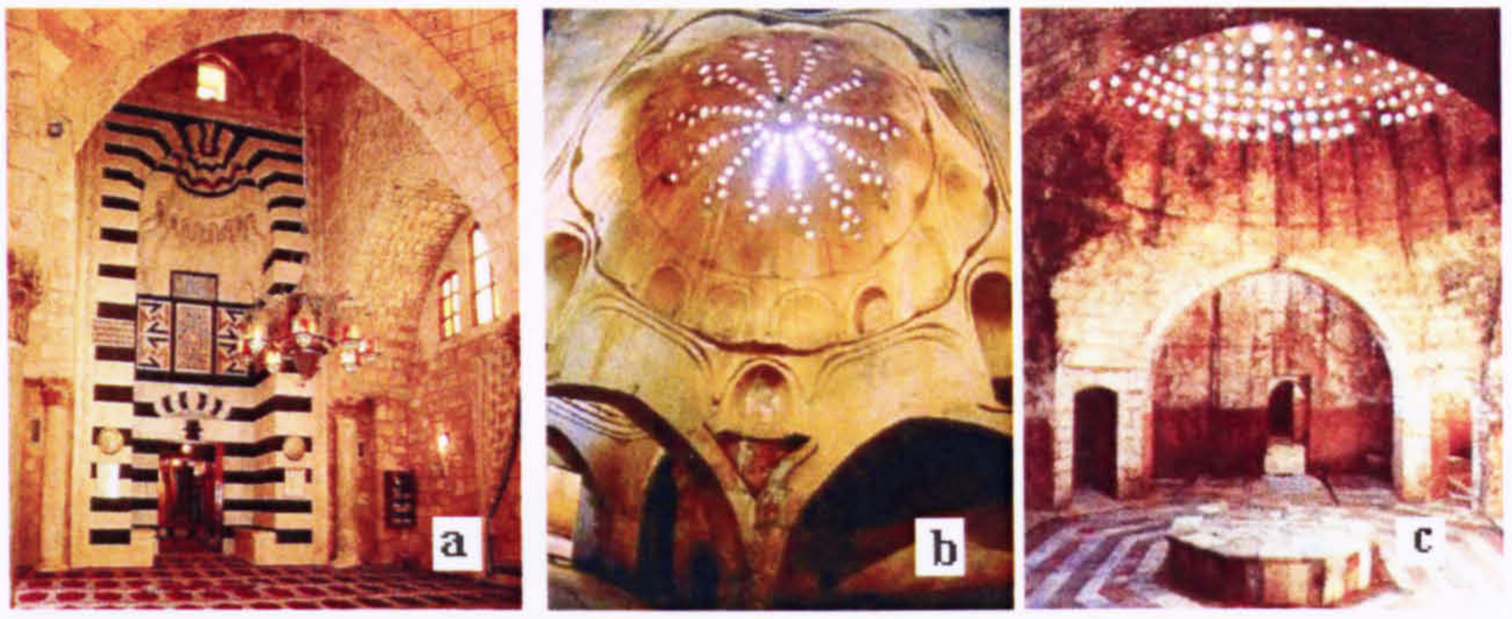


Figure 4.9: Tynal Mosque (a) & and Al Jadid Hamam (b and c), from Tripoli, Lebanon.

The mosque can be an example of buildings with beautiful construction. The hamam can be an example of buildings with beautiful lighting context (Photos gathered from Tripoli.city.org).



Figure 4.10: Al Kabir mosque (a) & Al Burtasi marrassah (b).

Al Kabir mosque can be an example of buildings with beautiful meaning and function. Al Burtasi madrassah can be an example of buildings with beautiful form and beautiful past context

(Photos gathered from Tripoli-city.org).

4.2.3.2 *Sublime*

In the 18th century, the Sublime emerged from the stress on the importance of emotional states. It was evolved from the power concept of Loginus in the second century and the spiritual religious concept of Christianity and Islam. Plotinus, Augustine and Aquinas enriched these emotional theories, and Burke evolved the theory of sublime. Edmund Burke (1753 – 1820) saw it in awe and terror. Kant and William Blake (English poet, painter 1757-1827) related it to certain unlimited, immense, threatening or incomprehensible phenomena (Tymoczko,2000).

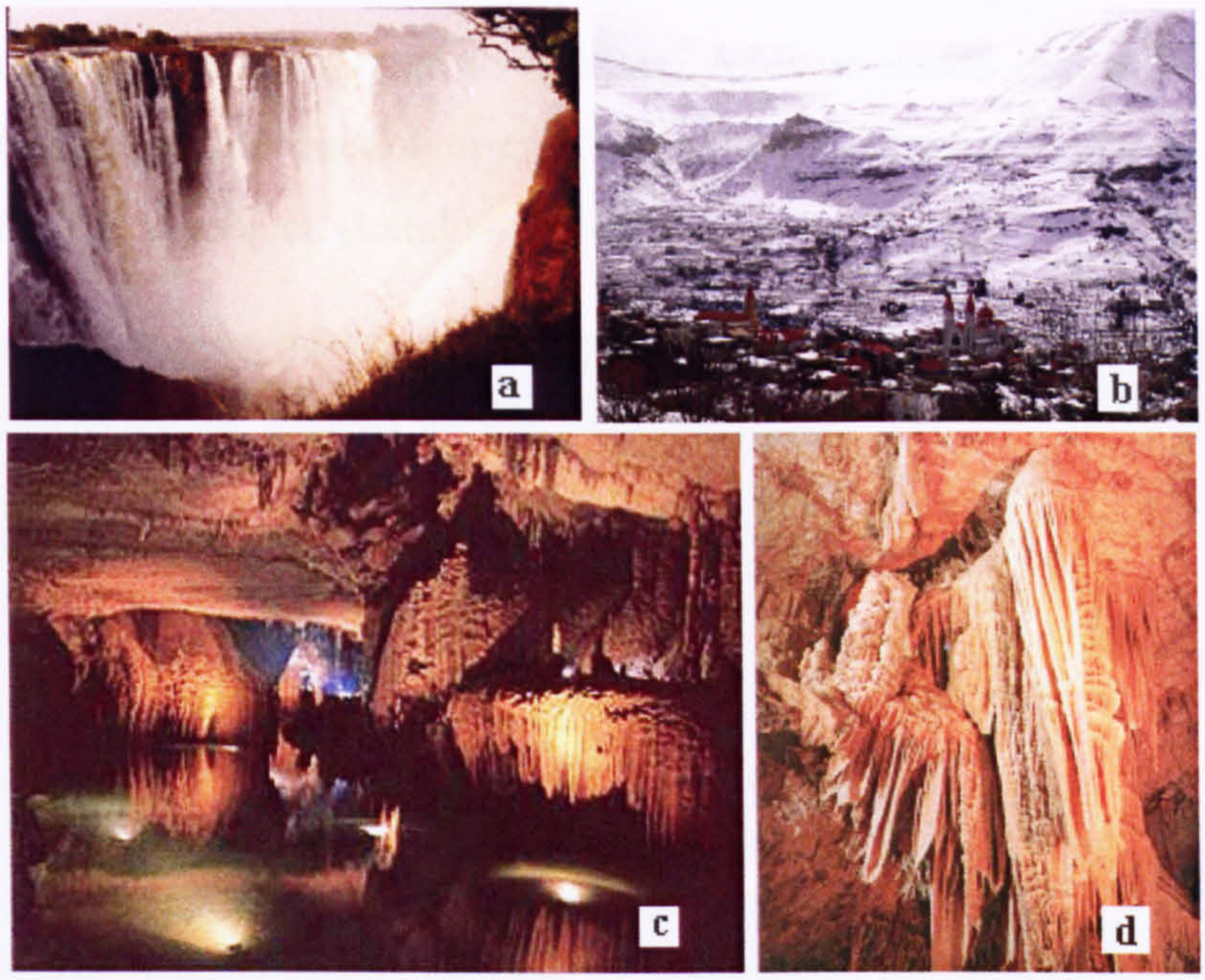


Figure 4.11: Victoria Waterfall (a), Lebanon's Mountains (b), caverns of Jeita Grotto (c & d) Are good examples of natural resources with significant sublime value (Photos gathered from Britannica.com and Lebmania.com).

Landow (1994d) showed that most writers on the sublime before the 18th century agreed that the pleasant feelings of awe, delight, and admiration were the result of contemplating mountain ranges, vast seas, and the other usual examples of natural sublimity (Figure 4.11). During the eighteenth century Sublime was considered a matter of relative size and hence power (endless desert, majestic mountain, raging ocean, or thundering waterfall) obscurity, difficulty, massiveness, gloom, and extreme light or darkness. That was the negative sublime, in which the perceiving mind was lost or humiliated before an awful immeasurable power. Burke theorised sublimity as the pleasure to be gained from the contemplation of terror and fear, and the pleasing experiences, that intrinsically seem like

they should be unpleasant Burke wrote: 'the passion caused by the great and Sublime in nature...is astonishment: and astonishment is that state of the soul in which all of its motions are suspended, with some degree of horror. In this case the mind is so entirely filled with its object, that it cannot entertain any other, nor by consequence reason on that object which employs it' (Pruitt, 1994). Burke adds that Sublime is 'The passions, which belong to self-preservation, turn on pain and danger; ... they are delightful when we have an idea of pain and danger without actually being in such circumstances; this delight I have not called pleasure, because it turns on pain, and because it is different from...positive pleasure. Whatever excites this delight, I call sublime' (Pruitt, 1994). Burke, Addison (1672-1719) provided similar though to sublime. Addison stated that Sublime required a unified magnificence and its reaction or effect was the pleasure caused by attempting to fill the mind by 'too big' an object. (Landow, 1994d)

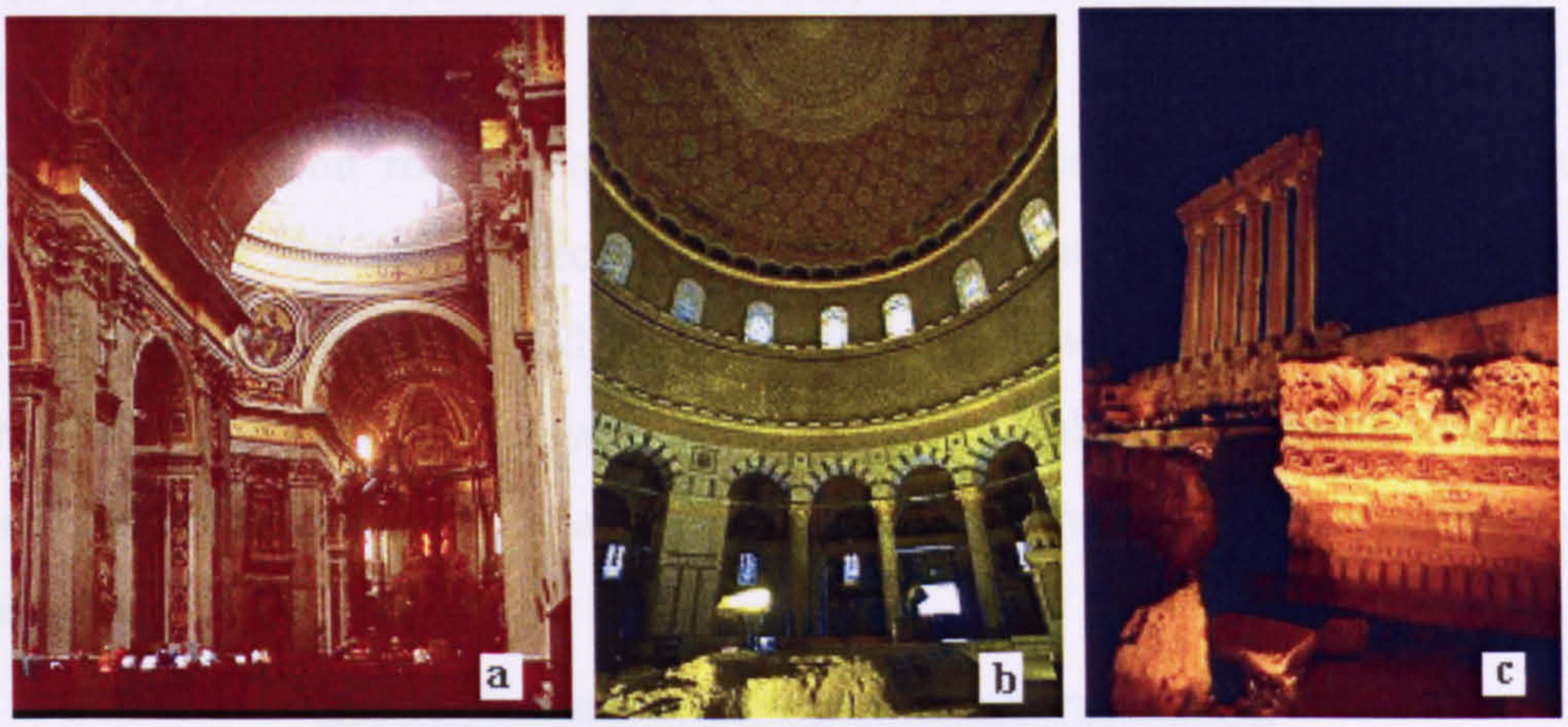


Figure 4.12: Saint Peter Church, Rome (a), Mosque of the Rock (b) & Baalbeck Lebanon (c)
These three resources can be considered examples of man made resources with Sublime value

Kant and Blake rejected the denigration terrorizing aspects of Burke's work in favour of a cheerful positive sublime. Kant labelled as sublime the feeling of awe and reverence that certain unlimited, immense, threatening, or incomprehensible phenomena seem to provoke. Kant remarked, the size of Saint Peter (Figure 4.12), highlighting that 'Saint Peter's defeats our perception: by the time our eyes move from the floor to the ceiling, we lose our memory of the starting point. Our apprehension exceeds our comprehension and this incomprehension–rather than terror' (Capon, 1999). Kant divided Sublime into mathematical and dynamical. The mathematical reflected the category of disjunction. It depends on quantity, size and greatness. The dynamic reflected the category of causality and it depends on the powerful effects produced (Capon, 1999:151). Kant's mathematical

sublime arose out of total mental fatigue, in fear of losing count or being reduced to nothing but counting. The result was not dread, however, but an identification with the power confronted. The immensity of its subject mirrored the enormous capacity of the human mind, and the viewer felt pride and elevation by a sympathetic power (Crowther, 1991; Tymoczko,2000). For Ruskin Sublime was at first religious, a moral elevation of the mind and a contemplation of death. However it was then evolved to become anything, which elevates the mind, and which produces by the contemplation of greatness of all kind (Landow, 1994a). The sublime in the twentieth century was observed in technology. Tommaso Marinetti (Italian poet and editor 1876-1944) attached it to a great humming power-station, holding back the hydraulic pressures of a whole mountain range. Walter Gropious (German American architect 1883-1969) spoke of the great size of modern industrial architecture in relation to the ancient pyramids. Guillaume Appolinaire (French poet 1880-1918) pictured it in the highest tower, in a river arches (Capon, 1999). Landow (1994c) observed it in creating a technological sublime in which the power of human creations such as moon rockets, atomic weapons, skyscrapers, and gigantic, mile-long trains, that produce the same effect as the Grand Canyon, Mont Blanc, and the infinite reaches of spaces (Figure 4.13 and Figure 4.14). Landow (1994c) adds that the sublime dispelled the notion that aesthetics were to be found only in the fruitful, well-ordered. Sublime widened the notion of the aesthetic to involve the vastness and immense that could also please.



Figure 4.13: Itaipu damp, Brazil
This damp is a good example of Sublime construction (Photo gathered from Knpb.org.)

Sublime is thus attached to the resources that elevate the mind, and which produce a sense of greatness of all kinds. It is not only limited to some massive natural resources. The Sublime can also be found in built heritage resources that are great in size, that are

incomprehensible, emotional and powerful, or which provide a sense of terror and death. Figure 4.15 summarises the variables of the Sublime as identified through this section.



Figure 4.14: Petronas Twin Towers, Malizia.

The size and the high-tech of the two towers give them a remarkable Sublime value

(Photo gathered from klcc.com)

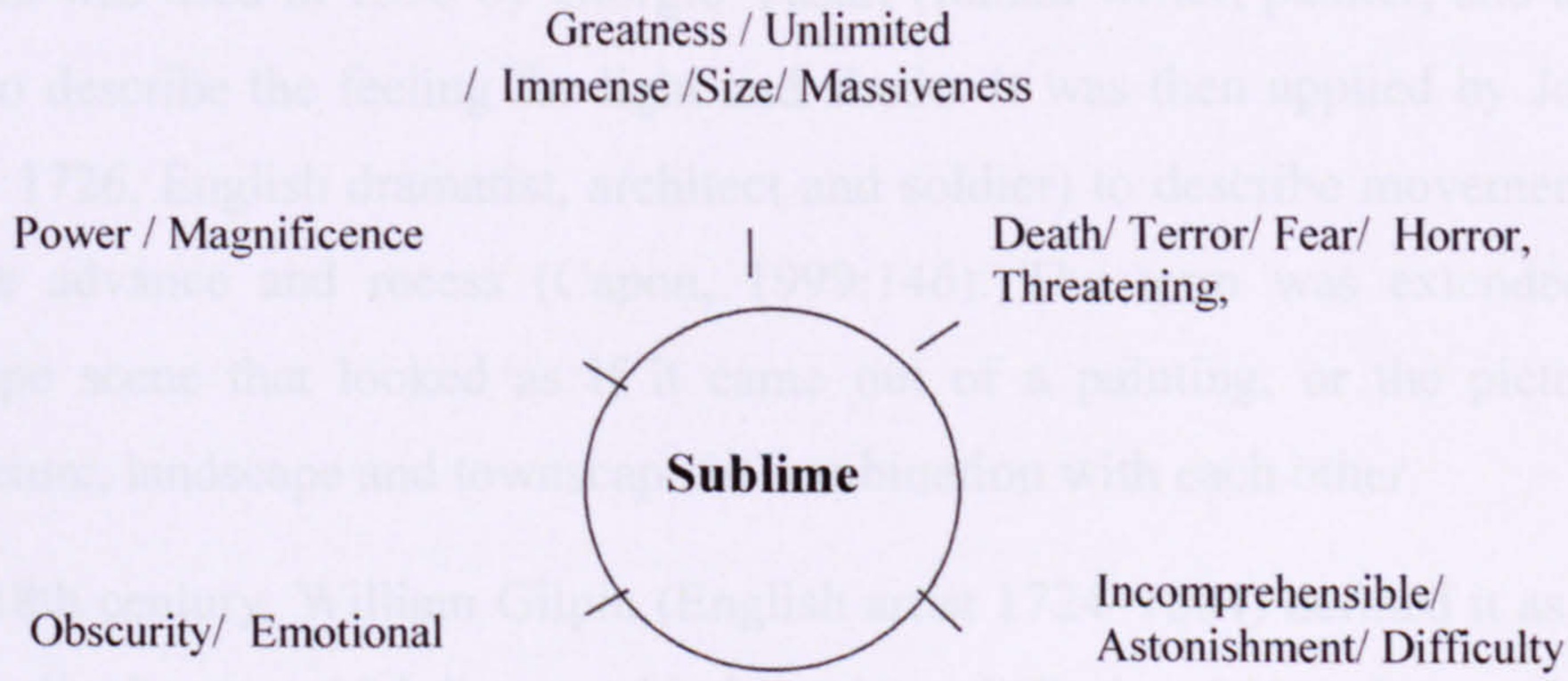


Figure 4.15: Sublime's variables

4.2.3.3 *Picturesque*

The Picturesque came into being as an aesthetic aspect during the latter part of the eighteenth century. Sir Uvedale Price and Richard Payne Knight recognised it as an aesthetic quality existing between the sublime (i.e., awe-inspiring) and the beautiful (i.e., serene). According Price and Knight it was marked by pleasing variety, irregularity, asymmetry and interesting textures (Landow,1994a).



Figure 4.16: Saida Castle (a), Tripoli Castle (b) and Mausayleh Castle (c)
Lebanese monuments with picturesque value (Photos gathered from Pbase.com &Tripoli-city.org)

The term was used in 1550 by Giorgio Vasari (Italian writer, painter, and architect 1511-1574) to describe the feeling for light and shade. It was then applied by John Vambrugh (1664 - 1726, English dramatist, architect and soldier) to describe movement, the rise and fall, the advance and recess (Capon, 1999:146). The term was extended to denote a landscape scene that looked as if it came out of a painting, or the pictorial values of architecture, landscape and townscape in combination with each other.

In the 18th century, William Gilpin (English artist 1724–1804) defined it as 'expressive of that peculiar beauty which is agreeable in a picture' (Budge, 2001). It was also described as medieval ruins, or decay in a natural landscape. Gilpin wrote 'Should we wish to give it [Palladian architecture] picturesque beauty, we must use the mallet, instead of the chisel; we must beat down one half of it, deface the other, and throw the mutilated members around in heaps. In short, from a smooth building, we must turn it into a rough ruin' (Pruitt, 1994). Likewise, Uvedale Price (Author 1794-1801) saw the picturesque in decay and age.

In fact, the change that was taking place at the beginning of the eighteenth century, away from formal gardens to a preference for more irregular landscaping played a major role in the Picturesque admiration (Figure 4.16).

In the 19th Ruskin, in the Lamp of Memory, mentioned that 'for indeed the greatest glory of a building is not in its stones, nor its gold. Its glory is in its age, and in that deep sense of voicefulness, of stern, watching, of mysterious sympathy, nay even approval or condemnation, which we feel in walls that have long been washed by the passing waves of humanities' (Capon, 1999). Such views enriched the picturesque, and made its characteristics clearer Figure 4.17



Figure 4.17: Al Burtasi minaret (a), Al Mahaytra pedestrian archad way are resources with picturesque aspects (Photos gathered from Tripoli-city.org)

In 20th century, Nicolas Pevsner identified picturesque with 'Intricacy', which he described as 'only a more complicated ordering' (Capon, 1999:232). Kian (1981) noted that Irregularity was the chief principle of the picturesque style; broken tints, complex textures, an 'agreeable horror' and lively curiosity were its effects. Picturesque in the 20th century acquired also number of other meanings with the development of landscape and townscape theory also with the progress of Historicism and its admiration of various styles. Picturesque was seen in the form of old buildings, shop and towns, also in the skyline of the group of buildings and the city. It was typically composed of such functional accretions as roofs and chimneys but as well on the merit of other functional features as ornamental staircases and balconies, Werbe & Cohen (1997) said:

'One of the most noticeable characteristics of picturesque architecture seems to be its eclecticism. Several sub styles, such as Italianate, French Second Empire, Richardson Romanesque, and Queen Anne. Although these diverse styles do not appear to share many similarities, they are all expressive of Picturesqueness in some way...Regardless of its particular form, Romantic architecture generally intended to be visually pleasing through its use of space, colour, texture, and ornament. Combinations of several different stylistic elements, such as gables, turrets, and towers, as well as sombre or muted colours, may be employed so as to break up plain surfaces and facilitate the blending of the architect's creation and the natural environment. In addition, brackets, eaves, balconies, porches, mouldings, and recessed arcades are often integrated into the designs, thereby producing various patterns of light and shade which were considered to be a desirable feature of this type of architecture'.

Townscape and the landscape theory, in its turn, related the picturesque quality of the building to its site and the configuration of its terrain and any other local circumstances such as the surrounding buildings and activities. With Sitte and Peter Collin Picturesque involved notion as enclosure and exposure, here and there, also ascent or descent. Such identification of picturesque character was extended from the streets and squares of a town to the rooms and corridor of individual buildings. Le Corbusier & Wright attempted to give picturesque character to their architectural projects. Le Corbusier remarked that 'in architecture ensembles the elements of the site come into play. A tree, grass, blue horizons, near or distant sea, sky' (Capon, 1999:342). Wright discussed the coordination of architecture with the nature of the ground and the purpose of city and town to great sympathy and picturesque.

Picturesque as an aesthetic quality exists thus between the sublime (i.e., awe-inspiring) and the beautiful (i.e., serene). It is marked by pleasing variety, irregularity, asymmetry and interesting textures. It is attached to the resources that are irregular, which have a special surrounding, a historical pattern or which produce a sense of love. Figure 4.18 summarises the variables against which picturesque urban resources can be measured.

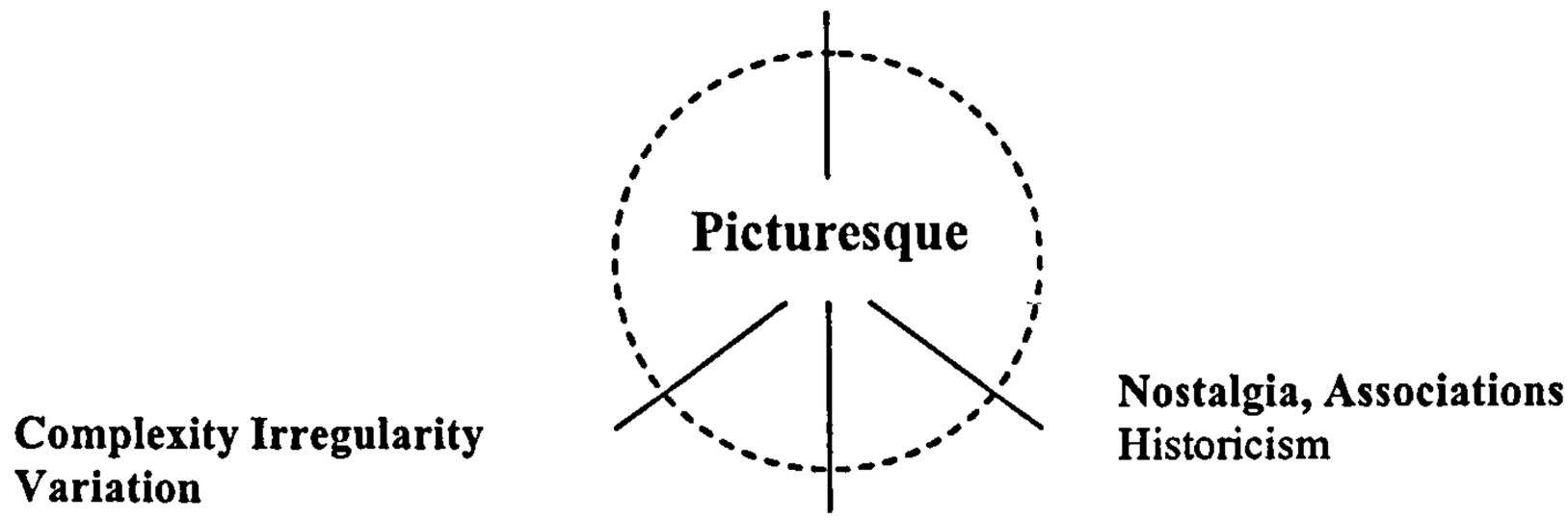


Figure 4.18: Picturesque variables as defined by Capon (1999:231).

4.2.4 Aesthetic Approaches

Different approaches exist for the evaluation of the aesthetic. This part describes these approaches and states their advantages and limitations. The aim is not just to shed light on the concept and limitations of each approach but also to guide the research to the factors that must be taken into consideration in assessing urban heritage areas.

Each aesthetic assessment method has its concept. This study departs from Gerwen (1996) study to give the coming information about these methods An extreme realist would say that aesthetic value resides in an object as property independent of any observer's responses. The aesthetic judgement is true or false; true if the object has the property, false if it does not.

According to objectivism aesthetic evaluation is also true or false, but what decides its truth is not the property of the object but the correlated experience. This correlated experience entails various mental phenomena that derive their relevance to the matter from being a response to the object, shareable by everyone. Objectivism holds that values in general depend on mankind, not on specific people (like a relativist thinks).

According to the objectivists all people should have the very same response containing thoughts about the object not about the subject. According to Subjectivism aesthetic evaluation resides not in the object perceived but in beholder entering a particularly liberating and receptive state of mind. The beholder does not merely passively perceive what is in the object but actively projects idiosyncrasies into it as well.

According to relativism aesthetic evaluation has two varieties According to the first, one group holds the authority and all others must comply with its judgments. The second alleges that it is a certain experience that justifies someone's attributing an aesthetic value.

The relativism approach is often used for the appraisal of urban heritage areas. In most countries it is the local authority which is assigned to decide which resources are aesthetic. However the success of this approach is related to the aesthetic experience that informs the officers' attribution of aesthetic values.

On the basis of the literature review conducted by this study concerning the aesthetic value, the relativism approach appear to be the most appropriate for assessing the aesthetic value of urban areas. However as mentioned before there is a need first to identify the aesthetic experience that is required for the better appraisal of the aesthetics. Indeed much work in aesthetics has gone into trying to specify the nature of aesthetic experience. Kant argued that this experience is intrinsic and is by its nature subjective (Cerwen, 1996). Whereas Theodore (1996) distinguished three aspects of the aesthetic experience: the sentimental, the trance and the genuine experience. In sentimental experience the focus is on some object of memory, and in trance experience the focus is on some inner state of consciousness, and the genuine aesthetic experience have elements that resemble both sentimental and trance experience, which will be directly connected with aspects of the present object itself. Croce (1866-1952) explained the aesthetic experience in two basic aspects, the theoretical, which included among others intuition, and the practical. In this category, he placed all economic, political and utilitarian activities.As such the people who must be involved in the appraisal of aesthetic urban heritage must have:

- Economical, political and utilitarian experience.
- Knowledge of architectural, art, planning, landscape theories.
- Memorial traces of the urban area, and inner consciousness of its customs.

The people who have such experience can mainly be the community specialists who belong to the diverse groups of the community. Figure 4.19 describes the aesthetic experience as understood by this study

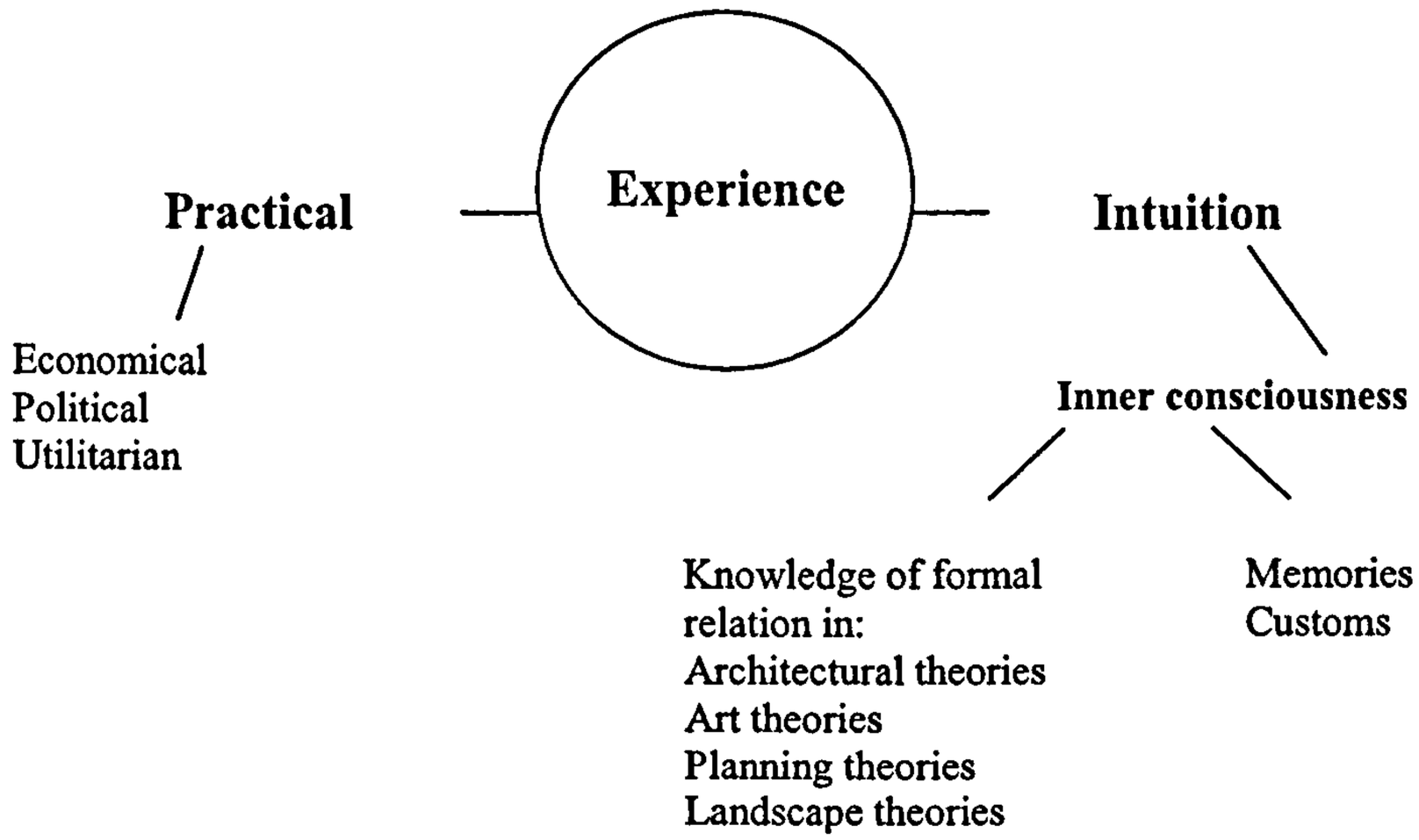


Figure 4.19: Aesthetic experience as identified by this study

4.2.5 Conclusion

This section shows that although various interpretations of the aesthetic have long been among the most important criteria for labelling things and places as heritage, the issue of aesthetics is rarely debated within heritage management. Conservation officers have not engaged with the extensive discourse relating to aesthetic, therefore they stand to regard aesthetic as a set of attributes that can be observed impartially by a particular class and culture. They have confined it to an inert view of only one of an individual's own sensory experiences, at a distance and in isolation from other communities who may attribute values to the heritage. Aesthetic value refers to a wide range of variables. In the main, aesthetic refers to the beauty, sublime and picturesque variables of heritage. The aesthetic value is constantly changing, and is subject to the influences of technology, society and management. This study has gathered this concept of the aesthetic from an in-depth review of the theory of beauty, sublime and picturesque. The review notes that:

Beauty is not only limited to the form of the built heritage resource in isolation from its natural, cultural and socio-economic context. Beauty is related to the variables that provide a sense of positive pleasure, and which might be organised under six categories: beauty of form, function, meaning, context, construction and will.

Sublime is not only limited to some massive natural resources. It is attached to the resources that elevate the mind, and which produce a sense of greatness of all kinds. The sublime can be found in built heritage resources that are great in size, that are incomprehensible, emotional and powerful, or which provide a sense of terror and death.

Picturesque as an aesthetic quality exists between the sublime (i.e., awe-inspiring) and the beautiful (i.e., serene). It is marked by pleasing variety, irregularity, asymmetry and interesting textures. It is attached to the resources that are irregular, which have a special surrounding, a historical pattern or which produce a sense of love.

After reaching this point, this section reviews the different approaches for evaluating the aesthetic. Based on this study, it claims that the people who must be involved in the appraisal of aesthetic urban heritage must have:

- Economical, political and utilitarian experience.
- Knowledge of architectural, art, planning, landscape theories.
- Memorial traces of the urban area, and inner consciousness of its customs.

This section notes that the people who have such experience will mainly be specialists who belong to various sections of the community.

This section ends the aesthetic discussion with a graph that shows a theoretical framework suitable for the evaluation of the aesthetic value of urban areas (Figure 4.20). According to this graph, a resource can be listed as heritage for its aesthetic value, if it is beautiful, sublime or picturesque. To identify whether a resource is beautiful, sublime, picturesque or not, the sets of variables indicated in the graph are to be investigated. These variables might be physical or not and thus, they can be recognized visually and non-visually, using both the external and internal senses. The People of the community with sentimental, trance and genuine experience can recognise the urban resources that have such aesthetic value.

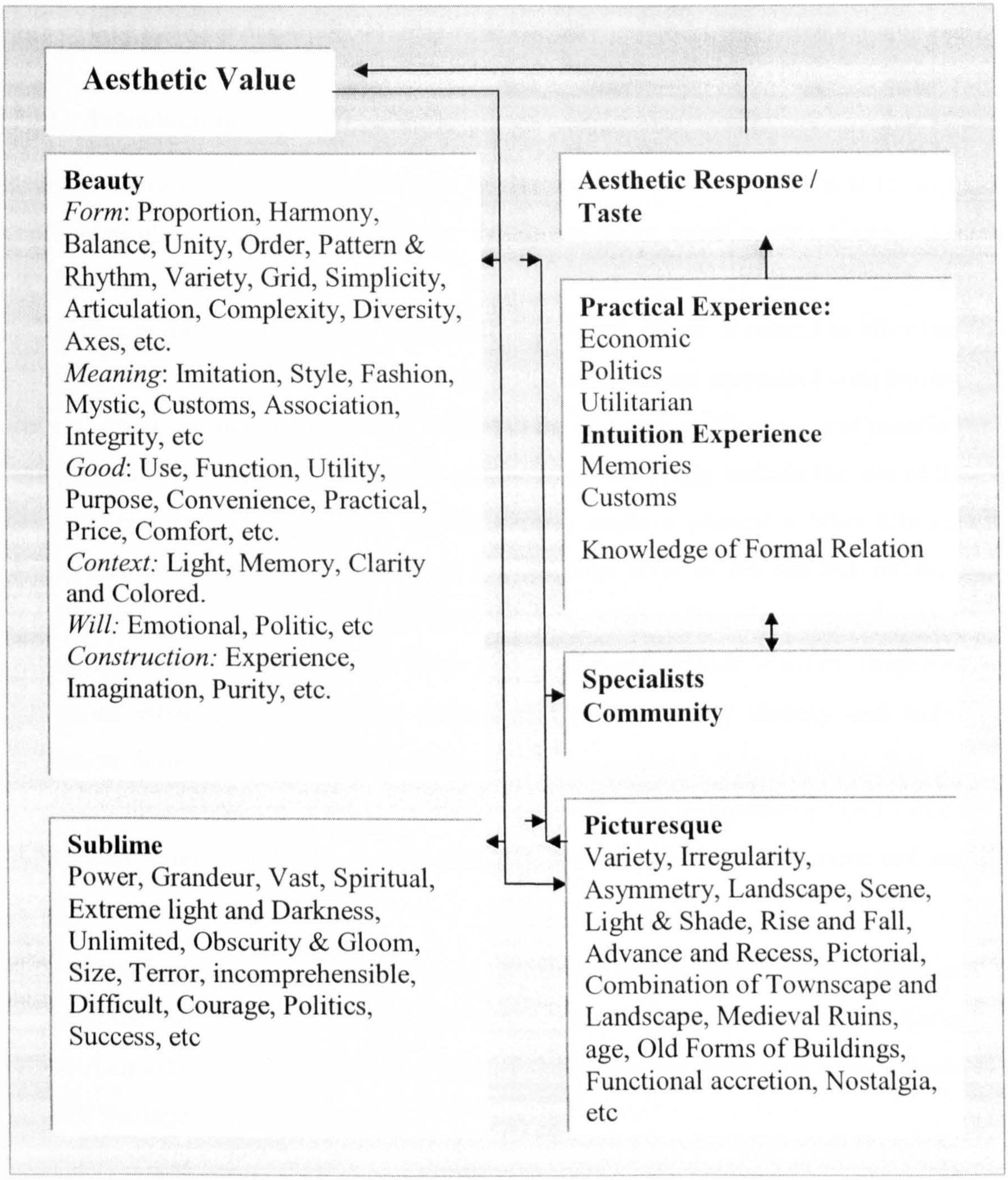


Figure 4.20: Proposed framework for the appraisal of the aesthetic value of urban areas.

4.3 Cultural Value of Urban Heritage

4.3.1 Introduction

Cultural value is at the traditional core of the conservation value attached to an object, building or place, if it holds meaning for certain people or social groups. Cultural value is, like aesthetic value, part of the very notion of heritage. It is used to build cultural affiliations in the present and can be historical, political, ethnic or related to other means of living together. Cultural value refers to those shared meanings associated with heritage that are not, strictly speaking, historically related to the chronological aspects and meanings of a site (Mason, 2002). The cultural value of a heritage site might include the use of that site for socio-cultural gatherings, such as celebrations, markets, picnics or other activities that do not necessarily capitalize directly on the historical value of the site but, rather, on the public-space and shared-space qualities (Mason, 1998). The kinds of cultural groups strengthened and enabled by these kinds of values could include families, neighbourhood groups or ethnic groups. Cultural value refers to community identity and feelings of affiliation derived from specific heritage and environmental characteristics that give the people of the community a sense of 'home' territory. The recognition of this value for an urban area is no small task, as it is related to culture which is an elusive and complex subject.

This section investigates the broad range of debates which have formed, maintained and changed the subject of culture. The aim is to outline the concepts involved in the cultural value of an urban heritage area and to identify the variables against which the cultural value of such heritage might be measured.

This part is divided into six sections. The first outlines the context. The second identifies the meaning of culture. The third studies the concept of culture, and the evolution of this concept. The fourth investigates approaches to studying cultures. The fifth describes the categories of cultural variables. The last is the conclusion that summarises the framework identified by this section for identifying the cultural value of urban heritage areas.

4.3.2 Culture Concepts

Culture as a word has its roots in the ancient Latin, relating 'cultural' with 'cultivation' or 'tending'. The word developed in French and had passed into English by the year 1430.

Webster's dictionary, in 1960, noted that culture is '1. The cultivation of soil. 2. The raising, improvement, or development of some plants, animals or products'. By the time Webster's definition was written, the Oxford Dictionary claimed that Culture was coming to mean 'the training, development and refinement of mind, tastes and manners' (Miraglia, 1996). Britannica Dictionary (2001) presents this meaning of Culture as 'the act of developing the intellectual and moral faculties especially by education'. This dictionary identifies also other meanings for the word '1. The customary beliefs, social forms, and material traits of a racial, religious, or social group. 2. The set of shared attitudes, values, goals, and practices that characterizes. 3. company or corporation, acquaintance with and taste in fine arts, humanities, and broad aspects of science as distinguished from vocational and technical skills. d. The integrated pattern of human knowledge, belief, and behaviour that depends upon man's capacity for learning and transmitting knowledge to succeeding generations'.

Several definitions of culture have also been written in academic fields. Two definitions drawn from anthropology textbooks show the range of meanings attributed to the word. In 1979, in his book *Introduction to Cultural Anthropology,* Miller notes that 'Culture is variously defined as a worldwide striving toward civilization through the accumulation of practices and beliefs; a unique pattern of beliefs that shapes personalities in each society; a local system of ideas and practices that are functionally integrated; an unconscious structure that generates ideas and behaviour; a system of shared symbols that come into play in social interactions; and a system by which people adapt to their environment.' (Lawely, 1994). In these phrases culture itself is considered as that which shapes personalities in each society and generates ideas and behaviour, however, in some other anthropological definitions, culture is seen as a concept shaped by personalities. Schusky & Culbert, in their book *Introducing Culture* (1978), claim that 'Culture is the monogenetic or learned ways in which humans adapt. The learning and sharing involved in culture means that it could be equated with tradition, and examined as history as well as adaptation. The interrelatedness or wholeness of culture also means that anthropology may make use of methods from the humanities to illustrate this major concept' (Lawely, 1994).

The above definitions show that *Culture* as a field, has depth and richness of interpretations. Moreover, it has no specific boundaries. All that makes it possible to appropriate the term for concepts and variables that may not fall within culture, or vice

versa. It was decided therefore to investigate the concept of culture and its evolution to identify the variables that belong to it

4.3.3 Evolution of Culture Concepts

Two different notions of culture were distinguished, in the course of its development. culture in the singular and cultures in the plural. Culture in the singular is applied to mean the arts and learning as special processes of discovery and creative effort. Cultures in the plural are proposed as common, meaning to indicate a whole way of life. Culture in the singular normally expressed a value or evaluation, distinguishing culture from lack of culture but also from nature. The plural concept of Culture, in contrast, refers to another difference: the difference between various cultures (Sökefeld, 1998). Some writers reserve the word for one or other of these concepts.

Care of culture began with the Greek historian Herodotus, who lived in the 400s BC, as the field of describing differences in people's environments. However it was Ibn Khaldun who revived it in the 14th century, and related it to the advancement of human civilization and the currents of history (Ead, 1998). Since then culture has been used as a synonym for civilization and it is studied in the singular in the racial, religious, and economical factors of social groups. In the 17th century, Rationalist thinkers liberated culture from religion through greater reliance on universal and secular reason (Garcia, 2000). In that century Thomas Hobbes (English philosopher 1588-1679) analyzed culture as that uniquely human realm of artifice in which human beings escape their natural animality, to express their rational humanity as the only beings that have a supersensible faculty for moral freedom (Arnhart, 1998); exactly as the common view today, of culture as a learning process. The biological theories of inheritance and morality attacked Hobbesian theory and limited culture to nature, race and the inheritance of acquired characteristics. The French biologist Jean-Baptiste de Lamarck (1744-1829) wrote, at the close of the eighteenth century that habits acquired during an individual's lifetime could be transmitted to his or her descendants through biological heredity (Ingold, 2001). Influenced by such concepts, Sir Edward Burnett Tylor (most famous anthropologist, 1832 - 1917) set out in his monumental *Primitive Culture* of 1871 that the biological part of man (otherwise known as human nature) constituted the universal baseline for cultural development, that takes humanity from its primitive hunter-gatherer past to modern science and civilisation. A decade later, however, following the publication of Darwin's work *The Descent of Man*,

Tylor changed his mind. Charles Darwin (British scientist 1809-1882) had argued that 'Culture could only be as advanced as the brains that produced it. The brains of civilised nations, he thought, were superior to those of barbarous tribes, in the same measure that the latter were superior to the brains of apes. Thus there was no way in which the savage could be educated into civilisation, since his brain simply wasn't big enough to accommodate it' (Ingold, 2001). After '*The Descent of Man'*, Tylor came to believe that culture had gone through progressive stages of improvement throughout human existence. The racist and ethnocentric theory of cultural evolution known as Social Darwinism, promoted by Spencer, did not agree with the theories of Darwin. Spencer argued that all worldly phenomena, including culture, changed over time, advancing toward perfection (Bodley, 2001a). During the 1800's, Tylor & Lewis Henry Morgan (1818-1881), influenced by social evolution and the writings of Auguste Comte (1798-1857) and Herbert Spencer, developed the Unilineal Evolution. Unilineal Evolutionists said that *Cultures* evolve along a predetermined line and that some cultures, and therefore some people, exist at a farther point along the evolutionary line. Prior to Unilineal Evolution, people thought that hunters and gatherers were intellectually inferior because their ancestors had fallen from grace and degenerated. Unilineal Evolution maintained that these societies were inferior, but said that they would eventually evolve into a higher form of society that was technologically more advanced (Emuseum, 2001b). Similarly most scientists and philosophers of the 19th century, came to believe in the evolution of culture.

Although most philosophers of that time considered Western civilization to be the highest form of culture and that Europeans were the most biologically and culturally advanced people, their concern was directed to *cultural stages* or forms of culture but they did not speak of cultures. Tylor expressed a general human condition and did not deal with differences between humans. He did not deny differences between human beings, but he did not conceptualise such differences as cultural differences (Sökefeld, 1998).

In the 18th century, The German philosopher Johann Von Herder (1744- 1803) demanded a refrain from claiming European superiority in the sense that only what was European could be cultured. Non-Europeans had culture too. In the late nineteenth century, Franz Boas (German American anthropologist 1858-1942) for his part disagreed with evolutionism, genetic determinism and other racist ideas. Boas claimed that *Culture* is something that characterized always a specific group, that is as something that, like groups, exists only in plurality. Here also, in the same period, the Romantic theorists including Hegel, Rousseau,

Ruskin, and Nietzche (1844-1900) rebelled against Evolutionism from the desire not so much to preserve religion or to train tastes as to maintain the local folk customs and habits of feelings, with which they identified culture, as against the universalising and dispassionate reason (Garcia, 2000). Romantic theorists along with Herder and Boas claimed that Culture is the way of life, and is the whole complex of distinctive spiritual, material, intellectual and emotional variables. It includes not only arts and letters, but also the memory, the fundamental rights of the human being, value systems, traditions and beliefs.

It is thought that Boas was the theorist who pluralized culture in anthropology. George Stocking writes: 'In extended researches into American social science between 1890 and 1905 I found no instances of the plural form in writers other than Boas prior to 1895' (Sökefeld, 1998). This study argues that Herder, who invented the idea of culture as way of life, in contrast to civilisation (Hynes, 1999), contributed before Boas to pluralize the concept of culture. Markus (1993:23) emphasises, 'Herder himself never used culture in plural, however, the cultural elements proposed by him exist only in multiciplity'. The important thing in Boas' pluralization of culture is that it succeeded in replacing the concept of *race* as the dominant paradigm of difference between human groups with the paradigm of cultural difference. Culture instead of race as the fundamental difference between humans, was meant to be a different kind of difference. Sökefeld (1998) states that with Boas 'difference between humans was no longer a question of descent, of heritage, of differential positioning on the steps of evolution, of unalterable, virtually natural-biological endowment with differential abilities. Cultural differences are acquired differences, acquired by socialization in specific cultural contexts. Accordingly, every human being is able to acquire any culture by way of appropriate socialization, completely independent of any genetic endowment and apparent race ' (Sökefeld, 1998).

At that stage, national ideologies and national movements contributed to make culture an object of reflection and action. Culture was no longer something an individual simply and unreflectedly had, without realizing this was having a culture (Hastrup & Olwig, 1997). Here the political boundaries of the nation are conceptualised as congruent with the boundaries of the related culture. The individuals who belong to a nation do not only share a political system, a state, but also a culture. Sökefeld (1998) states that 'Considering the extremely successful career of the concept of the nation it is not at all surprising that

cultural boundaries are frequently taken to be just as clear and objectifiable as are political boundaries.'

This was the beginning of developing the cultural plurality concept, to involve not only specific national cultures but also the different cultures within nations.

Culture is thus not a genetic inheritance; it is a social inheritance with plural and singular concepts. The singular concept of culture is a synonym for civilisation and expresses a value or evaluation, mainly to distinguish culture from lack of culture. The plural concept of culture refers to the way of life, and studies the differences between various cultures. Although culture in the plural concept studies the human difference, it is not, as many claim, the cause of difference. Ingold (2001) asserts that culture according to this concept is the name for a question, a question about the reasons for difference.

4.3.4 Culture Approaches

Different approaches have been applied to study the differences between various cultures. The main approaches recognised are evolutionism, historical particularism, functionalism, etc. Each one of these approaches has identified a set of variables, for describing the culture of a particular social group and to differentiate it from the culture of other groups.

Early Evolutionism related the study of culture of a particular social group to the analysis of its technology, the degree of social complexity and economic distinctions (foraging, hunting, farming, and industrial societies) or political distinctions (autonomous villages, chiefdoms, and states). Historical Particularism attached it to assessment of artefacts (such as masks, or tales). Functionalism viewed it in the examination of a collection of integrated parts that work together to keep a society functioning [Functionalism as identified by Émile Durkheim (French social theorist 1858-1917)], or that directly or indirectly satisfy the society's needs (Malinowski) (Mclead, 2001). Structural-Functionalism led by Radcliff-Brown (1881, 1955) attached the study of culture to the analysis of the system of normative beliefs that reinforces social institutions (Werner, 1998). Functionalists emphasized it in the investigation of the economic standpoint of the social group based on adaptational theory, but included observations in many other aspects of social life, including for example religion, myth, sociology, technology, etc (Werner, 1998; Mclead, 2001). Psychologists referred it to two initiatives. The first is related to the observation of time, child- rearing practices and personality [Edward Sapir (American linguist and anthropologist 1884-1939),

Ruth Benedict (American anthropologist 1887-1948), and Margaret Mead (American anthropologist 1901-78)]. The second is involved with the shared and common experience derived from the society's primary institutions [Kardiner (1891-1981), developer of the basic personality structure approach] (Barnard and Spencer, 1998; Alten, 1979) . The Neo-Evolutionism of Leslie White (American anthropologist 1900-1975) related it to the assessment of the society evolution to energy capturing system, while that of Steward measured it by how well a society could adapt to its environment. Structuralism of Claude Lévi-Strauss (1908) connected it to the comparison of art ritual and the pattern of daily life, as a surface representation of the underlying structure of the human mind (Barnard & Spencer, 1998). The Ethnocentrists studied it by investigating the society's language, and particularly the words it uses to describe what it does. Cultural Ecology [Kroeber (1876-1960), Steward Peter Vayda & R. A. Rappoport (1926-1997)] read culture in the way humans solve problems of adapting to the environment, or living together. This approach emphasized the importance of discovering how the natural environment, technology, and the ways in which people produce and distribute their necessities, such as food, influence other parts of culture. It proposed that material culture, and particularly those aspects related to making a living, determines the shape of the culture as a whole (Bodley, 2001b). Symbolic anthropology proposed that culture is best understood through studying the shared symbolic representation of a society that gives meaning to everything around them, every thought, and every kind of human interaction. (Bodley, 2001a; Centre for Advanced Research on Language Acquisition, 1999). Materialism developed by the American anthropologist Marvin Harris (American cultural anthropologist 1927-) linked the study of culture to the study of modes of production and material conditions. The modes of production correlate to the way people subsist, or earn a living. The Political approach said that the study of culture variation is the study of the newest fad sweeping the literature about international relations, security studies and international economics (Mazarr, 1996).

There are yet other kinds of approaches applied to culture analysis, including the cognitive anthropologists' approach for example. These approaches are similar to some of the orientations described earlier.

The different cultural approaches, as shown through this historical review, propose different set of variables for studying the culture of any society. As seen in Figure 4.21, of this study, these sets complete each other and can thus give a complete view of the culture

of a society, whether this society is occupying an urban area or not. The coming section explores a means of organising the variables listed by all these approaches.

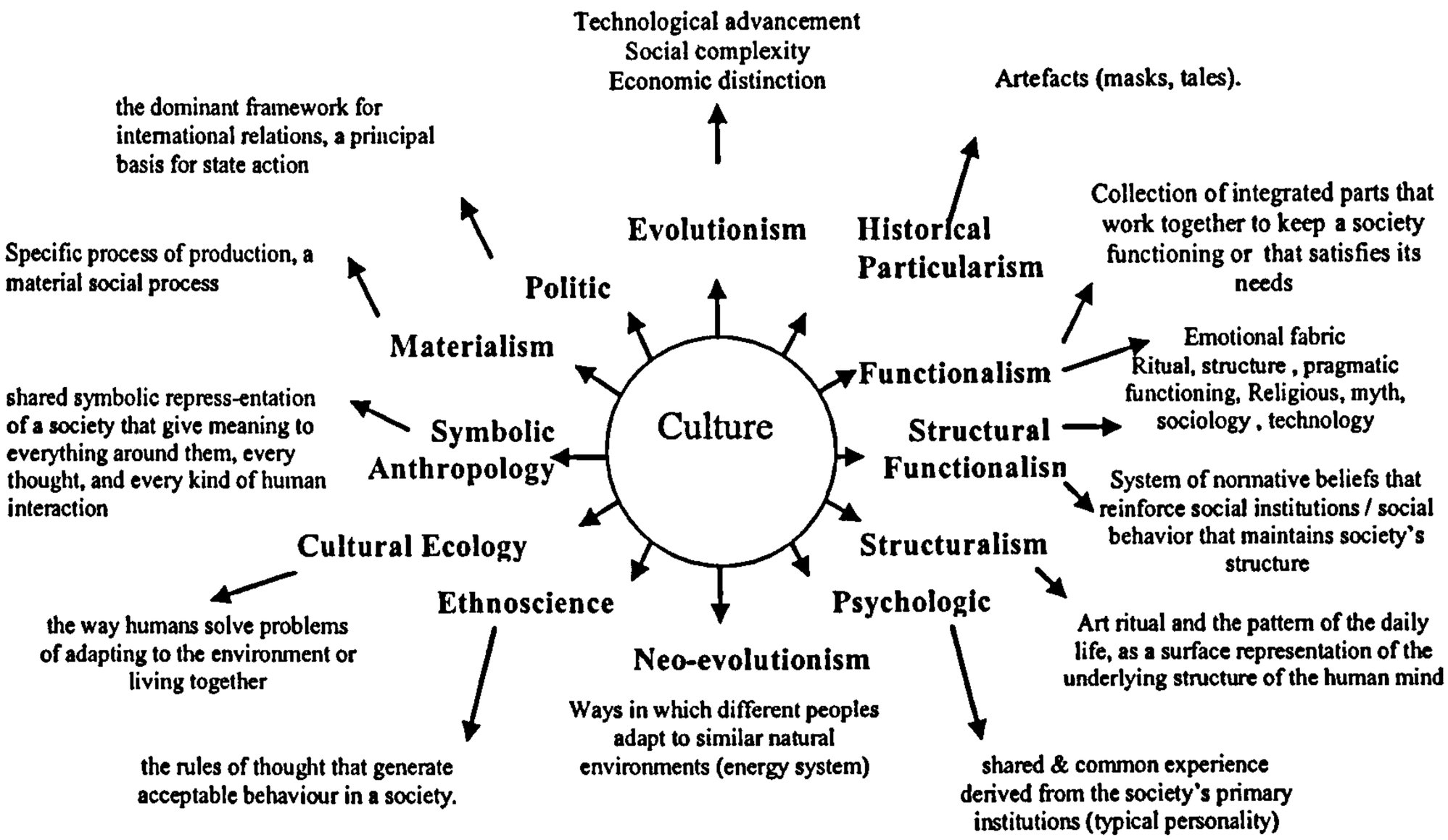


Figure 4.21: Cultural approaches and the variables they propose for studying cultures.

4.3.5 Proposed Categories of Cultural Variables

In 1872 Tylor, with the collaboration of the committee of the *British Association for the Advancement of Science*, prepared an anthropological field manual that listed seventy-six cultural variables. These were in no particular order, and included such diverse items as cannibalism and language. In 1930, the American anthropologist George P. Murdock went much further, listing 637 major variables of culture. Murdock developed an elaborate coding system known as the Human Relation Area Files. He used this system to identify and sort hundreds of distinctive cultural variables that could be used to compare different cultures. Later anthropologists came up with simpler categorizations of cultural variables. A common practice is to divide them, as suggested by Bodley into three broad categories: material, social, and ideological. Bodley then suggested a fourth category, the arts. This fourth category has characteristics of both material and ideological variables. Bodley (2001b) identifies these catregories as follow:

- Material culture includes products of human manufacture such as technology.
- Social culture pertains to people's forms of social organization

- Ideological culture is related to what people think, value, believe and hold as ideals.
- The arts include such activities and areas of interest as music, sculpture, painting, pottery, theatre, cooking, writing and fashion.

This study considers this categorisation to show promise for interpreting and investigating the cultural values of urban heritage. It helps conservationists to focus their interest on the subjects they must study to identify the cultural values of the urban heritage under scrutiny. In the coming section, this study offers further insights into the concept of these categories. The aim is to give conservationists, decision makers and ICT developers a more informed view about each of these categories. The section starts with the identification of material culture and its sub-variables, then respectively identifies the aspects of social, material and art culture.

4.3.5.1 *Material Culture*

The set of variables defined as Material culture include the produced and exchanged material goods of a people in a society that it feeds, clothes, and shelters. The variables of this category have several aspects and involve the attitudes towards material growth and its distribution, styles of consumption, work habits and the organisation of production and exchange.

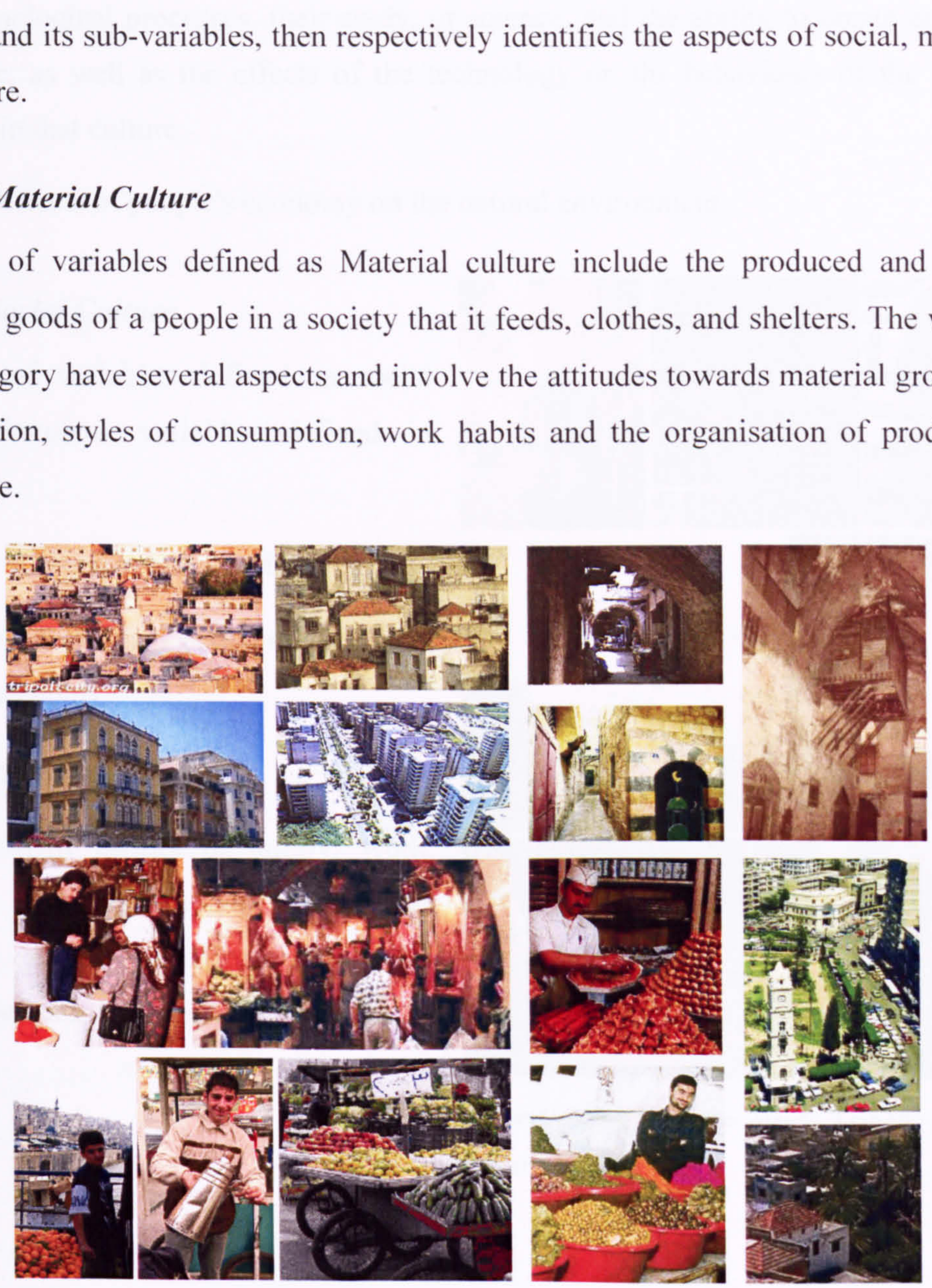


Figure 4.22: Example from Tripoli on material culture

These aspects include:

- The methods by which people obtain or produce food, known as a pattern of subsistence (hunting, gatherers, horticulture, agriculture, intensive agriculture or others)
- The ways in which people exchange goods and services through systems of barter, ceremonies, and gifts.
- The kinds of technologies and other objects people make and use, including the technological processes, their study, or science, and the ability to create and multiply these; as well as the effects of the technology on the behaviours of the individuals within that culture.
- The effects of people's economy on the natural environment.

4.3.5.2 *Social Culture*

The set of variables defined as social culture involves variables defined in terms of:

- Bonds (kinship and marriage)
- Work duties and economic position, (household)
- Political position.
- Important factors in family, work, and political relations include age and gender (behaviours and roles associated with men and women).

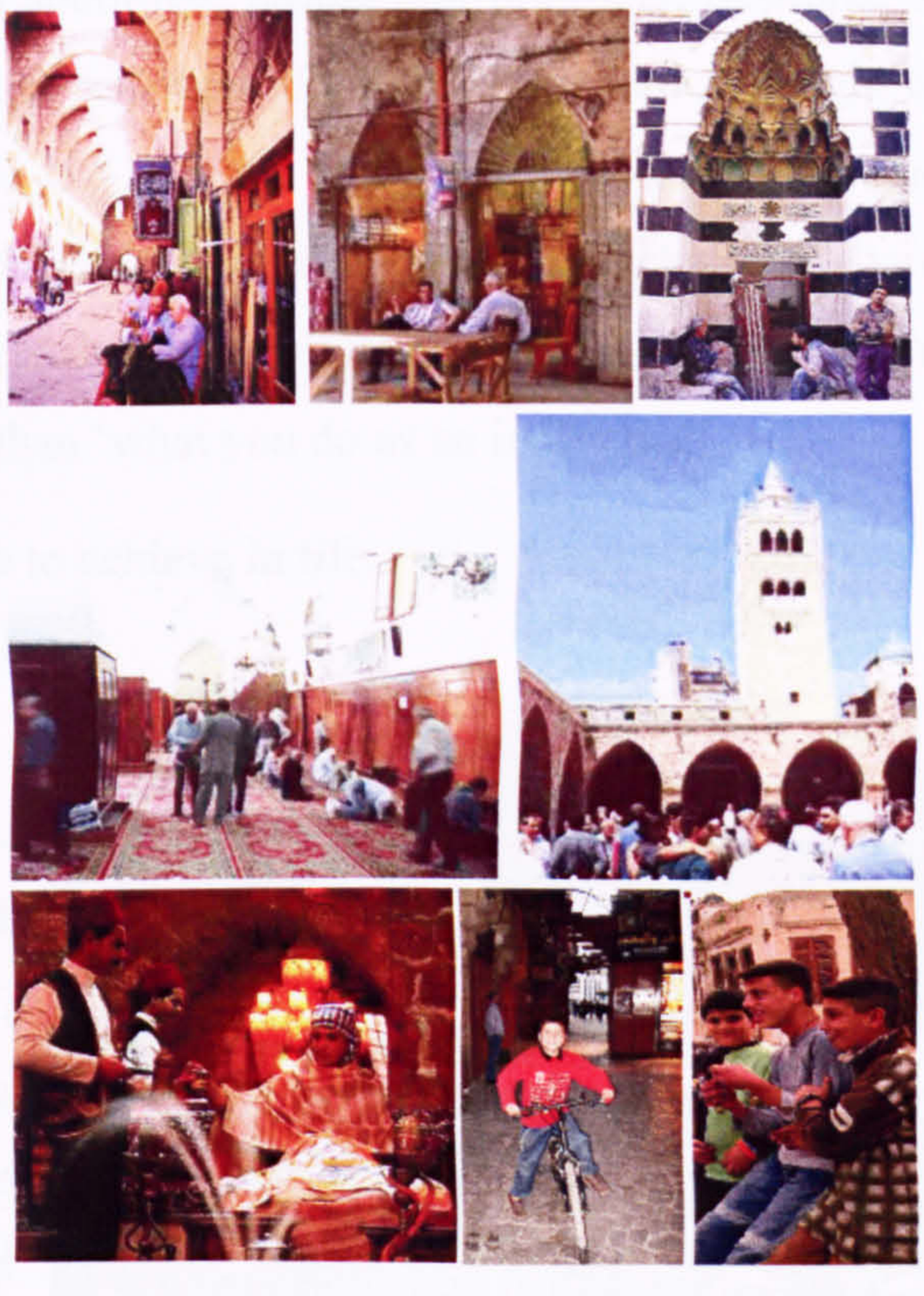


Figure 4.23: Example from Tripoli on social culture

4.3.5.3 *Ideological Culture*

The set of variables defined as Ideological culture covers:

- Beliefs
- Values
- Ideals



Figure 4.24: Example from Tripoli on ideology culture (Covered Women)

People's beliefs: This set of variables often ties in closely with the daily concerns of domestic life, such as making a living, health and sickness, happiness and sadness, interpersonal relationships and death. In many societies those beliefs have religious origins. Societies in which many people do not practice any form of religion interpret the beliefs based on science and logic, or on benefits (Capitalism).

Values are ideas about what is normal and abnormal, proper and improper, desirable and undesirable, right and wrong. People's values tell them the differences between right and wrong, or good and bad. As a nation, the U.S. argues that its values are: Democracy, Individualism, Privacy, Change, Progress, Optimal health, Informality, Achieving, Doing, Working, Materialism, Cleanliness, Time, etc. In some cultures 'who you are in relation to your family or community' is valued more than 'what you do as an individual'.

Ideals serve as models for what people hope to achieve in life.

4.3.5.4 *Arts Culture*

The Arts include painting, pottery, sculpture, textiles and clothing, and cookery. Non-material arts include music, dance, drama and dramatic arts, storytelling and written narratives. Artistic expression might involves the patterns of dress and body adornment, group symbols, ceremonial costumes and dances that commonly tell legends of creation, stories about ancestors, or moral tales containing instructive lessons.



Figure 4.25: Example from Tripoli on art culture

Culture and cultural variation might be thus measured in terms of the material that a society creates and uses, or in terms of the social patterns that categorise this society or the ideas, values and beliefs that it gathers.

These are the categories of variables and sub-variables that must be studied when evaluating the cultural values of an urban area. However that is not the end of the evaluation process. The conservationist is involved to study which of these variables give rise to issues of identity, and which do not. In other words they must identify which of these variables are adaptive, learned and shared. Damen (1987) emphasised in his book '*Culture Learning*' that culture is mankind's primary adaptive mechanism. Miraglia (1996) claimed that culture is a body of learned behaviours common to a given human society, and acts rather like a template; i.e. it has predictable form and content, shaping behaviour and consciousness within a human society from generation to generation. Baker (2001) stated that 'if we are defining features of a culture we should re-emphasise the terminology: culture is a set of rules or standards shared by members of a society, which when acted upon by the members produce behaviour that falls within a range of variation that the members consider proper and acceptable'.

In the cultural studies the identification of which cultural variables are adaptive, learned and shared is usually accompagnied with a review of the mechanism of change of these variables in relation to that of the culture itself (Miraglia, 1996; Bodley, 2001; Baker, 2001; Bonhage-Freud, 1999, University of Mexico, 2001; O'Neil, 1997). In mean of studying the following elements of the variables:

- Innovated by;
- Diffused from one another;
- Lost during periods of acculturation and transculturation;
- Forced to change when alien traits diffuse on a large scale, and substantially replace traditional cultural patterns;
- Genocide, as one that has little regard for the impact it may have on other cultures;
- Changed through applied anthropology for the purpose of solving practical problems, such as the establishing of colonial rule in certain countries in the world;
- Syncretised with other foreign traits to form a new system;
- Revitalized by some members of a society to construct a more satisfactory culture by the rapid acceptance of a pattern of multiple innovations (such as the hippie movement);

- Revitalized (Millenaries) to resurrect a suppressed pariah group; Revolutionary, in which the ideological system and the social structure of the culture are revitalized; and modernized, to acquire some of the characteristics of the western industrialized nations.

Taking such elements into consideration is a step toward a clearer analysis of culture and cultural variation.

4.3.6 Conclusion

This part claims that cultural value is used to build cultural affiliations in the present, and can be historical, political, ethnic or related to other means of living together. It refers to those shared meanings associated with the material, social, ideological and artistic resources that give the people of the community a sense of "home" territory, a sense of their identity and differences. The kinds of cultural variables strengthened and enabled by these kinds of value could include everything from the methods by which people obtain, produce and exchange food, technologies and services to their kinship, marriage, work, social and political bonds. This covers also the people's beliefs, values and ideals, the work of artists (which includes painting, pottery, sculpture, etc.), the non-material arts they produce (including music, dance, drama, etc.) and their artistic expression (involving patterns of dress, body adornment and group symbols).

The part investigates the broad range of debates which have formed, maintained and modified the subject of culture, starting from the difference between the concepts of culture, and ending with the range of approaches involved with the study of cultures.

The part then offers some information about the categories of cultural variables. It starts with the identification of material culture and its sub-variables, and then identifies the variables of social, material and art culture. However, that is not the end of the evaluation process. This part also suggests that conservationists need to identify which of these variables are adaptive, learned and shared. The part recommends the identification of these variables with the mechanism of change that established them (innovation, diffusion, loss , etc) .

The part ends by a graph that shows a theoretical framework for the assessment of the cultural value of urban heritage areas (Figure 4.26). According to this theoretical framework an urban area and its resources can be conserved for cultural value if they

address variables of the material, social, ideological and art culture that are shared, learned and adapted by the people of the area. To identify whether such area and its resources are of signicant cultural value, one is to study them in relation to the mechanism of change that made and evolved them (such as innovation, cultural loss, acculturation, applied anthropology syncretism, revolutionary).

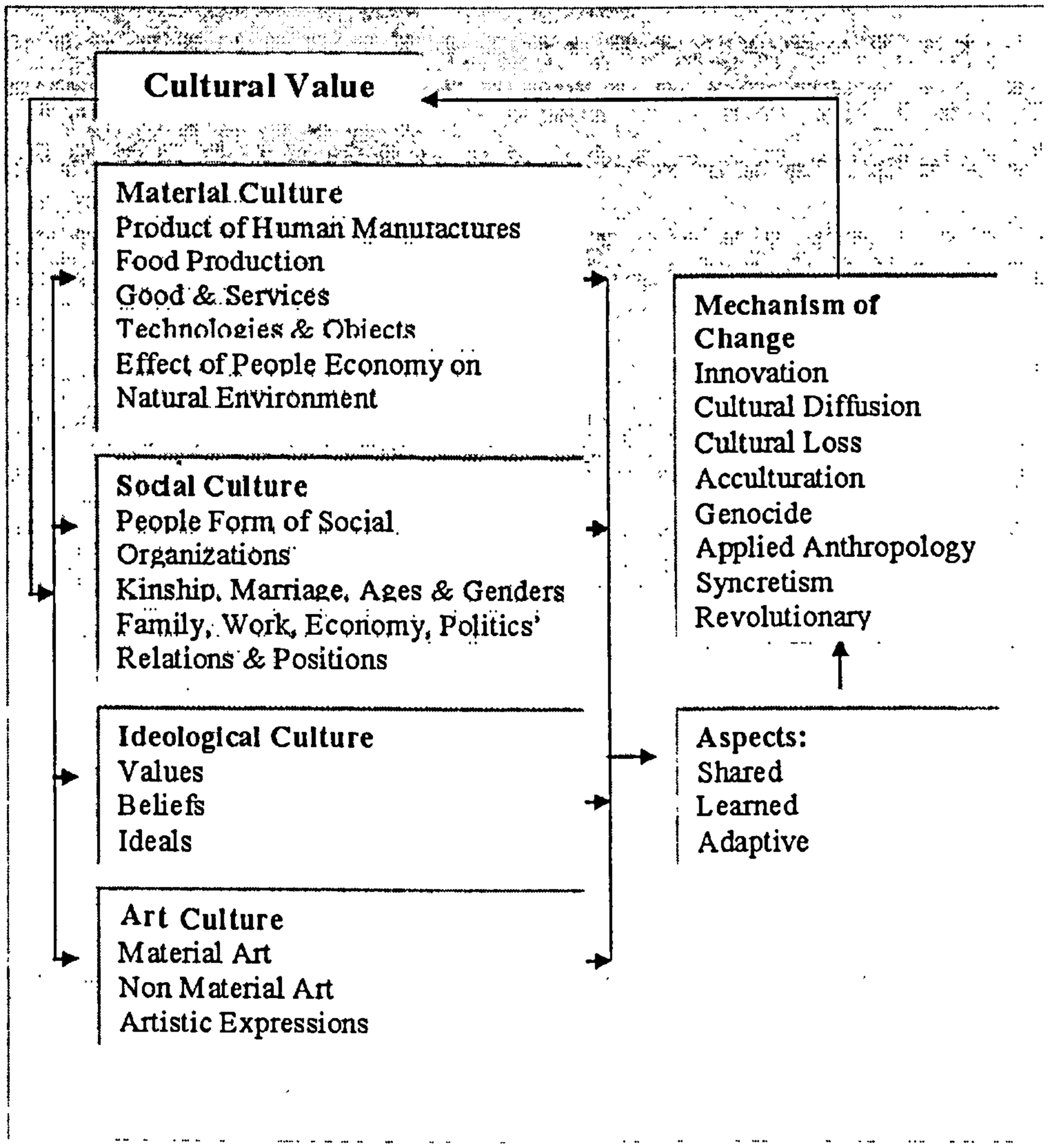


Figure 4.26: Proposed framework for the appraisal of cultural values in urban areas

4.4 Historic Value of Urban Heritage

4.4.1 Introduction

Historical value is at the root of the very notion of heritage. The capacity of a site to convey, embody, or stimulate a relation or reaction to the past is part of the fundamental nature and meaning of heritage objects. Mason (2002) states that historical value can accrue in several ways: from the heritage material's age, from its association with people or events, or from its archival/documentary potential. It lies in the potential to gain knowledge about the past in the future through, for instance, archaeology or an interpretation of the historical record embodied in the heritage. Historical value locates a particular site, place or built form in its temporal context. This value is very important for architectural historians, archaeologists and others, because it can provide insight into the past of the site and how perceptions and significance have changed over time (Mason, 2000). Different efforts are made to evaluate the historical value of the past, however, most of these efforts have been limited to the field of history; little interest is given to the implementation of these efforts into the urban appraisal process. Urban heritage appraisal is mostly limited to dating analysis and to the relationship of the resources to the history of Great Men or events. This part offers some direction for identifying the variables and the approaches that can be used to measure the historical value of urban heritage areas.

This part is divided into five sections. The first introduces the context of this section. The second defines the concepts of history. The third considers the concept of history, and the evolution of this concept. The fourth analyses approaches to studying the historical value. The fifth outlines the framework proposed by this study for the assessment of the historical value of urban heritage areas.

4.4.2 History Concepts

Encyclopaedia Britannica defines history as a 'term from Latin historian, from Greek, inquiry, history, from histOr, istOr. It means knowing, learned; akin to Greek eidenai, to know'. This dictionary adds that history means related to 'Tale, Story' or events of the past that is finished. It is used to mean a branch of knowledge that records and explains past events and a previous treatment, handling, or experience. Therefore it is seen as chronological record of significant events, often including an explanation of their causes. It is also a treatise, presenting systematically related natural phenomena or an account of a

patient's medical background. History is a kind of discovery process, which mostly transcends the ability of individual persons at one time and place to comprehend. It tries to reconstruct the scenes of the past, to revive its echoes, to record human experiences and kindle the passion of former days. It provides societies and individuals with a dimension of longitudinal meanings over time, which far outlives the human life span. It explains major developments and identifies the causes of change. It aims to guide man/woman in his/her daily life [E.H.Carr (1892-1982), Friedrich Wilhelm Nietzsche (1844-1900) & Foucault (1926-1984)]. It shields his/her memory and prepares him/her to live more humanely in present. In other meanings, it provides a terrain for moral contemplation and provides lessons in courage, diligence or constructive protest (Stearns, 2002), as a warning, which reminds politicians and citizens alike of their responsibilities (Black & MacRaild, 2000). The subject of history as reviewed throughout this study is very wide and difficult to encompass. All aspects of the past are regarded as suitable areas for historical inquiry. These shifting aspects make the recognition of the past which is worth addressing as historical, a difficult target. It has been decided therefore to review the concepts and the evolution of history. The aim is to identify from within this review, the variables and the approaches that can be used to measures the historical value of urban heritage areas.

4.4.3 Evolution of History

Historic interest began with two purposes. The first was to convey applicable lessons for human life, eg. through recording the sayings and actions of the emperor day by day (Confucius- China). The second purpose was to create pictures of human societies in times of crisis or change by describing wars, constitutional history, the character of political leaders (Herodotus – Greece 5BC) and political life (Polybius, 2BC). This interest of history extended with the emergence of Christianity and Islam, to help answer the questions of human existence, to prove the presence of God and at the same time to convey moral, spiritual or religious messages. Since then historic interest has covered the religious life, books and ideas; and people of no political importance (Eusebius Caesarea & Augustine 5AD). It has covered also the lives and the thoughts of devout people and scholars in preference to political and military leaders, regarding the lives of the devout as surer measures of the spiritual progress of society [Al-Tabari - the life and teaching of Muhammad] (Partner, 1997).

In the 14th century Ibn Khaldun began the care of universal history, and suggested social and economic reasons for understanding historical changes. Since then history has discussed the ideas of civilisation and human progress. However it was not until the eighteenth century and under the force of enlightenment, that there began a serious concern in this kind of history (Black & Macraild 2000:29-33). The big topics discussed in that century demonstrated and extended the concern of historians for world history (Germany), for socio-economic history and cultural history in the round. Historic writing at that stage was one part of the material written about the socio-economic experiences of a given society (including the laws, trade, 'manière de penser', its manners and customs), the evolution of human societies (Vico – scienza Nuova), the rise and decline of civilization (Gibbon), the history of the human mind (Voltaire), the fundamental, natural bases of human development (Montesquieu), the philosophy of historical development (Kant – teleological principal of history secret plan), and the moral lessons of historic times (Hume) (Black & Macraild 2000:29-33; Columbia Electronic Encyclopedia, 2000).

The begining19th century, history became a profession, with its own departments in universities and its journals such as the *Historic Zeitschrift* and the *English Historical Review* (Burke, 1992). It began to take on its modern form, as an organized, disciplined inquiry into the meaning of the past as reason for its integration with the historical method of the theories, practices and ideas of other disciplines. Geographers, sociologists, anthropologists and all manner of 'others' have things to contribute to the ability to scrutinise and understand the past. The major social problems resulting from the industrial revolution also contributed new ideas to economic history. Time became real and sequential, and historians became those who could measure development by progress toward the modern time (Appleby et al., 1994). All of this received stimulus from the nationalism movement, and the growth of new communities in the western world that invested contemporaries with a desire to record the history of the nation state. At that period the history of the nation state became the dominant form of historical interest. Among the more prominent romantic national historians were T. Macaulay (English historian 1800–1859), J. Michelet (French writer 1798–1874), G. Brancroft (American historian 1800–1891), Prescott (American historian 1796–1859), Motley, Parkman and Adams. In the later nineteenth century the economic history that was established in Germany, Britain and elsewhere as an alternative to the history of the state (Jacob Burckhardt 1891-1974) encouraged the historical description of socio-economic trends and

structure. Such history became orthodoxy in the 20th century, with the efforts of the annals school of history founded by Marc Bloch (1886-1944) and Lucien Febvre, the geography school founded by Paul Vidal de La Blache (1843-1904) and the structuralism of Emile Durkheim. These schools encouraged an examination of all aspects of life that might affect or shed light on the path of history: mentalities, economics, society and geography. Historians of this century began to compile a 'people history' (or as widely known, history from below), drawing their inspiration from writers such as Thorold Rogers (Swiss historian 1818–97). Eric Hobsbawm, E. P. Thompson, and Herbert Gutman, influenced by Marxist class analysis, wrote histories of working people and the popular classes (Columbia Electronic Encyclopedia, 2000). Other historians explored the history of those who formerly were largely ignored, such as women and minorities. History from below developed in association with cultural history, which grew up to fill a conscious gap between narrow definitions of the history of ideas and social history (Black & Macraild 2000). In its most obvious sense, cultural history is the study of people's cultures; their individual and collective ideas. It concentrates on ideas which influence everyday actions, such as work practices, ceremonies and rituals. Darnton contended that cultural history was not simply the history of high culture, but instead is concerned with the cosmology of past people, 'to show how they organised reality in their minds and express it in their behaviours' (Black & MacRaild, 2000). Marxist cultural historians such as Michel Vovelle have given these aspects to history in the 1960s, with Le Roy Ladurie, Robert Mandrou and Jacques le Goff.

History in the 20th century was used to search for the hidden organizers of consciousness, the discursive imperatives that controlled both reflection and action. It extended to cover the development of science (The Columbia Electronic Encyclopaedia, 2000) and many other topics which had not previously been thought to possess a history, because they had previously been considered as unchanging; for example childhood, death, madness, the climate, smells, dirt and cleanliness, gestures, the body, speaking, reading and even silence (Burke, 1992). In this century, Conzen and other geographical historians extended the focus of history to cover the exploration of the settlement forms through the use of morphology. Since the exposition of this methodology by Conzen, Uhlig, Larand others, there has been much dependence on using it to identify the history of medieval cores of towns and villages (Austin, 2003).

Nietzsche asserted that individuals may use history by means of taking three different stances towards it: the monumental, the antiquarian and the critical positions. These three stances pertain to 'a being who acts and strives [monumental], . . . a being who preserves and reveres [antiquarian], and . . . a being who suffers and seeks deliverance [critical].' He described each of these stances as being beneficial to life if properly employed, and harmful if employed improperly (Kosalka, 1999).

From this review it can thus be concluded that historical materials are appreciated as evidence that helps answer the question of how things actually happened ,Ranke), how things came to be (Karl Lamprecht German historian 1856–1915), or the cause of what has happened (Troeltsch German Protestant theologian and scholar 1865-1923). From this review it can be noted that the urban resources that have a historical value are those that have the variables that tell the story of a community, city country, region or the world, from within the story of

- A great man and group of people from below
- Human evolution and civilisations
- Cultures
- Ideas and philosophies
- Sciences
- Technology
- Earth and geography
- Economy
- Politics
- Social trends

4.4.4 History Approaches

In the 18th century and before, history was based more on creative observation or some master plan than upon the rigorous interrogation of primary materials. This method dominated history, until the forces of the enlightenment began to change the conception of history and the role of the historian. Following the emergence of archaeological excavation, and the lead of von Ranke and others, history began to aspire to the level of an empirical science, searching for the irrefutable 'truth' of what happened. Neo-Rankean historians declared that no longer was the historian a literary artist but instead a scientist, testing his documents and using his sources scrupulously. A group of historians including Nietzsche

rejected any assertion that history ought to be a science, methodologically in a search of facts and accounts of 'how history really was'. They argued that in considering history as an object of scientific investigation, the historian had robbed history of its capacity to develop and nurture a healthy relationship of their culture to history. Nietzsche stated that history being considered an objective science had made history dead for man and, therefore, deadened the positive effects that this relationship should have for life (Kosalka, 1999). He further declared that individuals should have been using history in creating a healthy culture, providing identity and meaning. This later group of historians presented the role of historians as artists and translators who help to mediate and present the historical for use in the development of personal character and culture, pointing out all the disparities and controversies that any attempt at historical understanding must face. This group recognized History's benefit not in its being a science or a practical collection of empirical data, but rather as a method of formation of human character, liberating and exercising the mind. Various historical genres emerged from this view, each claiming a certain aspect of historical sources, reality as the engine of historical movement

Ranke for instance demonstrated the bias in narration (such as previous histories, memoirs, letters, and imaginative literature). He stressed the need to base written history on official records, emanating from governments and preserved in archives. The historians of 'below', in their turn, exposed the limitations of this kind of documents, arguing that official records generally express the official point of view. To reconstruct the attitudes of heretics and rebels, such records need to be supplemented by other kinds of source. It thus called for new sources, or else for the radical reinterpretation of traditional materials. Historians of 'below' brought history to life from fragments of the past by reading the ballads, poster or protest banners of the time; by delving into working-class autobiography or oral reminiscences; by re-reading the records of state surveillance of working-class movements. Historians of 'below' concerned themselves also with the sources of the actions of political and economic groups: hand loom weavers, bread rioters, the working class or trade unionists. Cultural historians invested their time investigating the ideas, beliefs and customs of the community. The main sources of their writing were archaeological and written documents. They suggested that all historians who read documents should recognise what is written between the lines, to realise the 'otherness'. Economic and social historians in their turn processed vast quantity of archival records such as the legal and financial records of courts, legislatures, religious institutions and businesses; or every

report related to the proliferated material on population, trade and empire, economic distress, trade unionism, disease and sanitation, urbanisation, vagrancy and pauperism, poor relief and immigration. Those historians with the collaboration of cultural historians highlighted the importance of the unwritten information derived from the physical remains of past civilizations such as architecture, arts and crafts, burial grounds, and cultivated land. These could be added to books, newspapers and other periodical journalism, and oral accounts.

4.4.5 Conclusion

This part claims that history is at the root of the very notion of heritage. It locates a heritage resource form in its temporal context, and provides insight into its past and how its perceptions and significance have changed over time. It lies in the archival, documentary potential of the resource that can be used to gain knowledge about the past in the future through, for instance, archaeology or an interpretation of the historical records embodied in the resource. This part describes how different efforts have been made to evaluate the historical values of the past. However, most of these efforts have been limited to the field of history; little interest has been given to the implementation of these efforts into the urban appraisal process. Urban heritage appraisal is limited to dating analysis, and to the relationship of the resources to the history of Great Men and national political events. Next, this part begins to define the meaning of history, the evolution of its concepts and the potential of the approaches applied to studying historical value.

The part concludes that resources are called historical when they can be used as evidence to answer questions about how things actually happened, how things came to be, or the causes of events as they arose. The historical resource is that which can be used as evidence to tell the story of a community, city, country, region or the world, from the story of a great man or a group of people from below, human evolution and civilisations, cultures, ideas and philosophies, science, technology, earth and geography, economy, politics, social trends.

This part ends by proposing a theoretical framework for assessment of the historical value of urban heritage areas (Figure 4.27). According to this theoretical framework, the assessment of the area's historic value must begin with a selection of the scale of analysis (community, city. etc). This must be followed by a selection of different groups of historians that are qualified to analyse the area's historic symbols. These historians are to

use primary and secondary resources. They are also to study the history that tell the story of the area, including the history of great men, people from below, human evolution, etc.

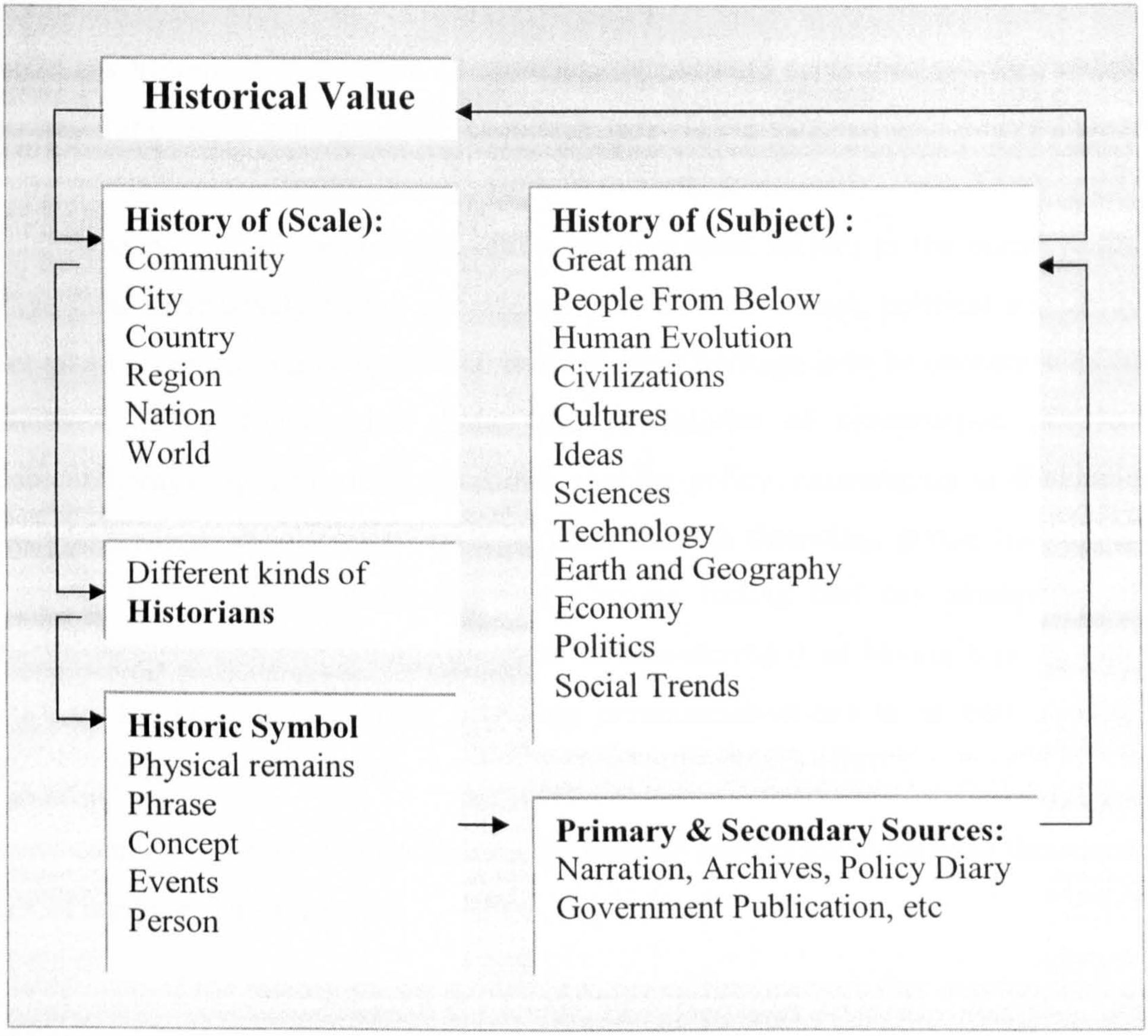


Figure 4.27: Proposed framework for the appraisal of historical values in urban areas.

4.5 Economic Value of Urban Heritage

4.5.1 Introduction

Heritage has become a component of strategies to promote economic benefits, revitalise urban and rural areas and generate economic growth, investment and tourism income (Newby, 1994; Strange, 1996; Lumley, 1998; Ashworth & Howard, 1999). Throsby (2000) states that economic values and motivation are important factors in the conservation of heritage. It is increasingly taking precedence over cultural, social, political and aesthetic values when it comes to making decisions about what heritage is to be conserved (Klamer & Zuidhof, 1998). Such value shapes the possibilities of conservation practice in fundamental ways, by influencing decisions, shaping policy, encouraging or discouraging the use of heritage, enabling conservation work through financing, giving incentives for stewardship and so on. However there is a strong feeling that any attempt to attach economic value to heritage listing (by mean of considering it as having a price, being a product or for consumption, thus betraying commercialisation) is at best a pointless irrelevance (Graham et al.,2000).

In many countries, conservation officers often have no criteria for identifying the economic values of heritage. This might be:

- By reason of the quality of the economic value of the resource that overlap with other heritage values (historical, cultural, aesthetic, etc). The evaluation process consists of two distinct but intertwined parts: valuation, the assessment of existing value, and valorisation, the addition of value (Mason, 1998)
- By reason of the intrinsic quality of heritage resources that is difficult to produce and value and consequently to price, trade and market, at least in the usual sense of an integrated control with an agreed purpose from resource use through production to sale and consumption (Graham et al., 2000).
- A reflection of the failures of national legislation to use economic justification or criteria for heritage listing. Most heritage legislation presents the economic values of heritage as subsequent or secondary, and often barely tolerates the use of monuments, sites and places which have been initially identified, preserved and interpreted for quite other reasons (Graham et al., 2000).

- A reflection of the ways proposed by conservation officers to conceptualise the value of heritage, which are quite often unrelated to economic discourse and value. Most conservation officers are culturalists, characterised by their resistance, or suspicion, toward the imperialistic inclinations of economics as a discipline and the particular, if not peculiar, vocabulary with which economists analyse everything human (Mason, 1998).

This part aims to identify the variables and the approaches that can be used to assess the economic values of urban heritage. This part is divided into six sections. The first section introduces the context. The second identifies the meaning of economic value. The third studies the concept and evolution of economic value. The fourth explains the benefits of economic value and total economic value. The fifth offers an overview of the approaches used to assess the economic values of urban heritage. The sixth is the conclusion, which summarises the framework proposed by this study for the assessment of the economic values of urban heritage areas.

4.5.2 Economic Values Concepts and Evolution

Economic value is concerned with the value assigned to particular objects; in other words, how much money some particular object is worth. A statement of economic value, then, usually take the form of "X object is worth Y pounds (or other monetary unit)".

The word "economics" is derived from oikonomikos, which means skilled in household management. Although the word is very old, the discipline of economics and the economic value of objects as understand today is a relatively recent development. Modern economic thought emerged in the 17th and 18th centuries as the western world began its transformation from an agrarian to an industrial society (Federal Reserve Bank of San Franisco, 2002; Encyclopedia Wikipedia, 2002a).

During the 16th and 17th centuries Mercantilists attached economy to trade, and the accumulation of gold and silver. Physiocrats, a group of 18th century French philosophers, developed the idea of the economy as a circular flow of income and output stating that agriculture was the sole source of wealth in an economy. The classical economists, a group of 18th, 19th century English philosophers and economists proposed land, labour and capital as the three factors of production and the major contributors to a nation's wealth. Since then the economic values of objects have been divided into two kinds of values. Sir

William Petty, 1623-87 addressed these values as the real and the political. The first he attached to the amount of labour required for production; the second he related to market. Richard Cantillon (1680- 1734) identified them as the fixed, and the continually evolving under the pressures of competition and changing demand. Anne-Robert-Jacques Turgot (1727-81) relates one of these values to the population and their individual desires and demand, and called this the subjective. The second he attached to the market, naming it the objective value. Adam Smith (1723-90) around the same period identified one of these economic values as the power of purchasing other goods, which the possession of that object conveys. He called this the 'value in exchange' of an object, and postulated that the worth of an object is what price it could fetch if sold. The second is the utility of some particular object. Ricardo David (1772-13) referred the difference between the two values to the reason of object scarcity. John Stuart Mill (1806-73) emphasised that the difference between the two values is not only their scarcity, but also their benefit. He divided objects accordingly (Federal Reserve Bank of San Franisco, 2002; Encyclopedia Wikipedia, 2002a – 200b).

For the classical political economists of the nineteenth century, and especially for Marx, the differences between the two values is related to the socio-economic conditions that shaped the class relations of society and led to ideas of value as being inherent in objects and determined by the costs of factors used in their manufacture. The marginalist revolution of the late nineteenth century replaced cost-of-production theories with a model of economic behaviour built on individual utilities - Carl Menger, William Stanley Jevons - (Dobb 1973). From these origins sprang utility theory, which underlies the theory of consumer behaviour in modern economics. Individuals are assumed to possess well-behaved preference orderings over commodities, such that they can state unambiguously that they prefer a given quantity of this good over a given quantity of that (Encyclopedia Wikipedia, 2002a).

Economists use two classes of technique to measure economic values. One relies on measurements based on behavioural expressions of value. People reveal the value they place on a good or service through transactions they make in a market. For some goods, direct markets may not exist, but those who are willing to spent time or money on them reveal the existence of economic value. Such values can be measured using indirect market methods, based on what people say about their willingness to pay WTP (Lockwood and Johnstone, 2000).

Culturalists more often reject the evaluation methods proposed by economists. They argue that economists' methods first, insufficiently appreciate the wide range of aesthetic, cultural and historic values of cultural heritage; second, they maximize one value, and this might come at the cost of eliminating other values; third, they express all heritage values in terms of market prices, and see them through the lens of the marketplace. De la Torre & Mason (1999) hold that price is an accurate surrogate of the "value" that consumers place on given items. Such a price reflects all the benefits - material as well as intangible - that he or she expects to get from heritage, its use and its conservation. Graham et al (2000) state that price would follow logically from heritage, which is produced to satisfy deferred demands for different uses. They maintain that the use value of heritage can be directly priced: a visit to a museum or heritage theme park can be priced and sold in competition with a visit to a cinema or a musement park, and thus give some indication of the comparative value placed upon such a visit. Abelson (2001) in turn indicates that a listed building can be priced by analyzing and comparing the prices of the building with other buildings with same physical characteristics, such as the size of land, number of rooms, distance to the centre, quality of view and so on. A conservation area can be priced by measuring differences between the rents for the same houses and the wages paid the same job, in another city. The difference indicates how much people are willing to expend to live in a city where there is more cultural heritage. Moreover, economists claim that placing a price on a heritage item may be the only way to assure its survival in competition with other priced alternatives, even if its value to many people goes far beyond any price that could be allocated (Throsby, 2000; Graham et al, 2000).

Different concepts have been developed to bridging the gaps between the culturalists and the economists. These concepts are located under what is called a capital or cultural asset. Conceptualising heritage as a capital or cultural asset offers one means of bridging the disciplinary gap between economists and culturalists, as it relates both the physical and intangible features of heritage with the standard characteristics of ordinary physical capital in economics. Throsby (1997) explains such assets by giving the example of an item of tangible heritage, such as a building of historical significance. He notes that the building may have economic value that derives simply from its physical existence as a building, irrespective of its cultural worth. But the economic value of the building is likely to be augmented, perhaps significantly so, because of its cultural value. So, for example, individuals may be willing to pay for the embodied cultural content of this building by

offering a price higher than that which they would offer for the physical entity alone. Likewise, the economic and cultural value of the flow of services produced by the historic building would be likely to be closely related. Throsby (2000) adds that economists can respond readily to the interpretation of artworks, historic buildings, heritage sites etc. as capital assets, and can bring a range of analytical techniques into play in evaluating their benefits and costs. At the same time heritage professionals are likely to find some resonance in the notion of heritage items as long-term stores and generators of cultural values.

The considerations of heritage as a capital asset has led to development of a number of approaches for its measurement. Most of these approaches focued on analysis of economic benefits of the built heritage and the analysis of the total economic values.

4.5.3 Benefits of Heritage Conservation

Heritage may generate benefit to owners of residential and commercial properties, tourist visitors to the area, other visitors to the area (i.e. those who are in the area for work, shopping or other purposes) and the general public (people who value a heritage listed building but who neither own a local property nor visit the area). Abelson (2001), Klamer and Zuidhof (2000) and Cotterill and Merz (2000) have discussed these benefits. From their discussion, this study summrised the heritage benefits as follow.

Benefits to owners

Benefit to owner can be gathered by asking owners how much they would be willing to pay for conservation of a local heritage building, or by analyzing the following

- Cost of purchasing or renting alternative accommodation and any other property acquisition and relocation costs.
- Differential property use costs such as heating, lighting, minor maintenance etc.
- Differential costs related to users such as additional travel time and costs to an alternative location.
- New income streams such as admission charges, car park fees, hire charges for events or function less any incidental costs of collection, administration or operations associated with these.

- Lease income from any part of the building that could be leased less any incremental costs of establishing or operating the lease.

All of these are 'priced' items that can be measured, and offset directly against the costs of conservation and restoration to the stage that the heritage building can continue to be used or can be used again.

Benefits of tourist visitors to the heritage:

Tourists obtain pleasure from their visit and they may gain more pleasure from the enhanced environment. Some of these benefits may show up in *increased expenditure* and therefore in *increased revenues* of local property owners. However some benefits will accrue to tourists as consumer surpluses (Consumer surplus is the excess of an individual's willingness to pay WTP for a good over the actual payment, as reflected in a demand curve). The increase in expenditure and revenue can be studied in relation to a number of heritage visitors' quality attraction variables such as (safety, sense of belonging, self-esteem, etc).

Benefits of other visitors to the heritage:

Other visitors to the area may also gain enhanced pleasure from the existence of a heritage building, although the experience is quite incidental to the purpose of their visit. In this case, asking these visitors what they would be willing to contribute to the conservation of a building is the only way in which their valuations can be elicited.

Benefits to the general public:

Heritage resources are goods such that no one can be excluded from their consumption, and if an individual consumes one, others will not be prevented from consuming it as well. A national monument on the central square of the capital is a public good, because everyone can admire it and no one can be excluded from doing so. The enjoyment of one does not come at the expense of another. Many people benefit from the existence or the preservation programme of a beautiful country house without contributing a penny. Public benefit is difficult to value. It is thought that such benefit can be estimated from asking people how much they are willing to pay for heritage conservation, even without their owning local property or visiting the area as tourists, or from measuring increase in jobs, income, wealth, taxes and tourist revenues.

Heritage being a public good means that different people may finance it just as many people benefit from it ,and those who benefit it are not necessarily those who finance it. It can be financed by the market or the government, or by the public in terms of gifts and donations (public finance is widely known as the third sphere), each with a different stake in the good. Those finances are forms of the economic values of heritage that must be studied not only in relation to those who benefit, but also mainly in relation to stakeholders. Throsby provides a list of possible stakeholders (Throsby, 1997a):

- Consumers: 'those who enjoy some direct private (excludable) benefit from the heritage item(s) under consideration';
- External beneficiaries: 'those who enjoy some beneficial externality or (nonexcludable) public-good benefit from the item(s)';
- Supporters: 'those who enjoy some direct cost associated with the heritage item(s), for example, through contributing personally to the cost of upkeep, renovation and so on';
- Public support: 'those who bear part of the cost of upkeep, renovation and so on, when that cost is borne collectively - for example, through tax expenditures';
- Caretakers: 'those who assume or are charged with the responsibility of making decisions relating to particular heritage items, or to cultural heritage matters (such as heritage policy) more generally.'

From the perspective developed here, the list is not entirely satisfactory. Stakeholders might also be distinguished on the basis of the values they represent and propagate. So there would be stakeholders who stand for political values, social values, cultural values.

Thus the total economic values of heritage as a public good must be measured not only via those who are willing to pay for heritage use, but also via those who are willing to pay even without using the heritage.

4.5.4 Total Economic Values

The concept of the total economic value of something (assets, goods or services) has received a good deal of attention in the field of the economics of natural areas by World Conservation Union IUCN (Phillips, 1998). Figure 4.28 depicts the various elements that comprise total economic value. The total economic value of heritage comprises value in use, plus non-use values. Values in use include current commercial production (direct-use

values), its multiplier effects (indirect-use values) and its estimated future commercial production (option value). Non-use values capture, respectively, the notion that people who never intend to use a resource may still willing to pay to ensure its existence or bequest to future generations.

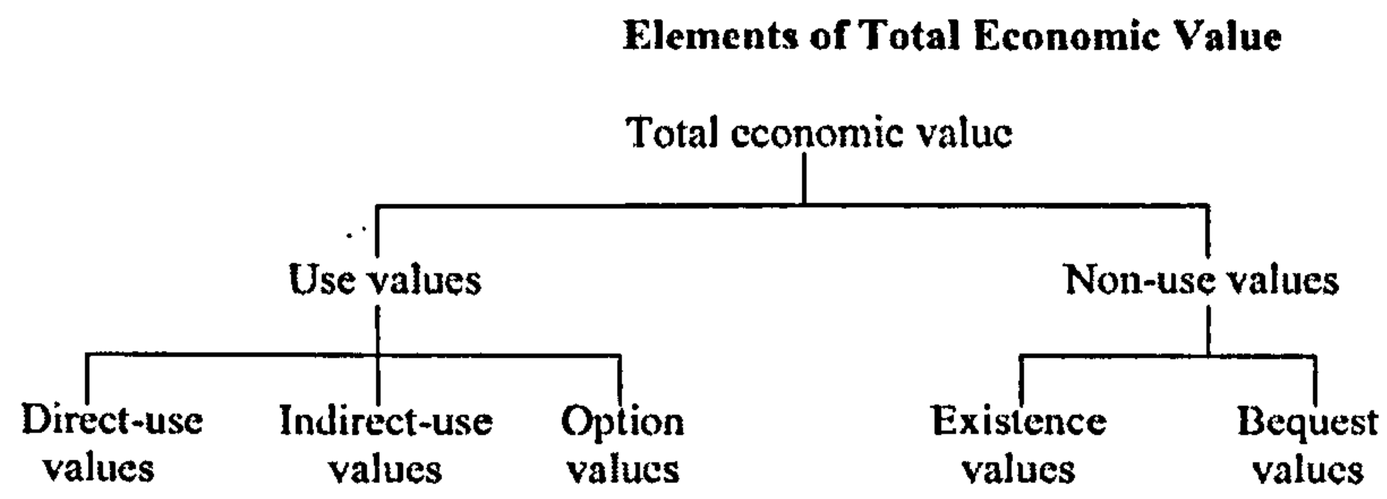


Figure 4.28: Concept of the total economic value (Phillips, 1998).

The direct use value refers to the direct valuation of the heritage resources by those who consume them and which they are willing to pay for its consumption. Such resources can be commercial, meaning they are traded on the market, such as a property's rental price or entry fees paid by visitors to historic sites for tourism or research. The economic values of those resources are generally straightforward and it can directly obtain market-priced values in competition with other similar products. This process has been commonly called the "commodification" process of Heritage assets, since it supposes that these products are to be treated like any other merchandise in the markets (Lockwood and Johnstone, 2000).

The indirect use value refers to the valuation of the asset's place amenity image by those who search upon locational choices of economic actors other than those in tourism. Those latter might be willing to pay to increase the attractiveness of a place for certain economic activities, even though they do not directly use the heritage in activities as functions of production. Indirect use values are often widely dispersed and thus go unmeasured by markets. Alternative valuation techniques are necessary for measuring them. These will be discussed later (Lockwood and Johnstone, 2000).

The Option value refers to the valuation of the capital asset by those who aim to use the asset in the future. Thus they might be willing to pay for such optional use. Frey and Pommerehne in 1989 defined the optional value as the (imaginary) satisfaction someone experiences from having the opportunity to use or enjoy a particular piece of heritage. These future uses may be either direct or indirect (Klamer & Zuidhof, 1998; Lockwood and Johnstone, 2000).

The existing non-use values are related to the valuation of the capital asset by those who value and willing to pay for the asset's conservation, even though they may not consume it directly themselves. This can also be considered as amounting to the value contained in the enjoyment of the mere existence of a capital asset; that enjoyment is not because of actual use of it.

The bequest value is related to those people who wish to bequeath the asset to future generations and are willing to pay for such bequest. It is also the value that future generations will derive from it.

All these values can be measured through a number of economic valuation approaches. The basic approach for such valuation is cost-benefit analysis. The strategy here is to isolate particular values; find some way to operationalize their measurement by means of proxies, simulation, or surveys; and, finally, to derive a value composite. The measurement compels the reduction of complex values to the common denominator of money (Klamer & Zuidhof, 2000). The following sections discuss different analytical approaches used to measure the economic value of heritage.

4.5.5 Economic Approaches

The analytical approaches used to measure the economic values of heritage are: market price, hedonic pricing, travel cost estimation, and contingent valuation approaches (King. and Mazzotta, 2002).

Hedonic Pricing (HP): Rosen in 1974 proposed the hedonic pricing approach, based on the earlier consumer theory of Lancaster. The approach is based on the assumption that people value the characteristics of a good, or the services it provides, rather than the good itself. This approach analyses how specific attributes of goods, such as the heritage aspects of a building, are valued. It determines the relationship between the attributes of a good and its price, by assuming that one good is a compound of a number of sub-goods or attributes. The price paid for the good then applies to the total range of these different goods or attributes but it could, in principle, be split into prices for the various attributes. For example, if one purchases a historic building, the price one pays is composed of a price for the building and a price for its attributes, such as the:

- Selling price and location of residential property

- Property characteristics that affect selling prices, such as lot size, number and size of rooms, and number of bathrooms, structure and presence or absence of garage
- Neighbourhood characteristics that affect selling prices, such as property taxes, crime rates, and quality of schools
- Accessibility characteristics that affect prices, such as distances to work and shopping centres, and availability of public transportation
- Environmental characteristics that affect prices, e.g. air and water quality, the presence of views, noise levels and environmental amenities, such as aesthetic views or proximity to recreational sites
- The cultural characteristics, such as the fact that it is a listed building.

In this case, the environmental characteristic of concern is the proximity to open space. The researcher might collect data on the amount and type of open space within a given radius of each property, and might also note whether a property is directly adjacent to open space.

Following the hedonic pricing approach, one compares the prices of buildings that can be listed with those that are not (and which do not differ with regard to other attributes). The difference in price then indicates the value people attach to heritage.

The hedonic pricing approach is relatively straightforward and uncontroversial to apply, because it is based on actual market prices and fairly easily measured data. If data are readily available, it can be relatively inexpensive to apply (King. and Mazzotta, 2002).If data must be gathered and compiled, the cost of an application can increase substantially. The data are analysed using regression analysis. Thus, the effects of different characteristics on price can be estimated. The regression results indicate how much property values will change for a small change in each characteristic, holding all other characteristics constant. A number of factors may complicate the pricing analysis. For example, the relationship between price and characteristics of the property may not be linear; prices may increase at an increasing or decreasing rate, when characteristics change. In addition, many of the variables are likely to be correlated, so that their values change in similar ways. This can lead to understating the significance of some variables in the analysis. Thus, different functional forms and model specifications for the analysis must be considered.

Travel Cost approach (TC): Clawson and Knetsch in 1966 developed the travel cost approach, based on the premise that the cost of travel to recreational sites can be used as a measure of visitors' willingness to pay and thus their valuation of those sites Lockwood and Johnstone, 2000). This is analogous to estimating willingness to pay for a marketed good based on the quantity demanded at different prices. Thus, the real costs of travelling to a site are taken as a proxy for the price of the product. This approach is based on actual observation of consumer behaviour, and is considered an indirect technique. It estimates that visits to a site tend to fall with distance (trip costs) to the site. Data on trip visits and costs can be used to generate a demand curve for the site, i.e. a schedule that shows the number of people who would be willing to pay various prices for access to a site. This is also used to estimate the economic benefits or costs resulting from changes in access costs for a recreational site, the cost of eliminating an existing recreational site, the cost of adding a new recreational site, to estimate threats by conversion to other uses of the site and to estimate the demand for museums.

The travel cost approach is modelled on standard economic techniques for measuring values, and it uses information based on actual behaviour rather than verbal responses to hypothetical scenarios. It is based on the simple and well-founded assumption that travel costs reflect recreational value. It is usually relatively inexpensive to apply. To apply the travel cost approach, information must be collected about:

- Number of visits from each origin zone (usually defined by postal/zip code)
- Demographic information about people from each zone
- Round-trip mileage from each zone
- Travel costs per mile
- The value of time spent travelling, or the opportunity cost of travel time

More complicated, and thorough, applications may also collect information about:

- Exact distance that each individual travelled to the site
- Exact travel expenses
- The length of the trip
- The amount of time spent at the site
- Other locations visited during the same trip, and amount of time spent at each

- Substitute sites that the person might visit instead of this site, and the travel distance to each
- Other reasons for the trip (is the trip only to visit the site, or for several purposes)
- Quality of the recreational experience at the site, and at other similar sites (e.g., fishing success)
- Perceptions of environmental quality at the site
- Characteristics of the site and other, substitute, sites

The contingent valuation approach (CVM) tries to elicit people's willingness to pay (or willingness to accept compensation) for a change in provision: the gain or loss of a non-market commodity. To estimate the consumer surplus through a contingent valuation survey, respondents are asked the maximum amount of money they would be willing to pay to gain access to the heritage resources, or the amount of money they would wish to pay for the resource's conservation (For further information about this approach and its methods, please refer to the Methodology chapter) .

4.5.6 Conclusion

This part indicates that heritage is considered one component of strategies designed to promote economic benefits, revitalise urban and rural areas and generate economic growth, investment, and tourism income. This value is increasingly taking precedence over other values, when it comes to making decisions about what heritage is to be conserved. However, this part shows that despite the recognition of the economic aspects of heritage, national legislation has failed to use economic justification or criteria for heritage listing. The reasons are:

- Conservation officers are mostly culturalists, characterised by their resistance, or suspicion, toward the imperialistic inclinations of economics.
- The quality of a heritage resource is difficult to price, trade and market, and so measurement relies on two steps: valuation (the assessment of existing value) and valorisation, (the addition of value);

For the target of identifying the variables and the evaluation methods of heritage economic value, this section identifies the meaning and the evolution of economic value. This identification is then used to explain the benefits of economic value (owners', visitors' and

the public's benefits), the concept of a capital asset and total economic value (use and non-use value), and the approaches applied to measure them (ranging from the market price, impact studies and willingness to pay). This part ends by a graph that shows a theoretical framework for the assessment of the economic value of urban heritage areas (Figure 4.29). According to this graph an urban heritage area can have an economic value if it is of benefits to the owners, visitors and the general public and if it has significant direct use, indirect use, existing, bequest or prestige value. Such values are to be measured by the government or economists, with the participation of visitors and stakeholders.

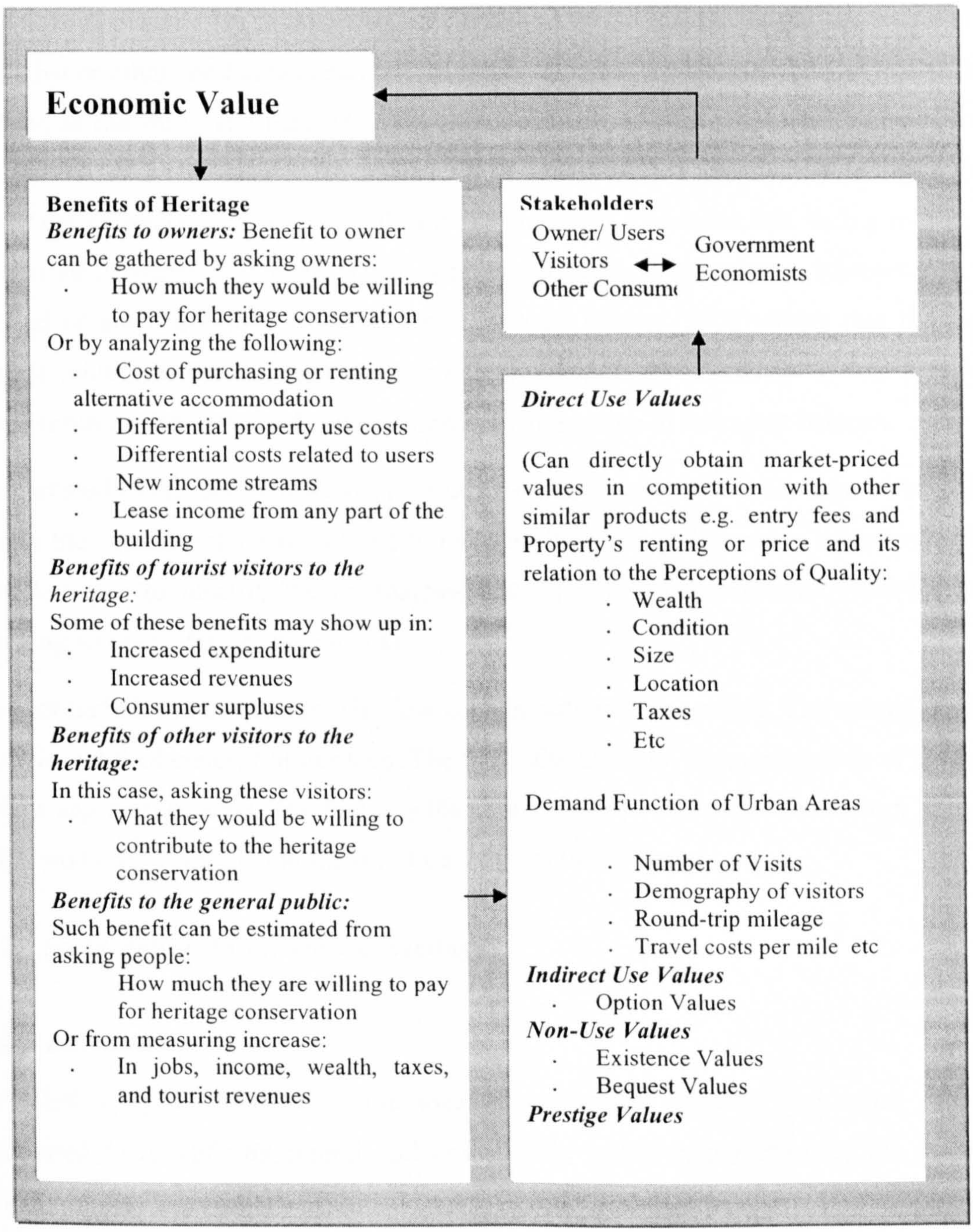


Figure 4.29: Proposed framework for the appraisal of the economical value in urban areas

4.6 Socio-Political Value of Urban Heritage

4.6.1 Introduction

Heritage is considered a component of strategies to promote political, social benefits. Under peaceful circumstances it is used as an expression of place-identity, to serve the constructs, elaboration and reinforcement of spatial socio-political entities. Under other conditions (as, for example, in the former Yugoslavia today), it may create tensions, conflicts, or even war. The eminent historian Eric Hobsbawm sees heritage exactly in this light. 'As poppies are the raw material of heroin addiction, history is the raw material for nationalist or ethnic or fundamentalist ideologies' (Mason, 2002). However many of those involved in the study and care of surviving aspects of the past would deny any political relevance for whatever heritage they conserve. The task of this thesis is not to argue for or against the existence of a political role for heritage. It is axiomatic that such a role exists, and that all heritages is thus an actual or potential political instrument, whether that was intended or not (Tunbridge & Ashworth, 1996:46). Mason (2002) states that the socio-political value that join and separate the various stakeholders in heritage is ever present: it is sometimes on the surface of conservation activities; often it lurks just beneath.

This part studies the ideological axes affecting heritage conservation. The aim is not only to identify the variables that can be used to measure the socio-politic value of urban heritage areas, but also to identify the approaches that champion conservation principles while managing an open, democratic process.

This part includes four sections. The first section outlines the context. The second explains the socio-political concept of heritage. The third discusses the democratisation of the urban heritage appraisal process. The fourth is the conclusion. It outlines the framework proposed by this study for assessing the socio-politic value of urban areas..

4.6.2 Socio-Political Concepts of Heritage

4.6.2.1 *Introduction*

The relationship of heritage to the idea of legitimacy, identity and sense of place contributed to identify its central and crucial role in the construction of the symbolic domains at the very heart of social and political life. Heritage is used to construct, elaborate, control and reproduces class, gender, ethnicity and nationalism identities

(Lumley, 1988; Ashworth & Howard, 1999); to justify and celebrate forms of power and privilege (Lumley, 1988); to displace people or to break the link binding an ethnic group with a particular place (Graham et al. 2000). It is considered a conservative force that supports and reinforces dominant patterns of power, or a radical force that challenges the attempts to subvert existing structures of power. It is interpretated and endowed with messages which are deliberately framed by an existing or aspirant power elite to legitimatise the existing dominant regime, or alternatively developed by an opposition group with the objective of overthrowing a competitor (Tunbridge & Ashworth, 1996). Bourdieu, in 1997, explained such interpretations in term of capturing the 'cultural capital' which not only the accumulated cultural productivity of society, but also the criteria of taste for the selection and valuation of heritage (Graham et al, 2000). That means, for instance, that each governmental or societal regime upon assuming power must appropriate to itself control over this capital, if it is to legitimate its exercise of such power.

The destruction of heritage in Europe, in the Middle East, India and Afghanistan is indicative that such a role exists, and that all heritage is thus an actual or potential political and social instrument. In Europe, the destruction of cultural features and historic monuments for political purposes is one of the oldest traditions. Goering ordered the German Luftwaffe to destroy every monument in the tourist guidebook to Britain (the Baedecker raids). More recently, as part of the ethnic clearing in Yugoslavia the old town of Dubrovnik, the Bosnia library in Sarajevo, the Mostar bridge and many other historic mosques and churches were deliberately shelled or destroyed by one group or another in order to remove the link of identity with another group (Figure 4.30 & Figure 4.31). In Lebanon, during the civil war many historic mosques and churches were destroyed for the same reasons, the link with identity. Even before the war, these reasons caused the destruction of a great number of historic buildings on the pretext of creating modern cities, e.g. LebanonTripoli. Canada has not escaped notice either; it is not accidental that, even in such a committed democratic country, former prime minister Diefenbaker's statue in parliament hill in Ottawa had to await the election of a conservative government.

Thus the listing and the conservation of heritage is implicated in the pattern and conflicts of privileging and exclusion, of marginalisation and resistance that result from different socio political ideologies and the fracturing of societies along the axes of nationalism, ethnicity, classes and gender. The coming section studies the relation of heritage to this socio-

political ideology. The aim is to identify the variables of the socio-political value that make urban heritage worth conserving.



Figure 4.30: Stari Most in mostar around 1890s, Bosnia.

(The bridge is constructed across the Neretva River in the mid-16th century during the reign of Ottoman Sultan Suleiman the Magnificent, was the single largest stone span bridge in the world.

(Photo gathered from Courtesy of the Fine Arts Library, Harvard College).

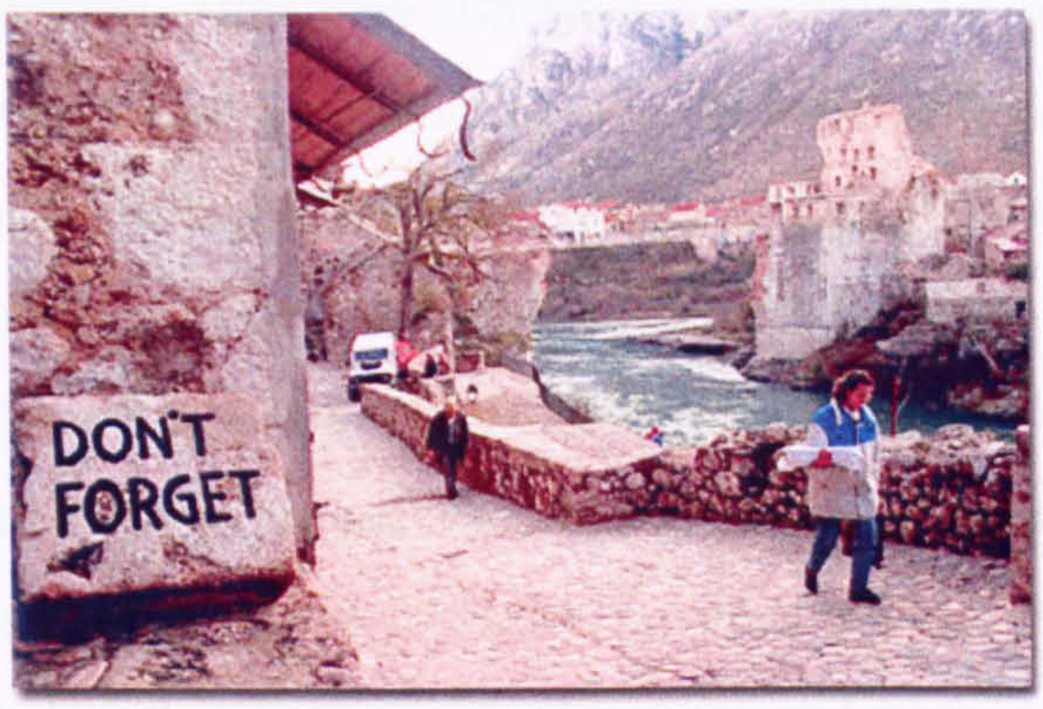


Figure 4.31: River bank in November 1995, two years after Bosnian Croat gunners targeted and demolished the bridge.

(Photo: AP/Wide World Photos/Zoran Bozicevic)

4.6.2.2 *Heritage and Nationalism*

Heritage is a primary instrument in the discovery, or creation and subsequent nurturing of a national identity. States might be pressed by political and social needs, and use heritage as an instrument in the discovery or creation and subsequent nurturing of identity. A state might use heritage to support the consolidation of the national identification, while absorbing or neutralising potentially competing heritage of other social-cultural groups or regions. It might also use heritage to combat the claims of other nations upon the national territory or people, while furthering claims upon nationals in territories elsewhere (Graham et al., 2000). However it is also used for encouraging regional and international relations; regional such as the European Community, and international such as the Francophone countries.

4.6.2.3 *Heritage and Societies*

Societies commonly consider heritage as an intrinsic part of the larger process of social competition and reproduction. Thus they conserve it not only for defining criteria of social inclusion and by extension social exclusion, but also to legitimate a social group's presence and claim upon status and resources. Societies conserve heritage also to convey the respects and status of antecedence, to connect the present to the past in an unbroken trajectory and to offer a sense of termination. (Lowenthal, 1985;1996). Society has little to do with the values recognised by the heritage bureaucracy and government agencies, and which involve the aesthetic quality, monetary value or rarity. Insiders within societies usually wish to commemorate the past, but this is the past of events and people (Griffiths, 1987). They wish to conserve their houses, the places where they played in their childhood, the lanes where the local lovers always go; even though these places are not aesthetically and historically significant (Ashworth & Howard, 1999).

4.6.2.4 *Heritage and Social Classes*

Social class is a pervasive socio-economic condition which is often closely associated with cultural/ethnic variables (Tunbridge & Ashworth, 1996). The issue of class-based heritage identification and interpretation is brought to life from the proliferating interest in the heritage of industrial revolution, but it was not until the mid-20th century that it began the real care of such issues under the banner of commercialisation, postmodernism and the social justice issues thereby implied. Postmodernism seeks to elevate the status and

therewith the heritage of a series of perceived disadvantaged social groups (as well as ethnic minorities). It also seeks a realignment of power, away from at least the core of the established social elite. This elite ruled the recognition of the relics of the past as heritage, and commonly designated the grand and spectacular that often perpetuate elitist control and power, if not always with conscious intent. Postmodernism points out that not only the elitists' heritage is worth conservation, but so are the industrial heritage, vernacular heritage and the heritage of the industrial workforce. However the conservation of non-elite heritage, especially in lower class areas is affected by their physical dispossession. Class tension has been greatly exacerbated by this process, and social stress has become focused especially upon the area recently most favoured for elite recolonisation. Further attention must be given to heritage based social class listing and conservation

4.6.2.5 *Heritage and Genders*

Heritage has been largely selected from a perspective of heritage masculinisation (Edensor and Kothari, 1994), thus it appeared as a man's world but might not be any longer, as women challenge the patriarchal and unrepresentative nature of so many representations of culture (Graham et al, 2000). Competition between men and women might be presented in heritage listing and so it might be with homosexuals and disabled people, who have begun to acquire a distinct profile in recent heritage recognition. Examples are the homosexual monument in Amsterdam known as 'the Stonewall memorial' which records the police action against a homosexual bar. Another example is the Franklin D. Roosevelt memorial statue in Washington that illustrates group identification with the heritage of achievement by disabled people.

Heritage and Ethnicity

Ethnicity is an often elastic and vague term that might be defined as the identity of a socially distinct community of people who share a common history, culture, language or religion and other dimensions of social diversity (Graham et al., 2000). People might possess it in varying degrees, and thus it can be the basis of conflict, wars and competition for resources and status. Recently democracy programmes have proposed Heritage conservation as a means of neutralising multicultural societies. However this is not an easy task. Heritage was used as the vehicle of transmission and legitimating of that identity through time, and even when that is not intended, the content of heritage is likely to reflect

the dominant ethnicity. In England for example, the heritage of many European and non-European minority groups who live in the country finds little space (Graham et al., 2000).

Globally religion, either alone or in association with language, frequently forms the basis of ethnic identity and influences the way in which this spills over into nationalism. Religion can constitute the most powerful foundation for the social and political uses of heritage. Jerusalem, for example, stands as testimony to the centuries-old power of religious iconography in human value systems and identity. It also sustains the idea of religion as the principal basis of conflicting heritages, representing as it does a site sacred to, and fiercely contested by, three major world religions – Judaism, Christianity and Islam - which share a common geographical origin. Jerusalem is the archetypal 'holy city', a place that symbolises in it a theological idea and thus acquires an array of monuments and buildings of profound heritage significance to that religion's adherents (Graham et al., 2000).

The genetic idea of 'race' whether tangible in skin colour and physiognomy or perceived in social construct, tend to be subsumed in ethnicity. It is thus seldom far from the heritage associated with these, and may well be responsible for dissonance extending beyond them. (Graham et al., 2000; Tunbridge & Ashworth, 1996).

4.6.3 Democratisation of Heritage Conservation

The axes mentioned above are the most significant socio-political ones. Many cultural life style axes can be considered of social value, and many ideological axes can be proposed as political. For instance existing organisations, administrative groups and political parties might hold different socio-politic interest in the urban heritage. The character they pose might be significant at the local, national, regional or international level. Thus what counts as heritage, and whose heritage is to be valued, is an intensely contested arena that needs to be democratised through broader participation, to arrive to a fair decision. However one might say that broader participation poses a challenge to the roles and responsibilities of conservation professionals: some suggest that bringing conservation policies and decisions in line with democratic values would undermine the authority of conservation professionals, and would even amount to an abdication of professional responsibility (Mason, 2002). However the democratization of the processes of consultation and assessment of heritage values is not likely to be a threat to the sovereignty of the field, but it still requires a change of attitude and training. The democratisation of urban heritage conservation calls for new ways of thinking, as well as for new skills. To identify and

measure socio-politic value, conservation officers must venture into new areas. Their decisions must be brought together with the decisions of the stakeholders of social values, and the stakeholders of political value.

Following the discussion conducted in this part of the chapter, the methods that this study considers appropriate for the assessment of the urban heritage values are those which:

- Give sound to different heritage stakeholders
- Identify the socio-politic value at community, city, nation, region and world levels.
- Measure the different variables of socio-politic values, and which involve:
  - Social Class Interest
  - Gender Interest
  - Ethnic Interest
  - Cultural Interest
  - Administrative Interest
  - Orgnisational Interest
  - Poitical Parties' Interest
  - Other Groups Interest

4.6.4 Conclusion

This part describes how the socio-political value is ever present, and is sometimes on the surface of conservation activities. Under peaceful circumstances, it is used as an expression of place-identity, to serve the constructs, elaboration and reinforcement of spatial socio-political entities. Under other conditions (as, for example, in the former Yugoslavia today), it may create tensions, conflicts, or even war. This part studies the ideological axes affecting heritage conservation (socialism, nationalism, gender, etc.). The aim is not only to identify the variables that can be used to measure the socio-politic value of urban heritage areas, but also to identify the approaches that champion conservation principles while managing an open, democratic process.

This part demonstrates that the socio politic values vary at the local, national, regional or international level. Thus what counts as heritage, and whose heritage is to be valued, is an

intensely contested arena that needs to be democratised thought broader participation, in order to arrive at a fair decision. The part then considers the challenge to the roles and responsibilities of conservation professionals, mentioning the need for new ways of thinking as well as for new skills. Following this discussion the section proposes a theoretical framework for the assessment of the socio-politic value. The theoretical framework calls to select the scale of the analysis, to give sound to the people of the different social and political groups and to identify the following range of interests about the appraised urban area: Social Class Interest, Gender Interest, Ethnic Interest, etc (Figure 4.32).

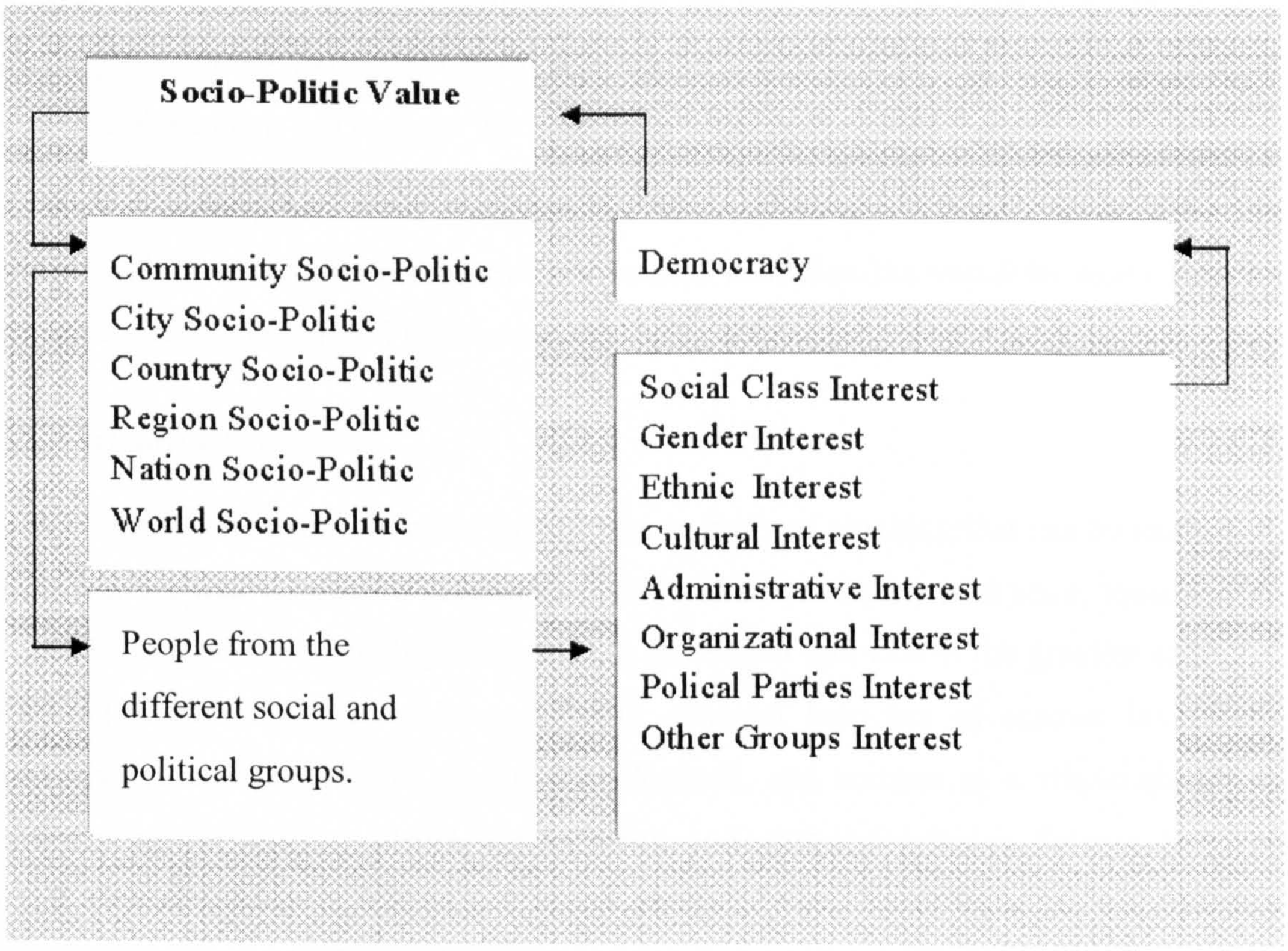


Figure 4.32: Proposed framework for the appraisal of the socio-politic value in urban areas

4.7 Scientific Value (Educational values)

4.7.1 Introduction

Urban heritage might be a source of un-retrieved architectural, archaeological, cultural, political or planning data (US National Register Criteria , 1994). It might have the potential to answer, in whole or in part, a number of research questions that are of interest to scientists, academics and the public. However this value depends upon the importance of the data involved, on its rarity, endangerment, quality or representativeness, distribution and completeness, and on the degree to which the heritage resource may contribute further substantial information. Existing urban heritage appraisals often analyze this value either in a general manner or in a very detailed one. In the first case this value is rendered to a secondary one. In the second its benefit is limited to those who have access to the detailed reports that describe it and to those who can understand such reports.

This part is divided into three sections. The first studies the interest generated by the scientific value of heritage resources. The second identifies the variables against which such value can be measured. The third section is the conclusion.

4.7.2 Scientific Concepts

Burnie notes (2004) that Science is the systematic study of anything that can be examined, tested, and verified. The word science is derived from the Latin word scire, meaning "to know." From its early beginnings, science has developed into one of the greatest and most influential fields of human endeavor. Today different branches of science investigate almost everything that can be observed or detected, and science as a whole shapes of understanding the universe, planet, human being, and other living things. Science develops through objective analysis, instead of through personal belief. Knowledge gained in science accumulates as time goes by, building on work performed earlier.

The steps associated with the recognition of the scientific value involve: detailed observations about objects or processes, either as they occur in nature or as they take place during experiments; analyze of the information observed; and formulation of a hypothesis that explains the behavior of the phenomena observed (Burnie, 2004; Jones, 1988).

4.7.3 Scientific Interest in Urban Heritage Area

Urban heritage resources with scientific value can lie in the type of construction, or the material used, or any physical evidence that may be observed, experimented, simulated under controlled conditions and used as the basis of better understanding of the built and the natural world.

This value begun with the educational concern of the Italian renaissance. Educational concern came to be seen as a reason for conserving resources from the past during the 16th century, among philosophers, architects and scientists of the Italian Renaissance who set themselves to search for relics of ancient edifices and who began very minutely, with the utmost diligence, to measure every one of their parts. This value then evolved into scientific one, with the Age of Enlightenment that included Rationalism, Encyclopaedism, Empiricism, Neoclassicism, Archaeology and Anthropology. Such involvement was enriched by Kant, Comte, Giovannoni, Mariette, Schliemann, Conze, Gregoire, Popper and many others. Kant retained a dualistic view of the universe, he also developed the theory of knowledge, ethics and aesthetics. Comte (1798-1857) suggested that the knowledge of human beings could be explained using similar methods to those of the natural sciences. Giovannoni established theories of architectural education. Mariette, Schliemann, and Conze established archaeological researches. Gregoire (1787-1831) drew attention to the educational reasons for the conservation of cultural heritage (Jokilehto, 1999b). Popper (1902- 94) noted that science can help progressively approaching the truth but it can never give certainly the final explanation (Jones, 1988).

More emphasis was given to these values by international organisations, such as UNESCO, ICOMOS, etc., especially through the Burra charter. All these efforts demonstrated that urban heritage might have a scientific value if it:

- Shows important patterns and information about the built and the natural world and its events
- Permits organizing inquiry into the built and the natural world and its phenomena
- Contributes to discerning the order that exists between and among the various patterns, and to formulate laws and principles based on these patterns.
- Permits better understanding of the history of the built and the natural world, and how they work together.

- Sheds light on the origin and history of human evolution and how changes that humans cause in the natural world generates damage.
- Contributes to understanding other natural and cultural heritage.
- Expands the knowledge base of scientists using techniques that are both neutral and unbiased.
- Be used to understand, explain, generalize and unify facts.
- Be of value to the diverse branches of science. It can be of value to physical sciences, earth sciences, life sciences, social sciences and technology.

Urban heritage resources that demonstrate the knowledge and skill of past civilisations can also be worth conservation for their scientific value, such as the perfect symmetry of the pyramids that demonstrates that ancient Egyptians were skilled mathematicians. These resources can be conserved seeking knowledge that can help avoid the hardships that have plagued humanity for centuries. However, it is worth noting again that in some countries the educational aspects of scientific values came to be at the heart of Modern Preservationists' mission. The heritage departments of those countries have provided programmes and publications to citizens of all ages, telling them about the educational aspects of their urban heritage. They offer experience and information to help make those urban resources real for anyone who visits or studies them. They provide for the public and for students the researcher's sense of discovery, as they learn about the past by actively examining places to gather information, form and test hypotheses, piece together "the big picture," and bridge from the past to the present. Teaching with Historic Places Group TwHP (2004) states 'By referring to heritage places educators can also help students connect social studies, history, geography, and other subjects to their own lives. By referring to such places students not only learn better, but also come to appreciate the value of their nation'.

The programmes developed by these countries also guide teachers, historians, historic site specialists and others through the educational process of urban heritage. This is the case with Teaching with Historic Places (TwHP), which is a programme in the National Park Service's National Register of Historic Places. Over the years, TwHP has developed a variety of training, products and services. These include a series of lesson plans, guidance on using places to teach, and information encouraging educators, historians, preservationists, site interpreters, and others to work together effectively (TwHP, 2004).

Urban heritage might involve scientific value that is of interest to different groups of people, such as scientists who are using the heritage resources to advance science, academics who are using the resources to give practical lessons to their students, or the public who are visiting different places to widen their knowledge. Varied variables and multiply methods are used to recognise and evaluate the scientific value of urban heritage resource. Such variables and methods are often related to the field of science under investigation. However one can rely on the scientific research methods to find the proper approach of discussing and evaluating such variables and methods. This study limits its effort to the identification of :

- The field to which the scientific value belong and;
- The category of people interested in this value

It must be noted in here that future researches must focus on the way of simplifying the evaluation of this value while making such evaluation more oriented to the concept considered in the scientific research methods.

4.7.4 Conclusion

This part locates the scientific value of a heritage resource in its potential to answer, in whole or in part, a number of research questions that are of interest to different groups of people, such as scientists who are using the heritage resources to advance science, academics who are using the resources to give practical lessons to their students, or the public who are visiting different places to widen their knowledge. This part relates the importance of this value to the quality of the data involved its rarity, endangerment, representativeness, distribution, completeness, and the degree to which the heritage resource may contribute further information. The part also relates this value to the quality of the people interested, the quality of the field involved and the quality of the scientific methods that can be used to measure it. This study focuses on the quality of people and the quality of the field, arguing that the quality of the scientific methods can be studied by future researchers in relation to existing scientific research methods.

This part ends this section by a graph that shows a theoretical framework suitable for the evaluation of the scientific value of urban areas (Figure 4.20). According to this graph a resource can be listed as heritage for its scientific value, if it is of educational and scientific interest to the scientists, academic or the general public. To assess such significance of the

resource there is a need to observe and experiment it and to identify the kind of information it holds whether being anthropological, archaeological, architectural, etc.

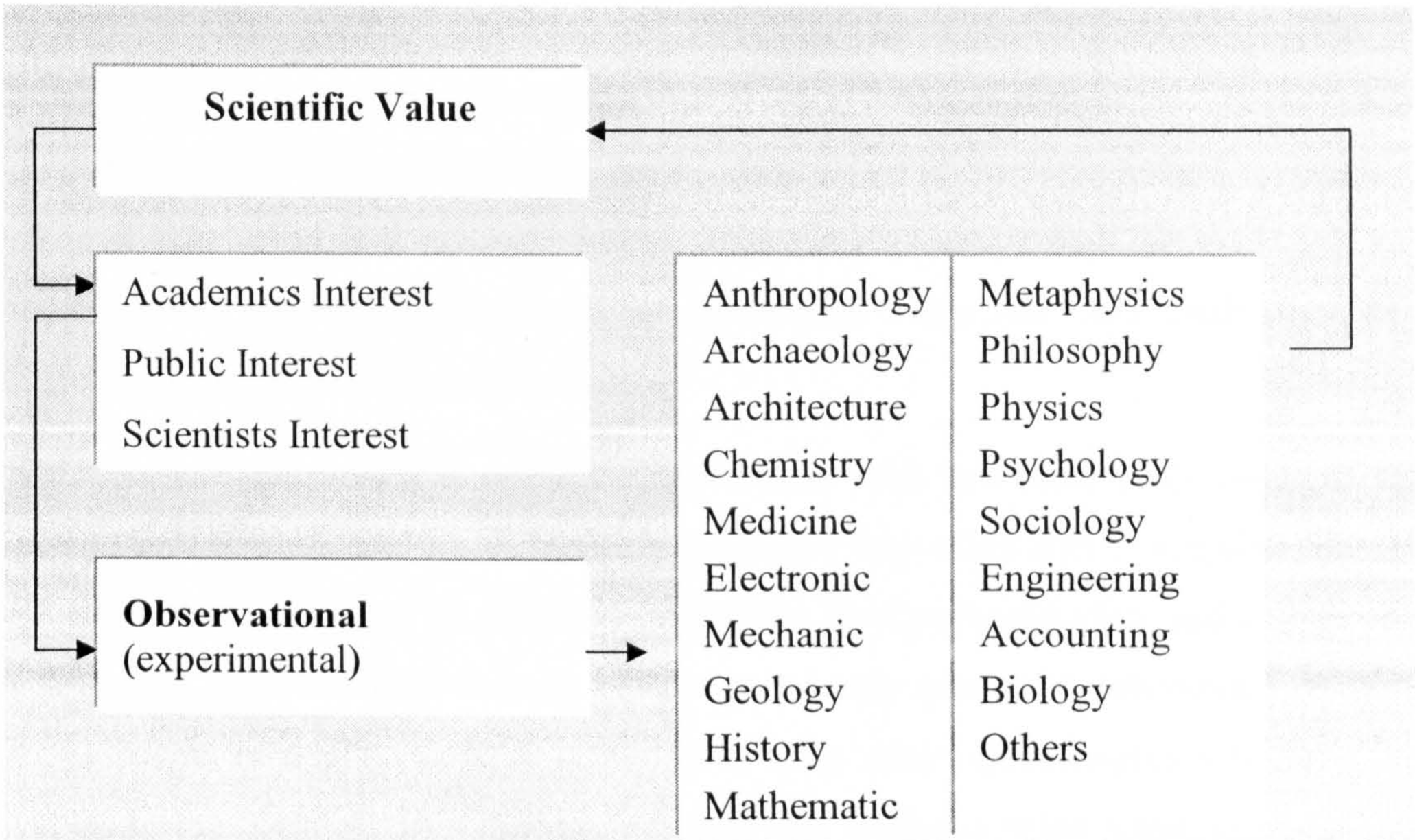


Figure 4.33: Proposed framework for the appraisal of the scientific value in urban areas.

4.8 General Conclusion

This chapter develops in depth review of each set of heritage value. It reaches out to other fields and disciplines to study the meaning of each set of value, its chronological perception, the conflict involved in its judgment and the variables used for its measurement. Based on this review this chapter builds a theoretical framework for the identification of heritage aesthetic value, cultural value, historic value, economic value, socio-politic value and scientific value. This chapter also shows in one graph how the meaning and the variables of each set of heritage value has been established from the historical review conducted by this study.

This chapter indicates that conservation officers have not sufficiently engaged with the extensive discourse relating to aesthetic, therefore they often stand to regard aesthetic as a set of attributes that can be observed impartially by a particular class and culture. In many cases, they have confined it to an inert view of only one of an individual's own sensory experiences, at a distance and in isolation from other communities who may attribute values to the heritage. This chapter indicates that aesthetic value refers to a wide range of variables. In the main, aesthetic refers to the beauty, sublime and picturesque variables of heritage. This chapter has identified the aesthetic variables, the approach that can be used for their measurement, and the stakeholders that must be involved in the appraisal process.

This chapter indicates that culture is part of the very notion of heritage and it is at the traditional core of the conservation value to an object, buildings or place. This chapter then refers the cultural value of the urban resources to those adaptive shared and learned material, social, ideological and art cultural variables that are not strictly speaking, historically related to the chronological aspects and meanings of a site. The kinds of cultural variables strengthened and enabled by these kinds of value could include everything from the methods by which people obtain, produce and exchange food, technologies and services to their kinship, marriage, work, social and political bonds. This covers also the people's beliefs, values and ideals, the work of artists (which include painting, pottery, sculpture, etc), the non-material arts they produce (including music, dance, drama, etc) and their artistic expression (involving patterns of dress, body adornment and group symbols, etc). This chapter investigates all these variables from within their categories, cultural approaches and the mechanism of change to show how the cultural value of urban areas can be measured.

This chapter asserts that historical value is at the root of heritage conservation. The capacity of the site to convey, embody, or simulate a relation or reaction to the past is part of the fundamental nature and meaning of heritage. It lies in the potential to gain knowledge about the past of the community, city country, region and the world from within the story of a great man, group of people from below, human evolution and civilisation, etc. According to this chapter, the assessment of the area's historic value must begin with a selection of the scale of analysis (community, city. etc). This must be followed by a selection of different groups of historians that are qualified to analyse the area's historic symbols. These historians are to use primary and secondary resources. They are also to study the history that tell the story of the area, including the history of great men, people from below, human evolution, etc.

This chapter shows that urban heritage can be conceptualized as a capital asset that relates to both the physical and intangible features of heritage with the standard characteristics of ordinary physical capital in economics. This chapter indicates that the measurement of the economic values of urban areas must thus involve the measurement of its use and non-use values using approaches that range from hedonic pricing, cost of travel, impact studies and contingent valuation.

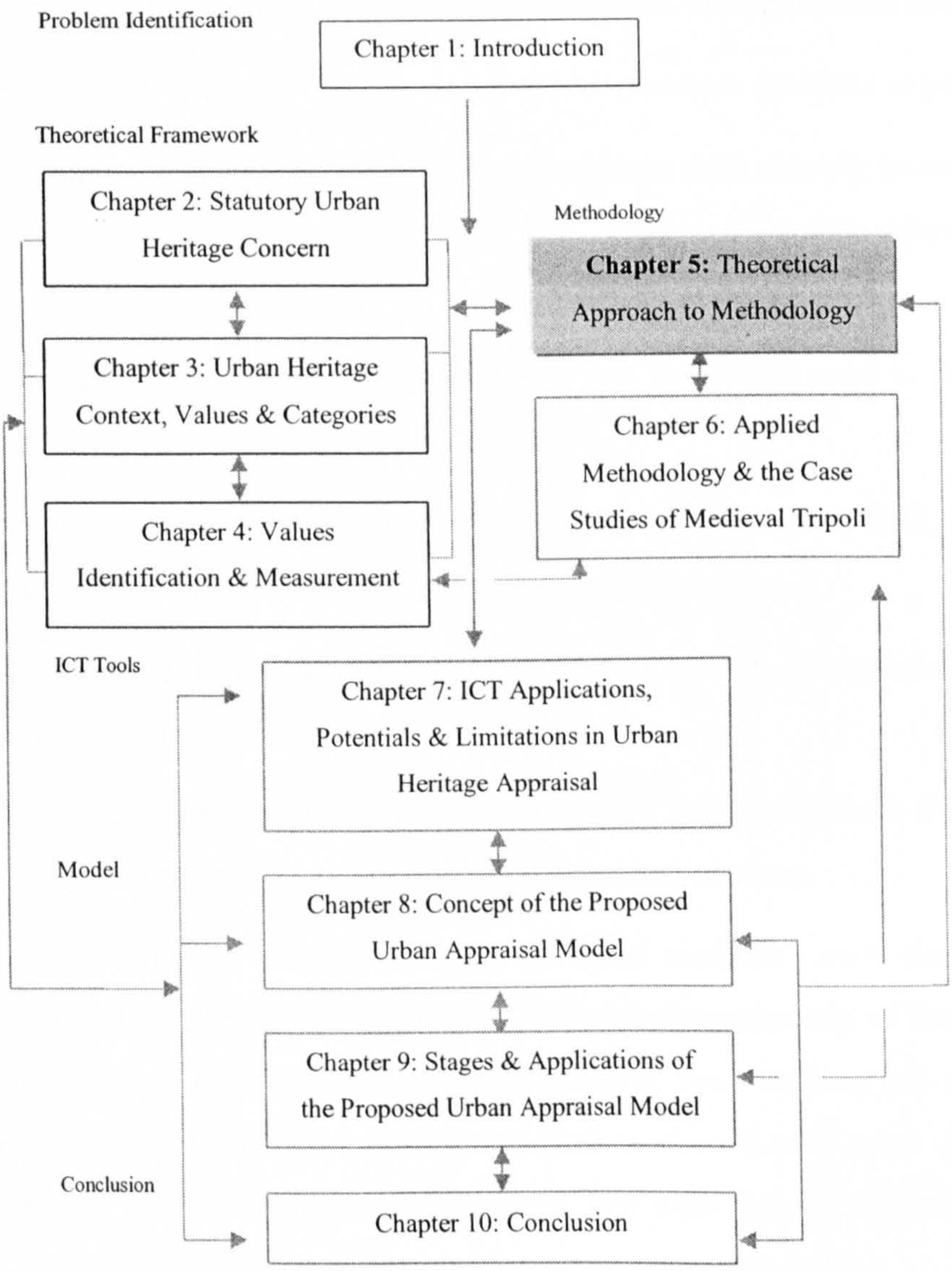
This chapter demonstrates that the socio-politcal value is ever present, and is sometimes on the surface of urban conservation activities. The chapter states that this value can be interpreted positively as a key contributor to civil society, or, more cynically, can be interpreted as a political tool used to enforce national culture, imperialism, postcolonialism, class, gender and so on. Conservation professionals are faced with two particular challenges arising out of these social and political contexts: challenges of power sharing, and challenges of collaboration. This chapter claims that the democratization of urban heritage conservation thus embodies a socio-political gesture as to whose analysis, voices and values are included in the decision-making process. The chapter calls to give sound to the people of the different social and political groups and to identify the different ranges of interest about the appraised urban areas: social class interest, gender interest, ethnic interest, etc.

The chapter finally recognises the scientific value of a heritage resource in its potential to answer, in whole or in part, a number of research questions that are of interest to scientists, academics and public. It relates this value to the quality of the people interested, the quality of the field involved (architecture, archaeology, anthropology, etc) and the quality of the

scientific methods that can be used to measure it. This section focuses on the quality of people interested and the quality of the field involved, arguing that the quality of the scientific methods can be studied by future researchers in relation to exiting scientific research methods.

This study calls the future researchers to focus in such theoretical debate for developing a better framework for the analysis of urban heritage areas. However a question remains what methods can be used to evaluate the variables of the heritage values identified in this chapter. The coming chapter sheds light on this question. It studies the methods that suit the assessment of urban heritage areas in respect to the variables and the stakeholders described in the theoretical framework proposed by this chapter.

Theoretical Approach to Methodology



5. Theoretical Approaches to Methodology

5.1 Introduction

There are as yet no widely accepted methods for the assessment of urban heritage values, and no appropriate framework to compare the results of existing ones. With the aim of developing a credible assessment criterion for urban heritage supported by ICT, this study makes a start on addressing this issue. It offers an overview of the problems in urban heritage assessment. This is followed by a review of expert methods already used in the heritage field, and some of the challenges that lie ahead when integrating these more traditional tools with others that must be imported to serve new needs. This is accompanied by a description of some methods and tools that have been used in other fields, and that hold promise for the cultural heritage assessment task. These methods comprise:

- Psychological methods that have been used to measure aesthetic experience;
- Anthropologic and social methods that have been used recently to study the culture and ideology of people, and to bring new groups of stakeholders into the values identification process;
- Histographic and archaeological methods that have been used to find evidence about the past;
- Economic methods that have been used in the environmental field, and which seem to have become widely accepted for value assessment;
- Methods used in the social field, that are often held up as examples to be emulated in the heritage field;
- Planning and archaeological methods that have begun to benefit from recent advances in ICT for conducting spatial, temporal and visual analysis.

This chapter gives a detailed account of these methods, with their weaknesses and strengths. It also highlights the question of the democratization of the process, in which value elicitation is included but which still requires some training and changes of attitude. The democratization question is then widened to discuss new ways of thinking, and the new tools for identifying urban stakeholders. The study provides some principles that can help to build up credible criteria for assessing urban heritage values.

This chapter is divided into four sections. The first concerns the context of the chapter. The second discusses the methods that suit the assessment of urban heritage areas. The third section studies the tools for eliciting heritage values in urban areas. The last section is the conclusion that summarises the findings of the chapter.

5.2 Methods Suited to Heritage Values

Urban appraisal methods are frequently applied by local authorities based on limited personal expertise and experience (Walker, 1995). These methods are generally descriptive, aimed at reporting the present (or past) state of the urban area and its resources. They are also qualitative, often relying on the use of secondary materials, pictures, maps, reports and archive documents such as preserved tapes, films, maps, manuscripts and paintings. In some cases these existing methods rely on site visits, historical narratives etc. Mason (2002) claims that such methods do not suit the proper assessment of varied urban heritage values. Mason (2002) states that the practical goal in devising a credible appraisal of urban heritage is not to search for the single best answer; nor is it to yield objectivity, technical precision or use a one-size-fits-all technique for effective conservation planning. Rather, the focus on methodologies (in the process of generating knowledge) will bring relevant information to bear, will lend transparency to the process, and will abet the goal of achieving wider, meaningful participation in the process. Mason involved himself, in collaboration with the GCI' group, to analyse two sets of methods for eliciting heritage values: cultural and economic methods. From these they identified those methods that suited the assessment of heritage values. This study agrees with the GCI group, however it reconsiders the methods that suit the assessment of heritage values based on their categories, arguing that such study is a means of linking the selection of the method to the heritage variables identified in the previous chapter.

5.2.1.1 *Methods Suited to Aesthetic Value*

As described in the literature review, methods that suit the assessment of the aesthetic value of an urban area are those that investigate the aesthetic form, context, meaning, construction, function and will variables of the area from within the view of its experts and the public (Refer to Chapter 4 - Graph 1). However, existing methods for assessing the aesthetic value of urban areas are limited to:

- The visual amenity, particular class and culture, and an inert view of only Western sensory experience (Pocock, 2002).
- The conservation officers' feelings of pleasure (Pocock, 2002).

These methods are inadequate, and need to be replaced by others that concentrate not just on the visual amenity of the resource, but also on the socio-economic, cultural, historical ones. Pocock (2002) suggests relying on the scientific methods proposed in the field of art and music. Such methods often involve Cognitive and Neuro-psychology.

Neuro-psychology is a branch of psychology that aims to understand how the structure and functions of the brain relate to specific aesthetic psychological perceptions. Neuro-psychology uses different tools for the measurement of aesthetic perception (Wikipedia, 2001; Wagar and Thagard, 2004). These tools involve:

- The use of standardised neuropsychological tests. These are often simple paper and pencil tasks, but they have been designed and tested so their performance on the task can be linked to specific neuro-cognitive processes.
- The use of 'brain scanners' to investigate the structure or function of the brain.
- The use of electrophysiological devices, designed to measure the activation of the brain by measuring the electrical or magnetic field produced by the nervous system.
- The use of designed experimental tasks, often controlled by computer and typically measuring reaction time and accuracy on a particular task thought to be related to a specific neuro-cognitive process.

Two main reasons make the Neuro-psychology method impractical for measuring the aesthetic value of urban resources. The first reason is related to the quality of the tools, and the time needed for brain scanning and electrophysiological measures. Such tools and time are beyond the resources of local authorities. The second is related to the lack of reference measures regarding the categories of variables and stakeholders that this method must involve in the measurement process.

Cognitive Science measures aesthetic experiences, by reference to the natural psychological processes subserving perception and cognition. It covers a broad range of research domains, examining questions about the workings of memory, attention, perception, knowledge representation, reasoning, creativity and problem solving. It uses

scientific methods, and rejects introspection as valid methods of investigations. This is a way of thinking and reasoning about mental processes, envisaging them as resembling software running on a computer that is the brain (Wikipedia, 2001; Thagard, 2004),

This method is supported with images, animation, narration and mapping. Because of the use of computational metaphors and terminology, cognitive psychology is expected to benefit greatly from the flourishing of research into artificial intelligence.

This method is less complex than Neuro-psychology. However, it is very slow when applied to assessing the aesthetic value of an urban heritage area and its resources. Additionally it has no points of reference concerning the categories of variables and stakeholders that must be involved in the measurement process.

Apart from these psychological methods, Low (2000) proposed using the ethno-semantic and the observational methods of anthropologists. The following section identifies these methods, and discusses their effectiveness for the measurement of both the aesthetic and cultural values of urban areas. However, it can be seen clearly that the information gathered from these methods is subjective and qualitative, and does not help with flexible spatial, physical and temporal analyses of an area's aesthetic value.

5.2.1.2 *Methods Suited to Cultural Value*

As described in the literature review, the methods that suit assessment of the cultural value of urban heritage are those that identify the shared, learned and adaptive material, social, ideological and art cultural variables from within the mechanism of change that shaped them. Different methods are suited to this kind of assessment. Many of these methods have already been nominated for assessing heritage values, such as discourse, observational, phenomenological, ethnographic and semantic ones:

Discourse methods include social experience, the reciprocal acts of speaking, being spoken to, and the emergent product of that speaking, the object of the conversation. Discourse methods consider the object of study, the text, the context and the interpretation of the object, as one continuous domain. Discourse methods are only beginning to be used in applied settings, because of the difficulty of gathering the data and because of their highly specialized forms of transcription and notation (Wortham, 2002).

Observational, Phenomenological methods overlap with other essentially qualitative methods including ethnography. **Observational methods** are simple observation of activities and behavioral mapping, as well as elaborate systems of time-lapse photography of public spaces. Such methods might combine traditional archaeological data obtained from on-site excavation and stratification analysis with historical documents and ethnographies of local groups, that may be using the site in similar ways to their local ancestors. **Phenomenological methods** overlap with other essentially qualitative methods, including ethnography. These are methods of learning about another person by listening to their descriptions of what their subjective world is like for them, together with an attempt to understand this in their own terms as fully as possible, free of researcher preconceptions and interferences (Daniels, 2000). They elicit statements of place attachment and place identity. They focus on "place" and on "how place grows out of experience, and how, in turn, it symbolizes that experience" (Richardson, 1984:65). The emphasis is on the individual perceiver, and his or her experience as empirical evidence of the world. A variety of methods can be used in phenomenologically based research, including interviews, conversations, participant observation, action research, focus meetings and analysis of personal texts. If there is a general principle involved, it is that of minimum structure and maximum depth, in practice constrained by time and opportunities to strike a balance between keeping a focus on the research issues and avoiding undue influence by the researcher (Lester, 1999). The establishment of a good level of rapport and empathy is critical to gaining depth of information, particularly where investigating issues in which the participant has a strong personal stake. One 'problem' of phenomenological methods is that they generate a large quantity of interview notes, tape recordings, jottings or other records, all of which have to be analysed. Analysis is necessarily messy, as data does not tend to fall into neat categories and there can be many ways of linking different parts of discussions or observations (Lester, 1999).

Ethnography focuses on describing and recording the characteristics of a culture. It tries to capture the full complexity of cultural phenomena through descriptive analyses that focus on the details and nuances of people's words and actions. It may be "holistic," describing a culture as a whole, or it may focus on specific problems or situations within a larger social scene (Wikipedia, 2004). It relies on information-gathering activities such as interviews, oral histories, observation, and recording of the characteristics of material culture. Ethnography seems well suited as an approach to eliciting urban heritage values. It is

supposed to study the diverse urban heritage variables, and to represent the many voices of the area's stakeholders. However, with a number of subjective information-gathering tools at hand ethnography cannot be used flexibly to measure, count or classify urban heritage resources and their attached variables, elements and attributes, and there lies its weakness.

Ethno-semantic is a branch of ethnography that translates local values into elements of material culture, and solves disagreement by locating the middle ground or the appropriate language necessary to proceed with the plan, design or any other desired change. Most semantic work is based on the intensive interviewing of key informants to produce linguistic taxonomies, hierarchies of concepts and terms that describe an individual's understanding of the world, and that collectively describe the culture (Low, 2000a). For instance, a heritage conservation professional working with an anthropologist could develop a taxonomy of house types by asking informants to name all the kinds of houses that exist in their town. Once a list of all the possible house types is developed the researcher then asks what distinguishes each house type, and repeats the procedure until a complete linguistic map of all housing kinds and their characteristics has been produced.

Among the other ethnographic methods that are considered to show promise for the evaluation of the cultural values of urban heritage, is REAP. REAP is a technique developed by the US Park Service. REAP is a kind of rapid, structured ethnographic technique. In a REAP, a number of methods are selected to produce different types of data from diverse sources, that can be triangulated to provide a comprehensive analysis of the site (NPS, 2000; Beebe, 1995). These methods are:

- *Physical Traces:* Mapping which presumes that there is a base map of resources and basic features available, which can be used to locate physical traces.
- *Behavioral Mapping:* records people and their activities, and locates them in time and space. Such maps arrange data in a way that permits planning and design analyses of the site. These maps are very useful in developing familiarity with the everyday activities and problems of a site.
- *Transect Walk:* records what a community consultant describes and makes comment upon, during a guided walk of the site. The idea is to include one or two community members in the research team, in order to learn about the site from the community's point of view.

- *Individual Interviews:* are collected from identified populations (onsite users and residents). The sampling strategy, interview schedule and number of interviews vary from site to site.

- *Expert Interviews:* are collected from those people identified as having special expertise to comment on the area and its residents and users (neighborhood association presidents, head of the planning board, etc);

- *Impromptu Group Interviews:* occur where people gather outside public places, or at special meetings set up e.g. with church or school groups; group interviews which are open ended and experimental, and include any community members who are interested in joining the discussion.

- *Focus Groups:* are set up with those people who are important in terms of understanding the site and the local population. The focus group consists of six to ten individuals selected to represent especially vulnerable populations (school-children, seniors groups and physically challenged groups);

- *Participant Observation:* provides contextual information and data that can be compared to what is seen. Such observation is said to enable accurate data interpretation. The researchers maintain field journals that record their observations and impressions of everyday life at the site. They also keep records of their experiences as they interact with users and communities.

- *Historical and Archival Documents:* such as the collection of historical documents and a review of relevant archives, newspapers and magazines. At historically significant sites this process may be quite extensive, especially if secondary sources do not exist. The importance of a careful review of historical documents should be emphasized, since it is through a thorough understanding of the history of the site that areas of cooperation and conflict often become clear and identifiable.

- *Analysis:* interview data are organized by coding all responses, and then the content is analyzed according to cultural or ethnic groups and the study question.

Transect walks, tours and interviews are used to produce cultural resource maps for each group. Focus groups determine the extent of cultural knowledge in the community, and can identify the areas of conflict and disagreement within it. Mapping, transect walks, individual and expert interviews and focus groups provide independent bodies of data that

can be compared and contrasted, thus improving the validity and reliability of data collected from a relatively small sample. The use of interview, observation and field notes are used to help interpret the collected data. Table 5.1 summarizes the products and outcomes of each of the methods used by REAP (Low, 2000).

Method	Data	Product	What Can Be Learned
Physical traces mapping	Collected trash, patterns of erosion on site	Description of nighttime activities	Identifies evening activities not observed
Behavioral mapping	Time/space maps of site	Description of daily activities on site	Identifies cultural activities on site
Transect walks	Transcribed interviews and consultants' map of site	Description of site from community members' points of view	Community-centered understanding of the site; local meaning
Individual interviews	Interview sheets	Description of responses of the cultural groups	Community responses and interest in the site
Expert interviews	In-depth interview transcriptions	Description of responses of local institutions and community leaders	Community leaders' interest in the site planning process
Impromptu group interview	Transcription of meeting	Description of group perspective, educational value	Group consensus of issues and problems
Focus groups	Tape-recorded and transcribed	Description of issues that emerge in small group discussion	Elicits conflicts and disagreement within the cultural group
Participant observation	Field notes	Sociocultural description of the context	Provides context for study and identifies community concerns
Historical and archival documents	Newspaper clippings, collection of books and articles, reading notes	History of the site's relationship to the surrounding communities	Provides historical context for current study and planning process

Table 5.1 : Products and outcomes of research methods used in the REAP

The usefulness of each method is derived from the need to evaluate the cultural value on a specific scale, in a time frame that controls the degree of involvement, and within the domain of a particular set of cultural variables. With such methods it is difficult to guarantee that the interview information collected is fully representative of all possible experiences, or even taps the predominant cultural perspective. The presence of a hypothesis and commitment to a theoretical orientation may lead the researcher to selectively collect information that is consistent with his/her preconceptions, and to ignore any counter evidence. The interview process in itself may include leading questions that influence the nature of the informant's answers. Researchers' personalities, cultural orientation, social status, political philosophy and life experiences will color how they interpret other cultures (Schwimmer, 1996). Ethnographic researchers often uncover information that might be harmful to their study community, or otherwise threaten its cultural integrity. They may, accordingly, limit discussion of some issues to protect their sources of information. The convergence of all the biases inherent in the ethnographic process may result in a description that is the unique product of a particular observer.

Equally, two different researchers may produce contradictory accounts of the same culture (Schwimmer, 1996). Such biases can be summarized as follows:

- Skewed (non-representative) sampling derived from informant selection, field location and time frame.
- Theoretical biases: when the presence of a hypothesis, and commitment to a theoretical orientation may lead the researcher to selectively collect information that is consistent with his/her preconceptions, and to ignore any counter evidence.
- Personal biases: when researchers' personalities, cultural orientation, social status, political philosophy and life experiences colour how they interpret the appraised cultures.
- Ethical Considerations: when the necessary discussion is limited to minor issues, in order to protect the researcher's sources of information.

Despite all the biases that might affect the reliability of these methods, one can not deny the significance of the tools used by them for the appraisal of urban heritage areas. These tools are essential to gather a holistic understanding of an area. But, again, these tools must be complemented with the tools used in other fields, to guarantee the democratization of the appraisal process and the proper analyses of diverse urban heritage resources and values. Those complementary methods must also establish better measurement, counting or classification of the urban heritage resources and their attached variables, elements and attributes, and the kinds of stakeholder involved in the appraisal process.

5.2.1.3 *Methods Suited to Historic Value*

As described in the literature review, the methods that suit the assessment of the historical value of urban heritage are those that identify the history of the community, city, nation, region, or the world from within the history of great men, people from below, etc. (see section 3 in Chapter 3). Histographical and archaeological methods suit the assessment of an area's historic value.

Historiography is a method of doing historical research, or gathering and analyzing historical evidence. There are four types of historical evidence: primary sources, secondary sources, running records and recollections. Historians rely mostly on primary sources, also called archival data because they are kept in museums, archives, libraries, or private

collections. Emphasis is given to the written word on paper, although modern historiography can involve any medium. Secondary sources are the work of other historians writing history. Running records are documentaries maintained by private or nonprofit organizations. Recollections are autobiographies, memoirs or oral histories. Archival research, which is the most common, involves long hours of sifting through dusty old papers, yet inspection of untouched documents can yield surprising new facts, connections or ideas. O'Connor (2002) argues that historiographers are careful to check and double-check their sources of information, and this lends a good deal of validity and reliability to their conclusions. Inferences about intent, motive and character are common, with the understanding of appropriateness to the context of the time period. Historical-comparative researchers who do historiography often have to make disclaimers about meanings in context, such as how they avoided bias.

Archaeological methods are the scientific study of peoples of the past, their culture and their relationship with their environment. These include archaeological surveying, excavations and mapping, library research, laboratory analysis, discussion and documentation (Wikipedia, 2004). The purpose of archaeology is to understand how humans in the past interacted with their environment, and to preserve this history for present and future learning. Archaeological methods involve the following:

- Topographic and geometric methods that contribute to the total sum of knowledge about some works of art, especially in the field of architecture. (Photogrammetry)
- Mapping methods that are considered basic methodology in conservation, and part of the assessment of the physical condition of the heritage being studied.
- Dating methods that have been specifically developed for solving problems in the history of art and architecture, archaeology or closely related fields. They include radiocarbon (14C), thermo-luminescence (TL), optically stimulated luminescence (OSL), electron spin resonance (ESR), decay chains of natural radionuclides, and dendrochronology. (Cechák et al., 2000).
- Analytical methods that identify the origin of the heritage resource and its production technologies, by analysing the materials from which it is manufactured. These include activation analysis, all modifications of X-ray fluorescence analysis, atomic absorption spectrometry, inductively coupled plasma, Moèssbauer spectroscopy, 'classical'

chemical methods, X-ray radiographic, ammagraphic or neutronographic imaging, and autoradiography (Cechák et al, 2000).

In addition to these methods it is worth mentioning the morphological methods that are used by the geographic historians like Conzen and others to understand the history of the settlements. Morphological methods rely on analysing existing maps, exploring and reconstructing territory, examining status and social structure in the landscape and the mapping of documented activities such as render and obligation as well as the processes of agrarian and commercial life (Austin, 2003). Urban morphology provides an important multidisciplinary method, for the study of urban heritage in general and for mapping its spatial evolution (Lilley, 2000).

The historic methods are critical for the proper understanding of an area's values. The review of primary and secondary sources is very important in this regard. The study of the urban morphology is also critical. However, the price, the diversity and quality of the data gathered in this way may complicate the urban appraisal process (The archaeological surveying, excavation and laboratory analysis that give objective dimensions to the historian's interpretation of the past are expensive, lengthy and require staff with special expertise. Not all local authorities can afford such archaeological methods, especially at the urban level).

The idea is therefore to find a complementary tool that can be used to record both quantitively and qualitatively the historians' estimation of the area's historic values. Such estimation is not a way to replace the traditional methods of analysing the historic values of an urban area, but it is an aid to the local authority that cannot conduct an in-depth analysis of its locality. It is also a means to facilitate statistical analysis of the area's historic value.

This study believes that such estimation can be more significant if the existing historic data are categorised and briefly documented by the resources' qualities, their ID numbers, location, uses, names, historical period, styles, related events or people, etc. The model developed by this study offers a prototype for the ways of documenting historical data for a flexible appraisal of the area's historic value.

5.2.1.4 *Methods Suited to Socio-Politic Value*

Apart from ethnographic methods, the socio-politic value of an urban area can be assessed through a number of existing social methods collectively known as Social Assessment

(SA). The World Bank (1994) states that SA methods systematically investigate the social processes and factors that affect development impacts and results. According to this perspective, SA methods can be carried out in a project in order to:

- Identify key stakeholders and establish an appropriate framework for their participation in the urban appraisal process project (which is originally identified as the project).
- Ensure that urban appraisal finding are acceptable to the range of urban heritage stakeholders, and that socio-politic differences are reflected in it.
- Assess the socio-politic impact of urban appraisal, and where adverse impacts are identified, to determine how they can be overcome or at least substantially mitigated.
- Develop capacity at the appropriate level to enable participation, resolve conflict and carry out mitigation measures, as required.
- Provide information about the socio-cultural and demographic characteristics of local populations.
- SA also facilitates the participation of key stakeholders. The broader group of stakeholders includes the private sector, civil society, government and non-governmental organizations and their members, and others who facilitate or hinder the ability of the poor to have equitable access to the goods and services offered by the development initiative.

SA methods use a variety of data collection and analysis tools from the social sciences, including quantitative methods (socio-economic surveys), qualitative methods (beneficiary assessments), and combinations of both. The World Bank (1994, 1996 and 1998) claims that social assessment may be carried out by a single social scientist who contacts key stakeholders and identifies and resolves issues; or, where issues are more complex or more systematic participation is needed. Key stakeholders are identified and contacted, and critical issues identified through informal consultation with the government at the first stage, then with a consultant team which carries out social assessment as part of the appraisal process.

Common tools and techniques used in SA include:

Desk Reviews of secondary sources, which are among the richest (and most neglected) means of obtaining operationally relevant information on the social, cultural and political factors influencing project success.

Surveys involve systematic data collection from a random or representative number of informants.

Meetings can provide a quick way of disseminating information and obtaining feedback. Meetings may occur in the capital city (e.g. stakeholder workshops), or in locally affected areas (e.g. town meetings). They may be formal or informal. Typically they are held in the local languages of the people involved.

Key Informant Interviews involve structured interviews on a variety of topics. Such interviews may be open-ended, or involve techniques such as structured checklists and life histories.

Participant Observation is done by observers who live in the community, in order to get an in-depth view of the way people understand their social environment and their opportunities and problems.

Participatory Data Collection Techniques have been developed to obtain information directly from the people influenced by a project. They are used to identify heritage values to which they give high priority, to build their capacity to address them, and to create awareness and trust.

Some of the common SA participatory techniques are:

Social Mapping: a participatory technique to demarcate community boundaries and important features of community interest, for example the location of wells, where the poor are located, etc.

Ranking: such exercises with community groups can help force choices and clarify needs and priorities.

Visual tools: these aids help overcome problems associated with abstract problem descriptions, and help people express their ideas.

SA methods involve:

Social Impact Assessment (SIA) methods. SIA methods determine a project's impact on directly affected groups, and where these impacts are negative to develop plans for minimizing and mitigating them. SIA methods use a range of tools. These tools are focus groups, semi-structured key informant interviews, ethnographic field research, stakeholder workshops, behavioral surveys, national survey data or statistics.

Participatory Rapid Appraisal (PRA) is a system of open-ended interactive and participatory techniques, that range from semi-structured interviews to innovative approaches generating community information (participatory mapping, needs ranking, etc).

Systematic Client Consultation (SCC) relies on a variety of methods to get feedback from various stakeholders including officials, firms, decision makers and affected groups.

SA methods rely on a number of procedures for information sharing and consensus building. Such procedures involve:

Goal-Oriented Project Planning (GOPP) which builds on various techniques for planning by objectives (log-frame analysis, etc). Normally GOPP is used primarily with technical staff, but it provides a vehicle for determining who the other stakeholders are and how their views may be taken into account.

Stakeholder Workshops bring together stakeholders with different interests in order to promote information exchange, build awareness of differing perspectives and in some cases, to reach a consensus about what can be done. Affected groups may be directly involved in stakeholder workshops and other decision- making forums, or they may be represented by leaders or others who know them well, such as NGOs. The outcome of such workshops can be improved by pre-workshop meetings which encourage the stakeholders to define the objectives they want to achieve (World Bank, 1994).

Existing urban appraisal models do not usually rely on the tools proposed by the SA methods for appraising the socio-politic values of an urban area. This means that existing urban appraisal methods are missing many values that might play an important role in an area's significant heritage. More attention must be given to the SA methods by the local authorities. SA methods promise to identify the nature of heritage stakeholders, and to democratize the urban appraisal process. They also promise to shed light on the nature of the political dimensions and values that affect urban area appraisal.

However SA methods are mostly subjective, and thus it is difficult to check the nature of the stakeholders, resources, values involved the appraisal process. This study calls for complementing SA methods with tools that help with statistically revising the stakeholders, resources and variables considered in the analysis. This tool must be a means to help the stakeholders to increase their insight into each other's views, in a quick and effective

manner. It must be a way to help the discussion of the stakeholders' viewpoints. This study offers a prototype of this tool in the model it proposes for proper urban heritage appraisal.

5.2.1.5 *Methods Suited to Scientific Value*

The methods that suit evaluation of the scientific value of urban heritage are those that execute the following steps: defining the problem, forming a hypothesis, collecting data and drawing conclusions (McBurney, 2001). The methods that suit the assessment of this value are those that rely on experiment more than on authority, common sense or even logic. Such methods attempt to be objective. The need to be objective explains the importance that scientists place on proper research methods. Great care is taken to specify the exact condition under which observations are made so that the other scientists can repeat the observations, if they desire, and try to obtain the same results (McBurney, 2001). Different methods fall under this category, and the identification of these is not a small task. It goes beyond the scope of this study.

5.2.1.6 *Methods Suited to Economic Value*

As described in the literature review, the methods that suit the assessment of the economic value of urban heritage are those that measure the total economic value of the resource, including the use and non-use value, from within the stakeholder's benefits. Different methods suit the assessment of these economic values, most having been developed in environmental studies. These methods are divided into two groups, Stated Preference (SP) and Revealed Preference (RP) techniques. Revealed Preference techniques involve study of the economic impacts, hedonic pricing methods and cost travel methods. Stated Preference techniques comprise contingent valuation methods, contingent rating, contingent ranking and choice modelling.

Section 5 of Chapter 4 provided a description of these methods, and illustrated how SP techniques could arguably be considered the best available for estimating the total economic value of cultural features. The main differences between SP and RP lie in their methodologies. RP techniques, such as the travel cost method and hedonic pricing technique. RP techniques are limited in their usefulness, because they are retrospective and hence unable to value changes that have not been experienced. In addition, they can only be used where some relationship exists between the environmental outcomes of interest and an established, well functioning market. They cannot be used to estimate 'non-use' values

(Office of the Deputy Prime Minister ODPM, 2002; Christopher et al., 2000; Morrison et al., 1996). SP techniques were developed to overcome the limitations of RP techniques. SP techniques are characterised by the use of surveys. The main differences between the various SP techniques are in the methodology, statistical analysis and behavioural basis used. This study outlines the main five SP techniques to highlight these differences, and study their appropriateness for the measurement and evaluation of the economic values of urban areas. These methods are contingent valuation, contingent rating, contingent ranking, paired comparison and choice modelling.

Contingent Valuation CVM: CVM provides absolute estimates of the urban resource's significance. In the CVM, respondents are directly asked the maximum they are willing to pay for the resource's conservation. This direct question might take different forms; it can be an open-ended question, iterative bidding, payment card, etc. This method has been widely criticized, mainly because it can only be used to estimate the value of one or two resource characters (Morrison et al., 1996-1997). Where multiple estimates are required, or where the results are needed for benefit transfer, it is not suitable. Nonetheless the CVM does have a strong behavioral basis, and it is relatively cheap and quick to implement. This method gives only an approximate evaluation of the economic value of the resource. For in depth analysis of the resource's economic value, further tools are needed to control the biases affecting the validity of the evaluation process (Morrison et al., 1996-1997; Alpizar et al, 2001).

Contingent rating. In this method respondents evaluate various alternative urban resources, one at a time, through the use of a rating scale. Respondents are not asked to compare the different alternatives, but rather are asked to rate each separately. The information that respondents 'integrate' involves a set of variables that have multiple attributes. This method is unlikely to offer any improvement over CVM. While it can be used to estimate the value of multiple resource characters, and may be less prone to certain biases experienced by the CVM, it has some distinct disadvantages. It suffers from estimation bias (Morrison et al., 1996). The estimates of value derived using contingent rating are only relative, because respondents are not able to express opposition to payment or views about the urban resources' variables and attributes that are not mentioned by the survey.

Contingent rating, like all rating methods is capable of providing rather more information than a rank ordering. It still reflects the same bare ordinal relationships of greater than or

less than, but potentially it can also reveal a texture in these relationships that goes beyond the merely ordinal. The successive point on such rating scale represent intervals, but that does not mean that it provides the precision that the equal interval scale would provide (Crawford, 1997). Thus this method, like all rating scales, does not permit the kind of mathematical operations which are so readily used by equal interval scales. This caution is most important for rating scales, since their superficial resemblance to an equal interval scale can easily beguile the mind into thinking that the measurement is stronger than it really is (Lowry, 2003)

Building Listing Survey
Please circle one of the numbers below to show your preference for the following alternatives
Style: Mamluke
Condition: Good
Use: Commercial
Area: 400 m^2

1	2	3	4	5	6	7	8	9	10

Weakly Preferred — Strongly Preferred

Table 5.2: Example from a Contingent Rating survey.

The case of building listing as formulated by this study, based on work by Morrison et al (1996).

Variables	**Attributes**
Style	Mamluke, Ottoman, Crusaders
Condition	Good, Fair, Poor
Use	Commercial, Residential
Area	100 m2- 400 m2 - 500m2

Table 5.3: Variables and attributes for a listed building.

Contingent Ranking. The characteristic feature of contingent ranking is the ranking by respondents of three or more alternative urban resources, from most to least preferred. This method is also problematic. Contingent ranking applications are likely to be prone to biases found in CVM applications, such as payment vehicle bias (Morrison et al, 1996). Similar to contingent rating, the estimates of value are only relative because respondents are not able to express their opposition to payment, while views about the resources' variables and attributes are not mentioned by the survey. However, this method is less complicated than contingent rating, as the respondent is not involved to assign a rate to each resource.

The central limitation of this method, like the any other ranking methodS, is that the successive resources on such scales, in all cases translated down to the ordinal succession

'1st', '2nd', '3rd', etc, are not intrinsically separated by equal intervals. The far-reaching consequence of this limitation is that mathematical operations involving addition, subtraction, and the calculation of averages can be applied to data that derive from a rank-order scale only in certain special circumstances, which in turn severally restricts the kind of statistical analyses that can legitimately performed upon such data (Lowry, 2003; Crawford, 1997).

Building Listing Survey
Please rank the three alternatives below, from most to least preferred by inserting the numbers 1,2 and 3

	Alternative1	**Alternative2**	**Alternative3**
Style:	Mamluke	Ottoman	Crusaders
Condition:	Good	Poor	Poor
Use:	Commercial	Commercial	Military
Area:	400 m^2	100 m^2	100 m^2
	[...]	[.....]	[.....]

Table 5.4: Example from a Contingent Ranking Survey.

The case of building listing as formulated by this study based on work by Morrison et al (1996)

Paired Comparison

In this method respondents indicate which of two alternatives they prefer most, through use of a rating scale. This method shares most of the advantages and disadvantages of contingent rating. It can be used to estimate the value of multiple resource characters, and may be less prone to certain biases experienced by the CVM. However, the behavioral basis of paired comparison has not been clearly defined and it suffers from metric bias (Morrison et al., 1996). The estimates of value are also relative. Again, here the validity of the method for evaluating the urban heritage area is conditioned by the quantity and quality of the selected resources, and the quantity and quality of their variables and attributes.

Building Listing Survey
Please circle one of the numbers below to show your preference for the following alternatives

	Alternative1					**Alternative2**
Style	Mamluke					Ottoman
Condition	Good					Good
Use	Commercial					Religious
Area	400 m^2					300 m^2
Strongly Prefer Alternative1	1	2	3	4	5	Strongly Prefer Alternative2

Table 5.5: Example from a Paired Comparison survey.

The case of building listing as formulated by this study based on work by Morrison et al (1996)

Choice Modeling (CM) appears to be the most promising SP technique. In this method respondents choose their preferred alternative. This can be used to estimate the value of multiple resource characters. It appears that CM applications may be less prone to some of the biases experienced in applications of the CVM and other SP techniques (Morrison et al., 1996 – 1997; Bennett, 1999; Mourato et al., 2002). It also has the advantage of being able to include explicitly substitute goods within valuation exercises. While the experimental design involved in CM exercises may mean that it is more time consuming and costly than CVM applications, its validity and suitability for benefit transfer may mean that it will be the most cost-effective option in cases where there is little a priori justification for an isolated valuation using the CVM (Morrison et al., 1996 – 1997; Bennett, 1999, Mourato et al., 2002). SP methods have a number of factors that may systematically bias respondents' answers. Generally, these factors are not specific to SP as such, being common to most survey based techniques and predominantly attributable to survey design and implementation problems.

Building Listing Survey
Please indicate the alternatives you prefer most by ticking one of the boxes below:

	Alternative1	**Alternative2**	**Alternative3**
Style:	Mamluke	Ottoman	Crusaders
Condition:	Good	Poor	Poor
Use:	Commercial	Commercial	Military
Area:	400 m^2	100 m^2	100 m^2
	☐....	☐.....	☐.....

Table 5.6: Example from a Contingent Rating survey.

The case of building listing as formulated by this study based on work by Morrison et al (1996).

Mitchell and Carson (1989), also Bateman and Colleagues (2002) provided an extensive review of possible sources of bias that might be common to economic methods. Bias can affect both the validity and reliability of estimates, and can cause observed values to differ from true values. Such bias includes:

- Strategic bias that would occur when somebody with a pro-conservation disposition deliberately overstates, or somebody with a pro-development disposition deliberately understates, their true bid in order to affect the final outcome.
- Embedding, where the valuation is insensitive to the scope of the good.
- Part-whole bias, that derives from the lack of familiarity with the good.

- Anchoring bias, where the valuation depends on the first bid presented in a dichotomous choice context.
- Payment vehicle bias, that refers to any biases stemming from problems with the payment vehicle.
- Information bias, when the framing of the question unduly influences the answer. This occurs when respondents are sensitive to the quantity or quality of information provided in scenario descriptions that are 'true' and 'accurate'.
- Starting point bias occurs when the amount at which the initial bid is set affects the bid distribution. It is suggested that this occurs because insufficient variation in major attributes causes respondents to focus on less important ones, when choosing between alternatives.
- Metric bias occurs in contingent rating and paired comparison applications, because of the use of rating scales. This bias relates to the difficulty of cardinal measurement of utility, and the problems of interpersonal comparison of cardinal measurements of utility.
- Hypothetical bias occurs when respondents do not believe that their answers to an elicitation question will have any policy significance. If this view is taken, there is little incentive for respondents to think carefully about either the good in question, or the payment outcomes.
- Non-response bias arises when there is a low response rate, which means that a survey sample may not be representative of the population.

Another kind of bias may occur when respondents feel that the survey market provides some incentive to do other than reveal their preferences truthfully, or from the frequent finding that the WTP for a good is approximately the same as for a more inclusive good (Mourato, 2002). In other words, if respondents cannot meaningfully separate out the conservation value of one historic house from the value of all the historic houses in a region, then the validity of their responses has to be questioned. There is also bias arising from the way it is proposed to uncover the response of future generations. Such bias can be avoided through the use of a tax or an entry fee as the payment vehicle in the WTP question, or through tests built into a survey design to assess the sensitivity to the scope of

the good being valued (Mourato, 2002). This may take place using e.g. focus groups (Mourato, 2002).

5.2.1.7 *Discussing of Suitable Urban Appraisal Methods*

Although all these economic valuation methods do not pretend to assess heritage significance of urban areas but to assess the economic value associated with it, i.e. - the flow of benefits arising out of a physical stock, they do hold promise for the assessment of heritage significance if evolved and complemented (Mourato, 2002; Throsby, 2000). Their survey stated preference quality gave the opportunity to the diverse heritage stakeholders to directly reflect their views. The quantitative quality of the data gathered from these methods help decision makers to study statistically the heritage values of urban areas. However, despite the views that call for reliance on the CM for the proper appraisal of resource heritage values, this study argues that it might be better to involve the respondents in choosing both their preferred alternatives then rating the significant ones, as such the decision makers will have opportunities to study both the urban area's significance from the stakeholders preferred alternatives, and from the rate the respondents attached to each alternatives. The bias that might be involved in the rating process can be controlled and checked in different ways. Psychology based hierarchy evaluation tools can help in this. Respondents can also be asked to give more details about the urban area, and such detailed data can be used to check the reliability of their evaluations. These complementary tools will show the respondents' seriousness, and help them to be more honest. The model proposed by this study offers an approach to combining the tools of the various preference methods described. It also shows a way of combining the tools provided by economic methods with the tools used in other fields (refer to Chapter 8).

Mourato et al. (2002) state that one aspect constitutes an improvement over current economic valuation techniques that come from within economics; another complements and expands standard economic valuation practices, by making use of complementary lines of inquiry from other social disciplines such as expert judgment, social assessment, experimental psychology, participatory rural appraisal (PRA) and marketing research.

Expert judgment for preparing a well-structured survey, mainly in the preliminary phases. (Mourato et al, 2001).

Social assessment tools to ensure that the assessment is acceptable to the range of people intended to benefit from it and that gender and other social differences are reflected in the policy evaluation, such as the World Bank methods developed in 1994.

Experimental psychology tools for deeper understanding of individual motivation for WTP than is common practice among valuation practitioners (Kahneman et al., 1999; Green et al., 1999).

Marketing research for designing better surveys, in administration and in analysis, such as CM and the focus group methods (Mourat, 2002).

Image-based and narrative based pathway work: these studies assumed that morally resonant, image-based and narrative style elicitations would help respondents articulate a broader range of non-cost and non-utilitarian values. Elicitation tools were developed toward this end (Satterfield, 2002) including:

The Thematic Apperception Test (TAT). Respondents were asked to tell a story about what the (unidentifiable) person in a photograph of an old overgrown grove, or a clear cut was thinking.

This tool sought open-ended reactions, or in some cases rebuttals, to several affectively charged 'pro' and 'anti' narratives about logging activities.

The device told the story of a policy dilemma about the thing being studied.

Satterfield (2002) recognized that narrative elicitations could provide a basis for developing better value-focused questionnaire items and expressions that could be used in surveys to improve the researchers' capacity to predict the relationship between the values held by a respondent, and the endorsement of a related action or policy choice. But breaking the narrative elicitations down into their value-component parts for the purpose of survey work seemed to defeat the original purpose. They do not lend themselves easily to the statistical rigour and representativeness of surveys. Therefore Satterfield summarized that when surveys are necessary, value elicitors might instead use 'pathways' of questions (thematically linked sets of questions). Pathway work is rooted in the constructed preference paradigm, and can be used to create something akin to a step-by-step narrative that more closely follows the reasoning that connects values with actions. The pathway approach attempts to assist participants in completing the following three fundamental decision steps (Satterfield and Gregory, 1998).

- *Framing the decision*, in terms of recognizing the key contextual elements of the decision situation.
- *Defining a key objective* by noting what concerns arise in the context of the decision.
- *Making trade-offs among these objectives,* by recognizing the conflict across desired objectives, as well as knowledge of the facts of the situation.

In such pathway surveys, all participants are asked an initial question to establish broad distinctions or paths of opinion (e.g., "Do you prefer 'a' or 'b'?"). They are then asked a set of questions meant to tease out the reasons behind their initial response, including an examination of the objectives behind their preference ("Is that because you want 'x,' 'y,' or 'z'?") and any concerns (risks) that may explain their reasoning ("In thinking about 'a,'do you worry about ___ or ____?") (Satterfield, 2002).

Ultimately, pathway studies take standard survey methods to a nuanced (i.e. less abstract) level, by helping respondents think through conflicts or vagueness in their answers and stated value positions. Such tools are considered significant by this study, and therefore the model it developed for urban area appraisal was built based on them (For more information about the use of these tools by this study, refer to Chapter 8)

Participatory rural appraisal (PRA): As stated earlier, PRA comprises a set of techniques aimed at shared learning between local people and outsiders. PRA addresses sensitive topics in interviews with individuals. Other topics, of more general concern are appropriate for focus group discussions and community meetings. During these interviews and discussions, several diagrammatic techniques are frequently used to stimulate debate and record the results. Some of the key PRA diagrammatic tools as identified by the World Bank (1994-1998) are:

Mapping Tools: these are used to provide the evaluator with information about the physical and socio-economic characteristics of the community, and how the participants perceive their community.

Ranking Exercises are used to elicit local people's perceptions of the most important values of their area. The PRA facilitators introduce the technique using local terms for wealth and values. If possible, the ranking should be repeated with different participants and the results compared, looking for any large discrepancies or differences of opinion as well as differences in wealth criteria, for example between men and women. The ranking results

can be translated into numerical scores for each household, to assist with direct comparisons between the different informants' rankings and to calculate the "average scores" for an overall ranking.

Trend Analysis are examples of the visually-based techniques used to conduct community trend analysis are seasonal calendars and daily activity charts.

PRA involves some risks and limitations. Many of them are not unique to this method, but are inherent in any research method that aims to investigate local conditions. One of the main problems is the risk of raising expectations. Trying to use PRA as a standard survey to gather primarily quantitative data, using large samples and a questionnaire could greatly compromise the quality of the work and the insights produced. Also, if the PRA team is not adequately trained in the methodology before the work begins there is often a tendency to use too many different techniques, some of which are not relevant to the topic at hand (World Bank, 1994-1998). One further common problem is that insufficient time is allowed for the team to relax with the local people, to listen to them, and to learn about the more sensitive issues under consideration. Rushing will also often mean missing the views of the poorest and least articulate members of the communities visited. The translation of PRA results into a standard evaluation report poses many challenges, and individuals unfamiliar with participatory research methods may raise questions about the credibility of the PRA findings (World Bank, 2002). For instance, Davies et al (1999) argued that PRA methods are more oriented to relative values and bringing together different perspectives, which makes quantification difficult. It is also difficult and probably invalid to compare ordinal values from one place with those from somewhere else, and it is certainly invalid to aggregate them. This study argues that despite the limitations of PRA and despite the bias that Davies et al. have attached to PRA methods, many of the tools it proposes are significant for different stages of the urban appraisal process.

In addition to the methods proposed by GCI, this study believes that other methods hold promise for urban heritage appraisal such as Multi-Criteria Analysis (MCA), Group Support System (GSS) and Visualization Methods.

Multi-Criteria Analysis MCA describes any structured approach used to determine overall preferences among alternative options, where the options accomplish several (i.e. multiple) objectives. Approaches are often based on the quantitative analysis (through scoring, ranking and weighting) of a wide range of qualitative impact categories and

criteria. The main role of these techniques is to deal with the difficulties that human decision-makers have been shown to have in handling large amounts of complex information in a consistent way (Voogd, 1983; DTLR, 1998). MCA techniques can be used to identify a single most preferred option, to rank options, to short-list a limited number of options for subsequent detailed appraisal, or simply to distinguish acceptable from unacceptable possibilities. MCA techniques commonly apply numerical analysis to a performance matrix in two stages:

- *Scoring:* the expected consequences of each option are assigned a numerical score on the strength of a preference scale for each option for each criterion.
- *Weighting:* numerical weights are assigned to define, for each criterion, the relative valuations of a shift between the top and bottom of the chosen scale.

Mathematical routines, which may be written into computer programmes, then combine these two components to give an overall assessment of each option being appraised. This approach therefore requires individuals to provide those inputs that they are best suited to provide, and leaves computers the task of handling detailed information in a way that is consistent with the preferences that have been revealed by these human inputs.

As is clear from a growing literature, there are many MCA techniques and their number is still rising. DTLR (1998) lists several reasons why this is so:

- There are many different *types of decision* which fit the broad circumstances of MCA;
- The *time* available to undertake the analysis may vary;
- The amount or nature of *data* available to support the analysis may vary;
- The *analytical skills* of those supporting the decision may vary; and
- The *administrative culture and requirements* of organizations vary.

DTLR (1998) states that MCA has many advantages. It is open and explicit;

- The *choice of objectives* and criteria that any decision making group may make are open to analysis, and to change if they are felt to be inappropriate;
- *Scores and weights*, when used, are also explicit and are developed according to established techniques. They can also be cross-referenced to other sources of information on relative values, and amended if necessary;

- *Performance measurement* can be sub-contracted to experts, so need not necessarily be left in the hands of the decision making body itself;
- It can provide an important means of *communication*, within the decision making body and sometimes, later, between that body and the wider community; and
- *Scores and weights* are used, so providing an audit trail.

Most MCA methods involve implicit or explicit aggregation of each option's performance across all the criteria to form an overall assessment of each option, on the basis of which the set of options can be compared (Voogd, 1983). The principal difference between the main families of MCA methods is the way in which this aggregation is done. A full application of multi-criteria analysis normally involves eight steps. These are set out in Table 5.7.

Steps in a multi-criteria analysis
1. Establish the decision context. What are the aims of the MCA, and who are the decision makers and other key players?
2. Identify the options.
3. Identify the objectives and criteria that reflect the value associated with the consequences of each option.
4. Describe the expected performance of each option against the criteria. (If the analysis is to include steps 5 and 6, also 'score' the options, i.e. assess the value associated with the consequences of each option.)
5. 'Weighting'. Assign weights for each of the criteria to reflect their relative importance to the decision.
6. Combine the weights and scores for each of the options to derive an overall value.
7. Examine the results.
8. Conduct a sensitivity analysis of the results to changes in scores or weights.

Table 5.7: A summary of the MCA process
(Reproduced from DTLR, 1998)

MCA seems to be very suitable for the assessment of area heritage values. but again the mathematical calculations proposed are in some ways confusing, especially for people who lack experience in this. The ranking tools proposed by the MCE evaluation methods also seem to have a number of disadvantages. All of this is added to the fact that MCA still needs to develop a better link between the data that exist about appraised resources and the evaluation process. This study proposes an approach to the evaluation of the urban area that

relies on the tools applied by the MCA. However the tools it proposes replace the ranking exercises with two exercises, Preferred Alternatives and Rating. (This study is here trying to combine the characteristics of the two exercises). This study also applies the basic MCA technique for calculating valid scores and weights of the resources, for a number of reasons. The first is that this study is not really involved with identifying the techniques that suit the correct calculation of resources' scores and weights, nor is it really concerned to calculate mathematical uncertainty factors. The researcher in this study is not an expert in this domain, but wishes to show how to combine such techniques with others and to automate the outcome for flexible urban area appraisal.

A Group Support System (GSS) as defined by Weatherall (1999) is an interactive, computer-based system, which facilitates the solution of unstructured problems by a set of decision makers working together as a group. A GSS can support multi-user problem solving and decision-making in the same or different geographical areas, either in the same location (face-to-face in a conference room) or dispersed throughout a building or across continents (distributed but not face-to-face). In addition, group members can work synchronously (at the same time) or asynchronously (logging onto the group meeting at different times) irrespective of their geographical location. A typical GSS consists of a set of tools to help generate ideas, to help analyze these ideas, and to reach a decision. Typical of GSS is the Topic Commenter Tool from Group Systems (TM) of Ventana. Using this tool, participants enter information and share comments in different windows anonymously through their computer screens. The results from the use of each of these tools can then be displayed on the public screen, and edited if desired. For explanation, the GSS can provide process support through both the communication infrastructure (media, channels, and devices) and the various GSS capabilities (e.g. parallel communication, group memory and anonymity) to facilitate information exchange among the domain experts. In addition, GSS can provide the task structure (techniques, rules or models for analyzing task-related information to gain new insight) for modelling the explanation acquisition process. One such application is in identifying relations between the various experts' conceptual systems, to overcome their differences in terminology and concepts (Weatherall, 1999).

GSS is a promising tool for some stages of the urban appraisal process, especially when deciding upon the stakeholders that must be involved in the appraisal process or when revising the results obtained from such appraisal. This study did not rely on the use of GSS, mainly for administrative and financial reasons. However, if no financial and

administrative constraint exists such tools are promising for supporting urban heritage appraisal.

Visualization methods: Visualization is the key to effective and informed public participation. It provides a focus for the discussion of ideas, thus facilitating better communication. Al-Kodmany (1999) argues that in community design workshops, computer visualization technology can be a successful way of enhancing the group decision-making process. Visualization techniques have the ability to highlight the visual context of a design proposal, which can be held constant while specific changes are tested against the fixed background. Visualization techniques can represent the project's surroundings realistically, while enabling the valuer to experiment with options. This process provides the researcher with inexpensive and immediate design images, which further facilitates the speedy ability to appraise urban heritage values. Kingston (1998) argued that visualization techniques should be capable of allowing the user to:

- Test basic theories/hypotheses regarding their decision alternatives;
- Develop decision models and/or pathways applicable to the decision problem;
- Approach consensus and/or compromise through trade-off with user ideas.

Visualization methods include different techniques such as choice experimentation, which is a visual preference technique that allows the participants to see the effects of changes as they are made to the attributes. These methods rely on the use of computer-generated images to enable participants to gain a better understanding of what they are being asked to value. They also enable the chosen experimentation methodology to process a great deal of information (Davies et al, 2000). Blamey et al (1997) described such techniques, in which individuals are typically presented with six to ten 'choice sets', each containing a base option and several alternatives, and are asked to indicate their preferred option in each set. The base option generally corresponds to the current situation or a 'do nothing' option, which remains constant across all the choice sets. The attributes in each of the remaining choice sets are then varied, allowing the researcher to estimate the relative importance of each attribute. Researchers can infer four pieces of information from choice experiments:

- Which attributes significantly influence choice;
- The implied ranking of these attributes;
- The marginal willingness to pay (WTP) for an increase in any significant attributes;

- The implied WTP for a program that changes more than one attribute simultaneously.

A major methodological challenge in using choice experimentation is selecting an underlying factorial design that can accommodate the many attributes that are found in the urban environment. As the number of attributes in the experiment increases, the number of possible choice options increases at an exponential rate. In turn, the experimental design becomes more complicated and the cognitive demands associated with evaluating the choice sets increase (Davies et al, 2000). In order to derive the attributes to be used in the choice experiments a series of focus groups may be held, targeting different interest groups. From the focus groups a list of attributes will be compiled, which will be fed into the choice experiment.

This method shows promise for appraising the heritage values of urban areas. However, the challenge is the design of the approach through which this method gathers information about the heritage values of the urban resources. Existing approaches need to be oriented more toward such values.

There are other visualization techniques available that suit the assessment of urban heritage, such as virtual reality urban environment (George, 1998), GIS-supported group decision-making, and community integrated GIS methods. These techniques facilitate spatial understanding, interpersonal communication, participation, empowerment and collaborative decision-making by those involved in the assessment processes. All these methods show potential for the appraisal of urban heritage areas, however most are not yet well suited to such targets. Chapter Seven sheds much light about the weaknesses and strengths of such methods in the urban heritage field.

These are not the only methods for assessing relevant heritage values, but they are an excellent place to start. The methods listed in Chapter Six are also significant in this concern. Mason (2002) adds that best assessment of heritage values, many agree, comes from a complementary use of both qualitative and quantitative analysis or precisely from economic and cultural methods (Mason means the aesthetic, cultural, historic and socio-politic).

Although quantitative and qualitative methodologies derive from quite different epistemologies (albeit from different perspectives, with different tools and discourses, and with different results), both provide ways of taking samples and making proxies of complex realities. The two approaches can be seen as attempts to measure the same values, and they

have both been applied to the measurement of heritage values. Quantitative methods, in focusing on causal relationships and variables isolated from their contexts, produce scalable results that can more easily be cross-compared and agreed by policy makers. Qualitative methods are more humanist and sensitive to contextual relationships (as opposed to causal connections) and are therefore indispensable in studying the nature and interplay of heritage values.

Throsby (2000) states that it may be possible, in identifying the characteristics of the site that contribute to its heritage significance, to devise simple ordinal or qualitative scales measuring the strength or importance of each variable as exhibited by the site in question. If such judgements can be expressed as, or converted into, cardinal scores they have the advantage that they can be combined, using any desired weighting system to reflect the assumed relative importance of the individual criteria. Throsby (2000) adds that such an approach is clearly no more than an ad hoc means of giving formal expression to judgements that would otherwise be left simply to informal processes. Nevertheless, these methods might be a workable means of systematising an approach to decision making with regard to the heritage significance of the site. In particular, they may be especially useful in comparing or ranking sites, given that the judgements about the various aspects of cultural value for all the sites would be made in a consistent manner. Thus, for example Lichfield (1988) discusses a checklist with scores for evaluating the cultural quality of heritage buildings, whilst Nijkamp, in 1995, provides a hypothetical illustration of ascribing cultural value to a number of historic urban districts according to "profiles" reflecting socio-economic, geographical-environmental and cultural-architectural criteria (Throsby, 2000).

This study in its turn believes that different methods are needed to study the diverse heritage values of urban areas. The theoretical review has demonstrated that no method as yet exists to assess credibly all the heritage values of an urban area. The use of differtent tools from different methods might be significant in this concern. This can be a way to achieve better evaluation of diverse heritage values, and overcome problems of bias and validity. Cohen and Manion (1994) state that exclusive reliance on a single method may distort the theories developed, as a result of the nature or limitations of the method. The use of tools from different methods overcomes this problem, and increases confidence in the theory eventually evolved.

5.3 Promise Tools for Eliciting Heritage Values

From the methods studied in the previous section, different tools can be used for eliciting heritage values. These include:

- Aggregation tools
- Mapping tools
- Visualisation tools
- Survey tools
- SP tools
- Scoring and Weighting tools
- The analysis tools proposed by MCA.
- Case studies
- Individual interview tools
- Analyses tools for histographs
- Observation & Transect walk tools
- Focus group tools
- Cognitive and Experimental psychology tools
- Pilot study

- **Aggregation tools,** proposed by MCE methods. In MCA methods it is possible to disaggregate the evaluation criteria in various ways. Voogd (1983) describes four types of disaggregation: dissaggregation by time, space, angle of incidence, and social group. Disaggregation by time is for short time evaluation, the middle range and the longer term. Dissaggregation by space is for dividing the evaluation of a complete study area into a number of zones (e.g. municipalities or regions). Diaggregation by angle of incidence is to represent, for instance different economic aspects, housing, recreation and forth. Dissaggregation to groups is to reduce inequality and improve democracy.



Time disaggregation **Spatial disaggregation**

Figure 5.1: Time disaggregation & Spatial disaggregation

These several ways of dealing with criteria depend on the evaluation problem at hand, and the kind of question required to be answered. Planners and other experts use MCA tools to classify and appraise information in a practical and explicit way. This study, in turn relies on such tools for dissecting the urban heritage appraisal process. However, the approach it considers is mainly theoretical (Refer to Chapter 8).

- **Mapping tools** proposed by REAP, PRA and SA methods. These mapping tools aim to match heritage significance to physical resources. Mapping tools in principle can be used for all spatial data, regardless of whether it is qualitative or quantitative, but using them makes sense primarily in those cases where space is an important dimension of analysis. Where spatial structures are part of the research questions. Maps gathered from such tools can play an important role in data analysis as well as in the presentation of the results. They have several advantages in comparison to an analysis that is limited to purely statistical methods (Quick & Schweikart 1996).

There is a significant development of mapping tools which enable visual mapping of services or resources, with data located at points in space and collected by a variety of methods. In Chapter seven this study introduced those tools and showed that GIS is the mapping tool that suits the assessment of urban heritage areas. This study proposes GIS as the main mapping tool. It is able to develop layers that geographically locate the urban resources to be appraised.

- **Histograph analysis tools.** This study uses these tools to gather and express knowledge about the case studies, and to estimate heritage values. The data gathered from these tools is organised in the format that this study considers most appropriate for the statistical analysis of the case studies, at both the spatial and the temporal level.

- **Visualisation tools.** This study proposes a model for the appraisal of the case studies using a number of visualisation tools. These include direct access to files that exist about the cases studied, including pictures, audio, visual and augmented reality files.

- **Observation.** This is an aspect of data collection in which data are gathered through visual observation. In *structured observation* the researcher determines at the outset precisely what behaviours are to be observed, and typically uses a standardized checklist to record the frequency with which those behaviours are observed over a specified time period. In an *unstructured observation,* the researcher uses direct observation to record behaviour as it occurs, with no preconceived ideas of what will be seen; there is no predetermined plan about what will be observed (GOLD, 2000). This study used both kinds of observation. The information gathered from these observations has been organized into different files, documented in a manner that will make them accessible to the urban heritage stakeholders involved in the proposed urban appraisal process.

- **Transect walks:** transect walks provide a useful orientation to local realities. They provide the opportunity to observe what may often be "obvious" and therefore unarticulated by local people. Some things may be inappropriate to mention, such as poor governance and illegal practices; or viewed by some as unsightly, such as untreated effluent. Transect walks simply involve team members walking through or otherwise traversing the project area. Before any transect walks are conducted an assessment should be made of the likely social dynamics that will occur, and thus the likelihood of gaining useful information. The social dynamics will be affected by such factors as the size, appearance, gender and prestige of the visitors, and the level of education, anxiety or confidence of the local groups.

Members from the focus group do the transect walk, accompanied by one or more male and female informants who know the area well (e.g., residents, workers). Information and impressions are gathered by direct observation, questioning informants, and undertaking impromptu interviews with people encountered along the way. Periodic stops are useful to discuss significant features of the route, such as housing characteristics and problems, crop production techniques, land uses, transport methods. It is also useful to sketch a map of the route and note key information. (Asian Development Bank, 2001). This study applied this technique to understanding the heritage significance of the case study area. Again, the information gathered from these walks was organized in files documented in

such a manner that makes them accessible to the urban heritage stakeholders involved in the proposed urban appraisal process.

- **Survey tools** proposed by ethnographic and SA methods. The word "survey" is used most often to describe a method of gathering information from a sample of individuals (Kalsbeek, 1995). This "sample" represents a fraction of the population being studied. Survey research does not belong to any one field, and it can be employed by almost any discipline. According to Angus and Katona, "It is this capacity for wide application and broad coverage which gives the survey technique its great usefulness..." (Colorado State University: 2004a). Surveys come in a wide range of forms and can be distributed using a variety of media. Surveys can be written (Mail Survey, Group Administered Questionnaires, Drop-off Surveys), oral, electronic and example. Electronic surveys may be compiled on laptops, and respondents complete the survey there rather than on paper. The electronic survey can be considered most appropriate for urban heritage appraisal. Despite its disadvantages, an electronic survey can give the respondent opportunity to gather additional information about the resource under evaluation via digital documentation or direct connection to the World Wide Web. The design of an electronic survey can minimise its disadvantages, such as the selection of the sample, the places where the survey is distributed, and the way the respondent is approached. (With or without training). Thus different key issues must be considered when selecting the sample for the survey, and when designing the questionnaire.

- **SP tools** of CM and **rating tools** of contingent rating. This study uses these tools to create option statements, as a means of identifying the values and variables that give the area its heritage significance and to introduce some sense of priorities by assessing and stating the uniqueness or importance of the area's heritage significance vis-à-vis other sites in the nation/region/world. They are also used to introduce some sense of priority, by assessing the significance of some heritage values over others.

- **Weighting and scoring tools proposed by MCE.** This study refers to these tools as reflecting the relative importance of heritage significance to their stakeholders, and consequently to the intervention decision. A number of different techniques have been developed for generating criteria weights, and for calculating appraisal scores or ranks using the evaluation and priority equations. In the latter instance, one of the most widely used techniques is the simple utility-based method of weighted summation which

calculates the appraisal score of each alternative as the sum of its criteria scores multiplied by the corresponding weighting values. Other, more sophisticated, methods such as those based on the concepts of outranking (each alternative is scored according to its degree of dominance over all other alternatives and the extent to which all other alternatives dominate it) and multi-dimensional scaling (each alternative is scored relative to how far it is from a hypothetical 'ideal point') have been applied to planning problems (Feick and Hall, 2001; Voogd, 1983; Nijkamp et al, 1990). This study relies on the weighted summation tools, as its main concern is not to show how to calculate the weight of the resources but to show how different tools can be combined together for flexible urban area appraisal.

- **The analysis tools proposed by MCA,** which are mostly computer based. In Chapter seven this study presented two computer based analysis techniques for a proper analysis of urban areas. These techniques are GIS and DBMS.

- **Individual Interview** tools proposed by ethnography, REAP and SA. Interviews provide in-depth information about a particular research issue or question. A good interview is the art and science of exploring the subjective knowledge, opinions and beliefs of an individual. An individual interview can be structured, semi-structured or unstructured. The structured interview consists of a list of specific questions, while the unstructured interview is more freewheeling. The interviewer may ask the same kind of questions as in the structured interview, but the style is free flowing rather than rigid. It is more conversational, as the interviewer adjusts the questions according to how the interviewee is responding. The interviewer may even inject his or her own opinions or ideas, in order to stimulate the interviewee's responses. Suler (2002) states that different basic techniques and statements can help the interviewer encourage interviewees to open up and express their ideas clearly.

  - *Clarification:* the interviewer will get the person to explain himself clearly.
  - *Reflection*: the interviewer will reflect back something important the person just said, in order to get them to expand on that idea.
  - *Encouragement:* the interviewer encourages the person to pursue a line of thought.
  - *Comment:* the interviewer will inject his own ideas or feelings to encourage the person into saying more.

- *Spur:* the interviewer will say something to tease, spur or challenge the person (in a friendly way) to say more.
- *Summary:* the interviewer will try to summarize the person's ideas to see if he really understood what the person was saying.

This study uses a semi-structured interview, giving consideration to the basics mentioned above. The aim is to first gather a holistic background about the area; second, to identify the case study that can be used to validate the proposed urban appraisal model; and third to list the stakeholders that might be involved in the urban appraisal process.

- **Focus Group tools** proposed by ethnography, PRA and SA methods. Focus groups are generally used to obtain data of a qualitative nature from a group of similar people. Barrett (2000) states that the combination of a focus group, which is qualitative, with a quantitative survey makes a powerful tool of analysis. Barrett (2000) lists three basic ways of obtaining such contributions. The first is by identifying all the 'domains' that need to be measured in the survey. Thus, rather than basing the survey on the researcher's own assumptions about what is relevant, focus groups ensure that the researcher has as complete a picture as possible of the participants' thinking. Secondly, focus groups are an efficient tool in determining the dimensions that make up each domain, because a relatively small number of groups can generate a large number of ideas about the items that are needed to cover in each area under question. Finally, focus groups can provide insights into the appropriate wording of questions. Barrett (2000) argues that focus groups enable group interaction, thereby allowing greater insight into people's experiences and opinions than could be achieved without the interaction found in a group.

However, focus groups require careful preparation for the design of the questions, the way they are organised and introduced. Krueger (1994) recommends the provision of background information about the purpose of the study, and establishing the context of the questions. These requirements can be achieved in the invitation letter as well as the moderator's spoken introduction. Krueger (1994) adds that a short period of small talk is useful, not only for breaking the ice and relaxing the participants, but also for making a quick assessment of the behaviour of each participant.

These tools are used to develop the survey that this study intends to apply. It is used to select the sample for the survey and to reduce the chances of making errors when creating the survey. The reason for relying on the focus group to identify the sample for the survey

is that there is no clear-cut answer for the correct sample size. The size depends on the nature of the population under scrutiny, the style of the research, the constraints in term of time, money, stress, administrative support, the number of researchers and resources available. Focus groups can give significant insight into the selection of the sample, and can effectively discuss methods for avoiding these sampling biases:

- Spatial bias: urban and by the roadside, where only those who are easily accessible by vehicles are interviewed.
- Professional and project bias: where only direct primary stakeholders are interviewed.
- Person bias: whereby articulate elites, men, direct users of services or technology and those who are 'active, present and living' are the only people interviewed, or are over-represented relative to their numerical strength.
- Temporal bias: where only the situation in dry and reasonably cool seasons is captured.
- Diplomatic bias: where only superficial and non-sensitive questions are asked, particularly of those who are most disadvantaged.
- Language and conceptual bias: where only those who speak majority languages are interviewed (perhaps only those who speak a European lingua franca) and/or those who are articulate and already familiar with the specific concepts under investigation.

- **Cognitive and Experimental psychology tools** proposed by PRA and psychology methods. A number of techniques have been developed by social scientists, psychologists and ethicists to minimise questionnaire and interview bias through providing contexts that enhance the participants' ability to articulate more elusive or impassioned expressions of value. Gerber & Wellens (1996) state that cognitive interviewing (also known as verbal protocols and think-aloud interviewing) is an amalgamation of cognitive psychology and survey methodology in the identification of questions that may elicit response error. The overall aim is to use cognitive theory to understand how respondents perceive and interpret questions, and to identify potential problems that may arise in prospective survey questionnaires. The process involves an interviewer asking a survey respondent to think aloud as they go through a questionnaire, and to express everything they are thinking (Dillman, 2000)., with the interviewer asking probing questions of the respondent to uncover their thoughts. Methods used in cognitive interviewing include probing (concurrent and retrospective), observation of the respondent's behaviour

(concurrent), and think-aloud/read-aloud as the respondent completes the questionnaire (concurrent) (Schechter et al. 1994). These methods may be used in combination during the interview process.

The first method (probing) consists of asking the respondents to paraphrase questions, asking them to define the meaning of words used in the questions, to explain their responses and identify areas of the questionnaire that pose difficulty in understanding, interpretation or completion. The overall aim is to elicit the respondents' understanding of a question (Conrad & Blair, 1996, Conrad et al., 1999, Willis et al., 1999).

The second (observations of respondents' behaviour during the cognitive interview) consists of observations that might be of interest including respondents skipping questions, flipping a page back and forth when answering a question, putting answers in the wrong place on the form, or changes in appearance (e.g. frowning, hesitation).

Finally, think-aloud protocols allow the researcher to gain insight into the cognitive processes used when completing a questionnaire, by encouraging respondents to verbalize their thoughts.

Drennan (2003) and Taylor (2000) argues that cognitive interviews produce large volumes of narrative data, which in turn leads to problems with ascertaining validity and objectivity. They are also subjective, time-consuming and rely on a sample that may not be representative of the target population. However, Love et al (2002) state that the growing use of cognitive interviews supports their effectiveness in identifying problems with questionnaires prior to distribution. They are valuable for identifying questions that are complex and possibly sensitive for specific groups for whom questionnaire completion may pose particular difficulties. Cognitive interviews are of most worth when used in association with other reliability and validity measures, leading to the development of effective and comprehensive self-report measurement tools. They are overall an extra and effective tool in the process of ensuring the validity and usability of a questionnaire prior to distribution. The integration of cognitive theory with survey methodology allows development of an understanding of respondents' responses to questionnaires, and questions that other methods may not illuminate.

- ***Pilot study:*** A pilot study was considered suitable for this study in order to test the questionnaire and survey, before wholly committing itself to them. Britton (1996) states 'If you can allow the time, it is an excellent idea to carry out a small Pilot Study…It is

particularly important to pilot questionnaires and interviews before you start your proper research'. The pilot aims to collect and analyse a small amount of data before starting the main work.

It is also a useful way to discover any problems with the methods proposed for testing heritage values and variables, right from the start. Britton (1996) argues 'you should get several people to complete the questionnaire, to see whether they are able to understand and answer the questions. Similarly researchers should carry out at least one interview, where you can also get an idea of how much time the interviews might take'.

- **Case study:** A case study is seen as the best means of validating and testing the variables and techniques proposed by this study, for assessing urban heritage. Yin (1993, 1994:12,) states 'A case study tries to illuminate a decision or set of decisions, why they were taken, how they were implemented and with what result.' He adds that 'One rationale for a single case study is when it represents the critical case in testing a well-formulated theory. The theory has specified a clear set of propositions as well as the circumstances within which the propositions are believed to be true. To confirm, challenge or extend the theory, there may exist a single case, meeting all the conditions for testing the theory'. A single case study was thus selected to determine whether some alternative set of variables and methods might be more relevant for credibly assessing urban heritage. Another reason was the desire to avoid expending extensive resources and time, these being beyond the means of a single student and independent research investigator.

To ensure that the case study would in fact be relevant to the proposed testing and validation, it was decided to choose it in accordance with the issues identified in the theoretical review.

In the literature review, it was mentioned that urban heritage often involves a wide array of heritage resources. These resources might consist of listed objects or buildings, scheduled monuments and areas. These resources might be also of different use, condition, age and design. Thus to be relevant to the proposed tasks, the case study must be a living urban area that includes different heritage resources with different styles, conditions, usage and historical periods.

5.4 Conclusion

This chapter offers an overview of existing value assessment methods, and some of the challenges that arise when integrating the traditional tools of these with others, such as those discussed in Psychology, Anthropology, Histography, Economy, Social Science, Planning and Sustainability studies.

This chapter shows that:

Existing urban appraisals are frequently conducted by local authorities based on limited personal expertise and experience. Their methods are qualitative, subjective and inefficient.

Methods applied to measure **aesthetic value** in heritage fields are limited to the visual amenity, particular class and culture, an inert view of only Western sensory experiences, and the conservation officers' feelings of pleasure. At the same time, those applied in the field of art and music (cognitive and neuro-psychology) are impractical, for being related to brain scanning tools and electrophysiological measures these methods are slow, and have no points of reference concerning the categories of variables and stakeholders that must be involved in the measurement process.

Methods applied to measure **cultural value** (observational, phenomenological, ethnographic and semantic ones) are subjective and cannot be used flexibly to measure, count or classify urban heritage resources, and therein lies their principal weakness. This chapter argues that with such methods it is difficult to guarantee that information collected is fully representative of all possible experiences, or even taps the predominant cultural perspective.

Methods applied to measure **historic value** include histography and archaeology. Despite histography being critical to urban heritage appraisal, the data gathered from it may complicate the appraisal process. Archaeology, despite being objective for the historian's interpretation of the past, is expensive, lengthy and requires staff with special expertise. This study argues that histographic methods can be made more significant if the data can be organised concisely in different tables

Methods applied to study the **socio-politic value** are critical to the democratisation of the process. They identify key stakeholders, and establish an appropriate framework for their

participation in the urban appraisal process. However these methods are mostly subjective, and difficult to check

Methods applied to analyze the **scientific value** of urban heritage are diverse, and must execute the following steps: defining the problem, forming a hypothesis, collecting data and drawing conclusions. Different methods fall under this category, and the identification of these is not a small task. It goes beyond the scope of this study.

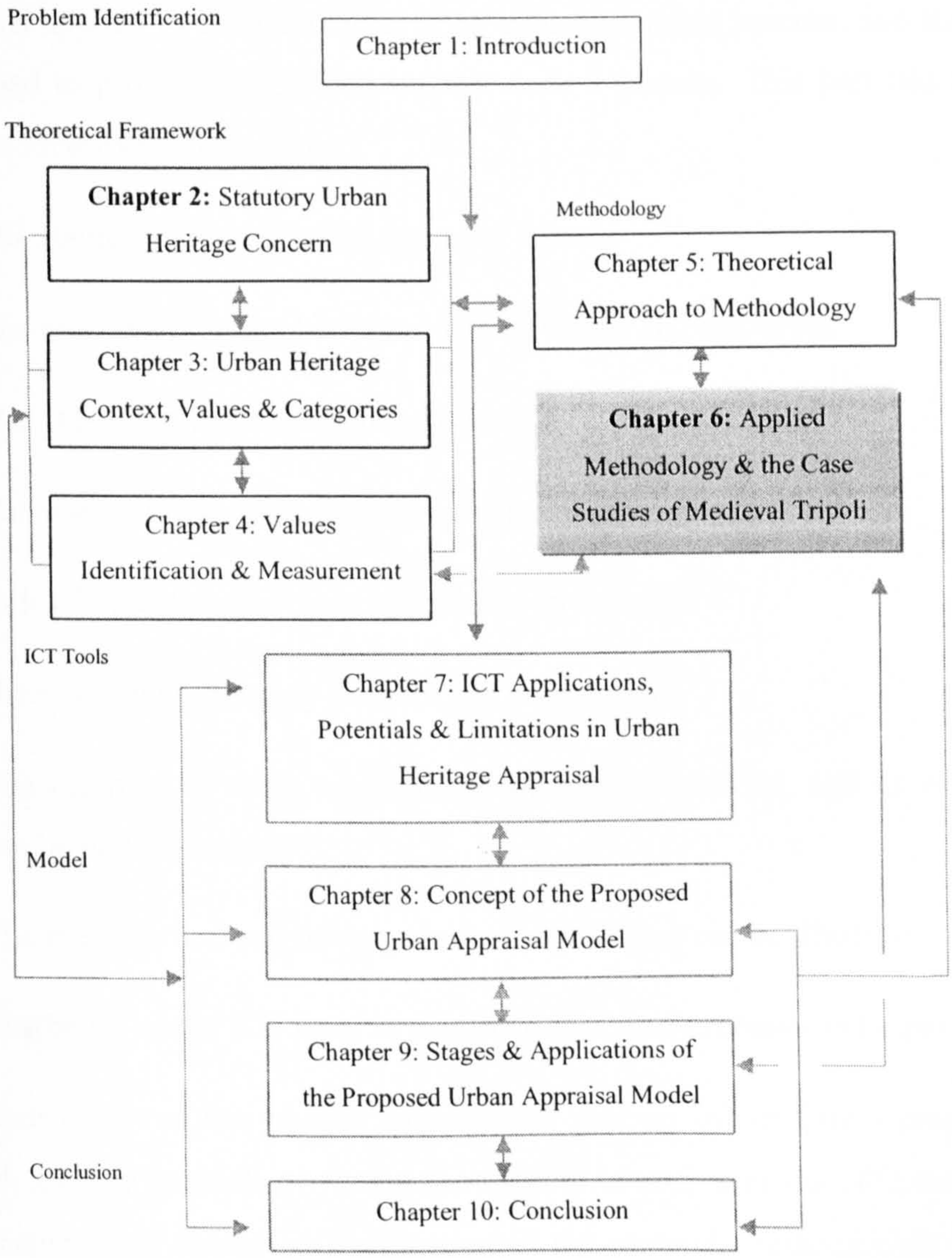
Methods applied to analyze **economic value** are quantitative, and mostly set by environmental studies. **Choice Modelling (CM)** appears to be the most promising economic technique. These methods do hold promise for the assessment of heritage significance, if evolved and complemented However, despite the views that call for reliance on CM for the proper appraisal of resource heritage values, this study argues that it might be better to involve respondents in choosing their preferred alternatives then rating the significant ones.

This chapter also offers insights into experimental psychology, image-based and narrative based pathway work, GGS, visualization and MCE methods, arguing that:

- **Experimental psychology tools** help gain a deeper understanding of individual motivation for WTP
- **Image-based and narrative based pathway work** helps respondents think through conflicts or vagueness in their answers and stated value positions.
- **GSS** provides a focus for the discussion of ideas, thus facilitating better communication.
- **Visualization** shows promise for appraising the heritage values of urban areas. However, the challenge is to design an approach through which this method gathers information about those values.
- **MCA** has many advantages. It is often based on quantitative analysis (through scoring, ranking and weighting) of a wide range of qualitative impact categories and criteria. It shows promise for dealing with the difficulties that beset human decision-makers when handling large amounts of complex information, in a consistent way. MCA seems to be very suitable for the assessment of area heritage values, but again the mathematical calculations proposed are in some ways confusing.

This chapter lists the tools of these methods, then it comments which of these tools suit the assessment of the resources' heritage values. This chapter studies these tools in relation to

the factors that complicate or influence them. Chapter six and eight show which of the tools mentioned in this chapter are used by this study for the appraisal of urban heritage areas. These chapters also justify the use of these tools and explain their concepts.


Problem Identification
Chapter 1: Introduction
Theoretical Framework
Chapter 2: Statutory Urban Heritage Concern
Methodology
Chapter 5: Theoretical Approach to Methodology
Chapter 3: Urban Heritage Context, Values & Categories
Chapter 6: Applied Methodology & the Case Studies of Medieval Tripoli
Chapter 4: Values Identification & Measurement
ICT Tools
Chapter 7: ICT Applications, Potentials & Limitations in Urban Heritage Appraisal
Model
Chapter 8: Concept of the Proposed Urban Appraisal Model
Chapter 9: Stages & Applications of the Proposed Urban Appraisal Model
Conclusion
Chapter 10: Conclusion

6. Applied Methodology & the Case Studies of Medieval Tripoli

6.1 Introduction

This chapter describes the procedures through which this thesis has been conducted and ultimately evaluated. This description includes the ways in which the hypotheses have been tested, the questions that have directed their acquisition and interpretation, the justification for the knowledge claimed and the way data has been identified, collected, organized, and interpreted (Kearl, 1996). This chapter thus explains the system that the thesis has used to develop and contribute to generalizable knowledge. The first part of this chapter justifies the research hypothesis. The second part explains its questions. The third part clarifies the methods applied to evaluate the existing urban appraisal process, and the ways in which it proposed to prove that ICT can support such a process. This part illustrates the methods used to identify problems with:

- The statutory urban heritage appraisal criteria
- The meaning of urban heritage context, values and resources
- The existing urban appraisal methods
- The use of ICT tools in the urban appraisal process.

The following part shows those procedures by which:

- Urban heritage statutory concern can be improved
- The meaning of urban heritage can be better identified, and its resources and values can be better recognized
- The methods that suit the appraisal of urban areas can be illustrated
- The better use of ICT tools in the urban appraisal process can be provided.

The fourth part of this chapter explains the process of building a proper urban appraisal model, and the methods of testing the validity of such a model. The remaining sections of the chapter give a detailed justification of the research methods used by this study. This includes the literature review, the set of methods applied for justifying the proposed

typology of heritage values, the methods used in selection of the case studies and for applying the model to them.

Methodology

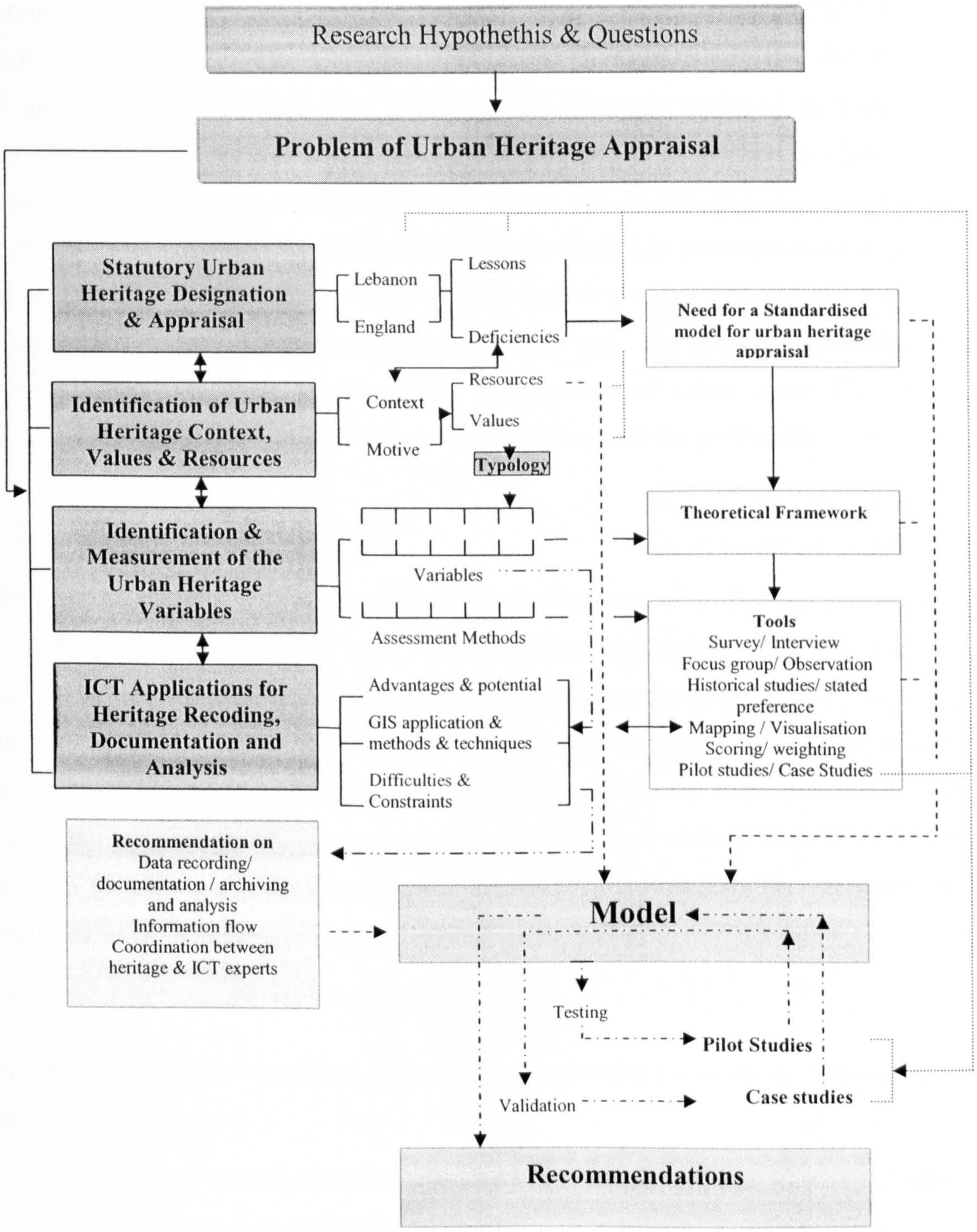


Figure 6.1: Methodology applied by this study

6.2 Research Hypothesis

The main hypothesis of this thesis is that ICT can support the proper appraisal of urban heritage areas. This hypothesis is based on two theories: the first is that the appraisal of urban heritage is currently inefficient, and the second is that ICT can support the better appraisal of urban heritage areas. The literature review conducted in Chapter One of this study introduced the problems of urban area conservation, and considered the relationship of these problems to urban area appraisal. The literature reviewed in Chapter Two demonstrated the deficiencies of existing urban appraisal, while that in Chapter Seven illustrated the difficulties facing the proper use of ICT in the urban heritage field. The literature reviewed in Chapters Three, Four and Five helped to prove that the complexity of urban area appraisal and the diversity of the required methods demand the benefits and potential of ICT tools for handling such a complex task. The research hypothesis is also proved through the model developed for the appraisal of urban areas. The following sections justify the use of the literature review and the model for proving this hypothesis

6.3 Research questions

The research question is formulated around the development of credible assessment criteria for urban heritage supported by ICT. Two questions are highlighted from this general one; the first is how to appraise urban heritage areas, and the second is how ICT can support such appraisal. The first question introduces the enquiry into urban heritage, its values and the methods applied to assess them. The second introduces the enquiry into ICT, and its role in the assessment of urban heritage values. To respond to these enquiries a variety of research theories and multiple conceptual frameworks are needed. The literature review guides the study in the required direction, and opens the way to new questions.

These questions can be divided into six sets.

The first set provides a backdrop for statutory conservation programmes. This set involves the following questions:

- What statutory criteria exist for urban heritage designation, and what is the effect of these criteria on assessing heritage values?
- What are the gaps in these criteria, how can such gaps be tested, and what relation do these criteria have with the theoretical frameworks of heritage values?

- What are the possible future directions for exploring better criteria for the designation of urban heritage?

The second set provides a backdrop for the context of urban heritage, and includes the following questions:

- Who has been writing about urban heritage, and who has studied it? Who has indicated the importance of studying urban heritage appraisal, and who has described or studied the role of ICT in this regard?
- What is the relation of urban heritage to the general context of heritage?
- How is the understanding of urban heritage affected by the ambiguity dominating the general context of heritage?
- What theoretical frameworks have been developed about the general context of heritage, and what efforts have already been made to assess its values?
- What are the typologies that have been suggested for heritage values, what are the gaps in these typologies and how can such gaps be tested?
- What has not been systematically investigated so far, where should the focus of further enquiry lie, and how should it be pursued?

The third set provides a backdrop for the context of each category of heritage values, and its variables and **the fourth set** provides a backdrop for the methods applied for its measurement. The two sets involve the following questions:

- What is the aesthetic value, what are its variables and assessment methods?
- What is the cultural value, what are its variables and assessment methods?
- What is the historic value, what are its variables and assessment methods?
- What is the scientific value, what are its variables and assessment methods?
- What is the economic value, what are its variables and assessment methods?
- What is the socio-political value, what are its variables and assessment methods?

The fifth set provides a backdrop for the role of ICT in assessing urban heritage values. This set involves the following questions:

- What ICT tools have been used for recording and assessing urban heritage values?

- What are the potentials and the problems of these tools, and how can they support the assessment of urban heritage and the democratisation of the assessment process?
- What is the quality of the data applied to assessing urban heritage values, how does this quality affect the proper role of ICT in supporting the assessment of urban heritage, and how can such quality be improved?

The sixth set provides a backdrop for the urban heritage assessment model. This set involves the following questions:

- What model supported by ICT can be suggested for assessing urban heritage?
- How can this model are applied to diverse urban heritage, and how can its validity be tested?

These questions have conducted this study to the logical procedures required for proving its hypothesis.

6.4 Identifying of Proper Urban Heritage Appraisal

The identification by this study of proper urban heritage appraisal is conducted in six stages, in accordance with the questions listed in section 6.3.

In **stage 1** this study answers the questions related to the statutory criteria for urban heritage designation, and the effect of these criteria when assessing heritage areas. A literature review is used for this. The literature describes the Lebanese programmes of 1933, together with the English programmes and guidance of 1990 and 1994. The literature review also considers the published views of certain heritage experts, and research that has focused on the quality and commitment of English local authorities to urban area appraisal. All of this is used in explanatory, comparative and normative ways to help identify the breaches in existing appraisal criteria, and possible future directions for exploring better urban appraisal.

In **stage two** the study answers certain questions related to the context of urban heritage. A literature review is used for this purpose. The literature review is descriptive, explanatory and normative. It introduces the context of urban heritage as considered by the English guidance for conservation areas, and by the key theorists in the field. The literature review is used to explain the relationship of urban heritage to the general heritage context. This is followed by a comparison of the context of heritage to its cognate concepts. In this section

the study again uses literature review, to study the motives that established the conservation concern. This review describes the subject of heritage from the study of conservation motives, and helps the study to offer a comprehensive background of the heritage context, resources and values. (For detailed information about the methods used to identify the typology of heritage values, refer to section 6.7). The normative part of the theoretical review recognises the flexible nature of heritage values, and highlights the importance of investigating theoretically those variables against which each heritage value can be measured.

In **stage 3** this study provides a background context for each category of heritage value, its variables and the methods applied for its measurement. The method used in this is theoretical, offering a historical review of the theories concerned with each value and the variables identified by them. This review is not only limited to the heritage field, but includes others. This stage of the study includes a number of graphs that explain the theoretical framework for identifying heritage values in urban areas.

In **stage 4** the study uses literature review to describe the methods that best suit the assessment of each category of heritage values. The study considers different issues in selecting the methods and tools that suit the assessment of urban areas. These have certain requirements:

- The heritage variables that each method underlines and measures must reveal those identified by the theoretical framework of Chapter 4.
- The method must suit the assessment of varied urban heritage resources and values.
- The method must provide tools that serve the democratisation of the urban appraisal process.
- The method must minimize the subjectivity and biases of the urban appraisal process.
- The method must be flexible enough to accommodate a diversity of local context.

In **stage 5** this study gives an overview of the role of ICT for assessing urban heritage values. For this purpose it uses a literature review to seek out the potential and the limitations of ICT tools. It starts with recording tools, and concludes with analysis tools. The study relies on information that has been published following a number of workshops and conferences, there being no books extant that deal with this subject in a comprehensive manner. The study also uses publications by UNESCO - ICOMOS and CIPA, and the

results of surveys by English Heritage EH, Heirnet and others. This chapter begins with a full description, then goes on to explain the potential and limitations of ICT-based GIS in the urban appraisal process.

In **stage 6** this study uses the lessons gathered from the literature review chapters to explore the concept of a model that will suit the assessment of urban heritage areas, arguing that such a model is a good means of justifying the theory proposed by the study. Hanneman (1988) suggests that a model is a viable component in the process of theory construction, specification and articulation. Groat and Wang (2002) notes that model research is often useful at an 'intermediate' point of knowledge acquisition. It helps when developing a theory and in testing it. Section 6.7 of this chapter describes the methods used to test the model proposed by this study.

6.5 Literature Review

The literature focuses on the extant theory that relates to heritage and values. It provides an insight into the context of heritage and its values, allowing the discovery of new dimensions for heritage and possible future directions for study.

At a more detailed level, the literature review investigates and answers the research questions described in the previous section. Information gained from this review is to help justify this study, clarifying its research questions and limiting their scope. It is also intended to show the relationships between different studies, and how previous work relates to its own.

Building on the literature developed around heritage appraisal and the use of ICT to assist such appraisal, the study focuses on distinct kinds of contributions:

- Materials that identify the statutory criteria applied in both Lebanon and England, for assessing urban heritage values.
- Materials that identify the context of heritage and urban heritage areas
- Materials that identify the significance of heritage
- Materials that describe the historical development of conservation motives
- Materials that identify aesthetic, socio-cultural, historic, scientific, socio-economic and socio-political values of urban heritage.

- Materials that identify the assessment methods and tools for the values listed above.
- Materials that identify ICT and describe its role and applications for assessing urban heritage values.

To minimize the subjectivity of the literature review, the study offers tables and graphs that summarise the understanding gathered from the above set of materials.

6.6 Interviews

Cohen (2000) states that the purpose of the interview is to test and develop hypothesises, to suggest new ones, to gather data as in surveys or experimental situation and to sample candidates' opinions. He adds that interviews work as an explanatory device to help identify variables and relationships. In this study, two semi structured interview methods have been used. The first is conducted with the English and the Lebanese conservation officers to identify the problem of urban area and the relation of this problem to urban heritage appraisal. The second is conducted with medieval Tripoli stakeholders to understand the nature of the case studies.

6.7 Typology for Heritage Values

6.7.1 Introduction

Even though values are widely understood to be critical to understanding and planning for heritage conservation, little effort has been made to classify heritage values in a clear and efficient typology. Some small efforts have been made to explain and compare existing typologies, and to clarify the philosophy that shaped each of them. Existing typologies for heritage values are proposed in isolation of the role they have to play in selecting appropriate methods, tools and strategies for the assessment of heritage values, and the role they have to play in informing decision-making. As yet no common typology has been proposed for in-depth analysis of heritage values that is able to help when comparing different evaluation methods.

This part clarifies and reviews the issues and choices associated with the development of the typology concept. It then presents some typologies that have been used to categorize things, values and/or relations in other fields. The aim is to highlight the question of

existing typologies in which the concept of categorisation is not obvious, and to discuss the question 'what is the importance of a typology for heritage values in the process of heritage assessment and management, what are the new ways of thinking, and what are the new skills in developing typologies for things, values or relations?' The study emphasises the practical aspects of discussing a typology for heritage values, and provides some principles that can help to shape the development of such typology, arguing that by developing a proper typology for heritage values it is possible to moderate the discussions of how to assess values of heritage, and what tools and methods suit the assessment process.

All of that is conducted for two major targets. The first is to investigate the experts' typologies already in use in the cultural field, and to give a detailed account of these typologies, their weaknesses and strengths. The second is to present the weakness and the strength of the typology proposed by this study for heritage values, and to show how it was evolved from integrating the traditional typologies for heritage values with others that must be imported to serve the role for which a typology for heritage values is constructed.

6.7.2 Typology Concept & Practices

Typology is an old concept, based on 'the study or systematic classification of types that have characteristics or traits in common' (Gilliatt, 2000). It is a way to organize human understanding and prevent obscuring, eroding, mystifying or blotting out some kinds of things, values and relations. It is to generate guidance for selecting analytical methodologies and tools, for informing policies and planning decisions, and for recognizing whose stakeholders are in charge. It is mainly for developing a more effective way of treating the complexity of things, values or relations in a clear, effectively neutral way (De La Torre and Mason, 2000). Aristotle developed a typology that indicates the fundamental divisions among things such as aspects of being, entities or concepts, based on a theory of prediction built around the relation of the nine secondary categories to the four primary ones of substance, quantity, relation and quality. Various other philosophers have engaged in the enterprise of constructing typologies for classifying things, notably the Stoics who provided a list of four categories (substrate, qualified, disposed, relatively disposed). Kant developed a structured list of twelve categories in four groups of three, these groups being modality, relation, quality and quantity. Hegel also proposed a typology of twelve categories of relations, to provide a conceptual account of the organization of the world. There were in addition, much-related typologies of language and metaphysics

pursued in the subsequent tradition. Recently, Roderick Chisholm has revived theory of categories as a central piece of metaphysics, as has Capon in the field of architecture. Capon (1999) suggested a typology for evaluating architecture, and defining its categories based on Western philosophy and architectural theory.

6.7.3 Typology in the Heritage field

Some time ago conservationists, economists, architects, historians and international organizations proposed different typologies for heritage values. Among the conservationists who developed a typology for heritage values were Reigl (memorial values, present day values); Lemaire (use, artistic, historical, and picturesque); and Feilden & Jokilehto (cultural values: identity value, relatively artistic and technical value and rarity values – socio-economic values: economic, functional, educational, social and political values). Among the conservation charters that developed typology for heritage values are the Athens charter (cultural: archaeological, historic, artistic, scientific ethnologic and anthropologic – natural: scientific, conservation, beauty), the Burra charter (aesthetic, historic, scientific and social values) and others. Among the national bodies that have also developed typology for heritage values are English Heritage (historical, architectural) and the US National Park Service (historic, architectural, archaeological, engineering or cultural). Among the conservation institutes who recently worked on values typology is the GCI Conservation Institute (cultural values/culturalists, economic values/economists).

Mason (2002) argues in the name of the GCI that 'While the subjectivity and contingency of heritage values make it difficult to establish a clear framework ...of values (akin to a chemist's elements and compounds), this is precisely what is needed to facilitate the assessment and integration of different heritage values in conservation planning and management'. Mason (2002) added that such typology would facilitate discussion and understanding of the different valuing process at play in heritage conservation. It would help order and organize that knowledge so that research would build on itself, and keep practitioners from having to continually reinvent the wheel.

Not all conservation experts were aware of the importance of a proper typology for heritage values. Many of them arranged the diverse range of heritage values under one category of significance, thus mystifying heritage values or rendering them into secondary position. Even those who proposed typology for heritage values built it based on a limited number of

classification criteria, with a specific set of assumptions, techniques and results. With these criteria the values of heritage were implicitly minimized, mistakenly elevated and in many cases brought into the foreground conflicts between the cultivation of certain values at the expense of others. De La Torre and Mason (2000) gave the example of the Burra Charter typology that minimized economic value by treating it as secondary, and proposing that the people in charge of heritage conservation will logically derive cultural and historical value from it.

Existing typologies for heritage values can be divided into different groups. One group used as criteria for heritage values, the types of heritage resources such as architecture or landscaping (UNESCO, English criteria). A second group thought that differences and similarities in the way values are assessed should form the criteria for values classification (UNESCO, on different occasions classified heritage values into two groups: the tangible, assessed by the naked eye and the intangible, assessed by internal senses). A third group argued that values classification should be based on characteristics derived from a shared evolution, but also on the basis of memorial or present day values (Riegl). A fourth group believed that stakeholders and experts must decide upon the classification. This group includes the GCI Conservation Institute, who grouped heritage values into those assessed by culturalists, or those assessed by economists (De La Torre and Mason, 2000). A fifth group proposed a typology for heritage values that is oriented to conservation practice or types of treatment (Feilden and Jokilehto). A sixth group applied to classifying heritage values a mixture of the criteria listed above. Meanwhile a seventh group did not bother to mention the criteria by which it classified heritage values, and did not even offer examples of the categories it proposed. More often than not the criteria it followed are difficult to recognize, explain and understand.

However, this does not mean that all existing typologies for heritage values are less than comprehensive and balanced. English Heritage (1997b) suggested a typology for heritage values in a paper which is oriented to sustaining the historic environment and to improve the conservation practice. The typology is based on how heritage is used and valued by people other than elites and experts. So did Feilden and Jokilehto (1993), who proposed a typology based on the values that influence treatment. Recently De La Torre and Mason (2000) produced through the GCI report a provisional typology for heritage values, based on the divisions in the very different conceptual frameworks and methodologies used to

articulate them. De La Torre and Mason (2000) considered this typology neither exhaustive nor exclusive, but a point of departure and discussion. They did not claim that this typology would be appropriate for all sites or situations. They were simply attempting to create a common starting point from which a modified typology could be constructed, in a variety of heritage planning situations. In this typology, De La Torre and Mason included the kinds of value most often associated with heritage sites and that shape decision-making in conservation planning and management. They did not assume that every heritage site has every type of value, nor did they suggest that one framework of values speaks equally well for all heritage sites.

Sociocultural Values	Economic Values
Historical	Use (market) value
Cultural/symbolic	Nonuse (nonmarket) values
Social	Existence
Spiritual/religious	Option
Aesthetic	Bequest

Table 6.1: Provisional typology of heritage values as proposed by GCI through De La Torre and Mason

Even the typologies for heritage values that were considered as having promise for the achievement of better understanding and management of heritage did not succeed in clarifying the ambiguity of heritage identification. Most of them did not bother to study the possibility of bringing the existing criteria for grouping heritage values into one, for the best analysis of heritage values. For instance they did not group heritage values based together on conservation motives, types of heritage resources, ways of assessment, kinds of stakeholders and the range of required analysis methods and tools. Even where such grouping was integrated, it was not emphasized properly. It was not supported by an adequate theoretical basis, nor did it include examples to explain how different classification criteria had been defined. For instance, Feilden and Jokilehto (1993) argued that the typology they developed for heritage values was based on treatment methods, but they did not adequately describe what these methods were, the relation of their typology to the stakeholders, or the methods of assessment. While Feilden and Jokilehto did mention some of the assessment methods on which some categories were proposed, (based on

recognition, research and statistics) they failed to list the assessment methods from which the other categories were developed. English Heritage and GCI were also not keen to discuss theoretically each category of heritage values. GCI's report (2000) put together a number of values (historical, cultural/ symbolic, social, spiritual/religious and aesthetic) under one category, which it called the socio-cultural, without supporting it with any appropriate theories such as values and conservation theory. Likewise English Heritage, (1997b) in the report it produced about sustaining the historic environment. It seems clear that those concerned in developing typologies for grouping values need to give more explanation about their typology methods and concepts.

6.7.4 Typologies Methods

Different methods have been suggested for developing a typology, and this study presents two of these. The first is described because it offers recommendations about the requirements of a typology. The second is presented because it offers tools for measuring the efficiency of a typology. The first is gathered from a study prepared by the Central Research Unit (CRU) on behalf of the Development Department of the Scottish Executive, to provide a clear and comprehensive picture of information and communication technology (ICT) initiatives in Social Inclusion Partnerships. This subject seems distant, but the recommendations presented in the study for developing a typology are worth describing. The second is proposed by Fisher, who reviewed a book by Capon about the theory of architecture and went on to suggest a method for measuring typologies.

First Method

Gilliatt et al. (2000) prepared the CRU study, which stated that the task in developing a typology is to identify those characteristics that form a relevant basis on which to allocate individual examples to different types or categories. In this process they identified two stages for creating a typology. The first stage is to classify the types according to their particular combination of objectives and activities (the what? criterion). The second stage is to introduce the client groups at which these different types are targeted (the who? criterion). Applying this process to developing a typology for heritage values means first classifying the values according their types, their importance to the heritage field, their role, the activities required for their assessment, and even those involved in such activity (the

what: objectives and activities). It also requires classification of the values based on the stakeholders at which these different types are targeted (the who?)

Second Method

Fisher (2001) claimed that any candidate typology should offer at least the following four features:

- The range of objects or phenomena grouped or organized by categories, e.g. entities or concepts. This means that when proposing a typology it is important to declare its aim, to show how it organizes human thinking about some particulars, (ideas, theories, etc.) and to generalize on these particulars.

- The conceptual work the categories achieve or import. That means defining the global conceptual ends that the categories identified by the typology are supposed to serve, but going beyond; suggesting that they are the sort of things from which high levels of concepts and principles could be derived.

- The methods applied for deriving the categories. That means materializing or offering methods of picking, discovering or inventing the proper categories.

- The conditions under which the categories are misapplied or inapplicable. Fisher (2001) claimed that this is the true test of significance for any categorical scheme. It explains why an x value could not possibly fall under the category of y values.

Fisher (2001) presented these features for analyzing typology in the context of criticizing Capon's typology for architecture, noting that Capon did not efficiently develop any of these four features. This study argues that Capon attempted, in different parts of his book to emphasize some or most of these features. However the complexity of information he presented makes it difficult to recognize them. That is, indeed, another problem when developing a typology. Methods applied for developing a typology must be brief, clear and simply presented.

6.7.5 Proposed Typology for Heritage Values

The typology proposed by this study did not concern itself at the beginning with classifying heritage values based on 'who?' or 'what?' questions (as proposed by Gilliatt et al., 2000).

The main concern in this study was to classify the values it identified from within the conservation motives into groups based on 'how?' This work is based on a theoretical review of these motives and a review of the movements, philosophers and organizations that shaped them.

This study described the meaning each value and its sub values to justify why they go together under one category, such as the case of the aesthetic value that theoretically involves beauty, sublime and picturesque values. That was also the case with the economic value that theoretically involves use and non-use values, etc.

However the theoretical review of the conservation motives was not the only way to identify and justify the proposed categories of heritage values. This study has also applied four other steps to justify the categorization it proposed. The first step showed how the proposed categories included the range of heritage values identified by conservationists, architects, historians and other individuals. The second step showed that the proposed categories gave the range of heritage values proposed by international charters, conventions and recommendations. In the third step, the study compared the categories it proposed for heritage values with the categories proposed by Capon for architecture. The aim was to show that the categories it proposed gave the range of values for architectural works, and also the range of relations that exist between the architectural elements. The study has offered examples of the values that go under each category. The presented typologies are those suggested by western philosophy and architectural theory. These typologies are gathered from Capon's book, but are presented in a way that brings them together and that simplifies some of the complexity of Capon's book and typology.

In order to understand and justify the proposed categories of heritage values this study returned to the theory related to each category of value, arguing that theory is the first source of knowledge. Theory helps to gather a global view about values. Theory helps with recognizing the variables against which each group of values can be measured. It helps consequently in identifying the methods and tools that exist for assessing heritage values, and for identifying the stakeholders involved in the assessment process. It is also useful to recognize weakness and strength in the methods applied to the assessment of heritage values, and to implement new methods that show promise for the assessment process.

Despite establishing the typology with the 'how?' question, the 'who' and the 'what' questions were there from the outset of the analysis of each heritage value.

Concerning the four features that Fisher (2001) emphasized for measuring any typology, this study argues that these features are covered in the proposed typology.

- The study has identified the range of values grouped or organized by the categories. It has declared the aim of its typology, (classifying the values based on how they can be understood) (Refer to Chapter 3) It has also shown from the theoretical review how the typology organizes thinking about these particular values. All that is followed by a conclusion, to generalize the variables of these values, the kinds of stakeholders, and the approaches that must be involved in the assessment process (Refer to Chapter 4).
- This study has explained not only the methods it applied to selecting, discovering or inventing the proper categories (categories selected on a theoretical basis), but also the methods it used to measure and emphasized those categories (through comparing with CRU and Fisher's measurements of typology)
- The study has explained the differences between categories, and supported that by listing the kinds of value that come under each category (refer to Chapter 3 and Chapter 4). This was an indirect way to outlining the conditions under which the categories are misapplied or inapplicable, and to explain why x could not possibly be under y. However, that does not mean that a heritage resource will have only values that fall into one category. It does not mean either that a heritage resource must necessarily have heritage values that come under all the proposed categories.

However this testing of the proposed typology does not mean that it involves no weakness. This typology deals with the values of the general heritage that might exist within the urban heritage. However it might not necessarily be representative of the categories of specific heritage resource, such as for instance natural heritage or artifacts. Such representation is to be tested.

6.7.6 Conclusion

An appropriate typology for grouping heritage values is needed to simplify the appraisal of heritage resources. However, this is not an easy task. Heritage involves a complex variety of values, methods, tools and stakeholders. Candidate typologies are still unable to deal

with such complexity, and have not succeeded in offering a clear description of the methods they use to develop and test their typologies. This section has reviewed the typology concept, its practices in and outside heritage fields, and the methods proposed to properly develop and measure the diverse range of typologies. All those are used to present the typology proposed by this study in relation to other typologies, and to test it based on typology principles and methods.

This part concludes by showing the strength and weakness of the typology suggested by this study, for heritage values. It also emphasizes the methods required for developing and testing typologies.

6.8 The Cases of Medieval Tripoli

6.8.1 Introduction

This part explains the concept and procedures involved in the testing of the model proposed by this study. It also describes the methods used in the adaptation of the model to the case of Tripoli.

The first section of this part outlines the selection of the case studies and the focus groups. It then explains the pilot study, the observation and the survey methods applied. The second section of this chapter introduces the case studies. The third section describes the sources of information about medieval Tripoli, and the efforts made to adjust them to the proposed appraisal process. Finally, this part discusses the possibility of Tripoli's Municipality being able to adopt the urban appraisal model.

6.8.2 Testing of the Model

It was mentioned earlier that the model proposed by this study could be used to appraise the heritage significance of an urban area, and the heritage significance of its resources. Accordingly, there is a need to divide its testing into two levels. The first level is related to the appraisal of urban areas. The second level is related to the appraisal of urban resources. The case study is the best means of performing such tests. This study selected one case study for testing the reliability of the model at the area level, and two case studies to test its reliability at the resources level. In the second level of testing two case studies were considered instead of one, given the aim of testing the reliability of the model in unifying and comparing two urban resources.

Different techniques were used for the selection and the testing of the case studies:

- The theoretical basis for this selection is mentioned earlier in chapter three. According chapter Three an urban heritage area is agglomeration of different heritage resources and characters
- The historical basis involving checking existing narration, archives, books, etc is introduced in the third part of this chapter with the description of the case studies.

- The practical work involving site visits, observation and interview is introduced in the second part of this chapter with the description of the methods applied to test the reliability of the proposed appraisal model.

Concerning these, the following section will demonstrate that medieval Tripoli, khan al-Saboun and the al-Mansouri Mosque represent critical cases for testing the model proposed by this study. Medieval Tripoli is a living urban area, teeming with different categories of heritage resources and characters. Khan al-saboun is one of the most notable facets of historical Tripoli, still in use today (Beryte, 1996). Al-Mansouri mosque is the largest mosque of Tripoli and Lebanon as well (Tadmouri, 2002).

6.8.3 Focus groups

In addition to the theoretical and historical aspects, this chapter has practical reasons that justify the selection of the case study. The focus groups were of primary importance in this concern. This study involved focus group members in choosing the case studies, and to search for candidates that could democratically represent the stakeholders in the urban area.

- The focus group members were charged to:

- Identify the characteristics of medieval Tripoli, and to investigate its relevance to the specific subject under investigation.

- Nominate candidates that could contribute to the proper appraisal of urban heritage, and democratically represent the urban area stakeholders.

- Select and nominate resources that could be used to test the capacity of the model to compare urban resources in the same categories.

- Test the different stages of the model, its instructions and questionnaires.

The selected members included:

- Researchers, academics or other people who have conducted or published research, books or articles about Tripoli, or who have contributed to such efforts.

- Consultants, contractors or other people who are or have involved in recent development plans in medieval Tripoli.

- Famous architects, planners, conservationists, sociologists or other experts about Tripoli.

- Officers holding official positions in Tripoli such as the mayor, head of planning board and head of the public library.

- Members of local heritage organizations or socio-cultural institutions.

- Members of the public who are active on site.

The members were selected having regard to the following criteria:

- Being able to identify the positive and negative aspects of Tripoli.

- Being able to determine the extent of heritage knowledge in Tripoli, and able to identify the areas of conflict and disagreement within the community.

- Having good contacts with different groups in that society.

- Having good background knowledge about national urban planning and urban conservation systems.

- Having an interested in joining discussion groups.

- Being familiar with the expressions used by the people of the area.

- In selecting the members of this group, a match of other characteristics were considered including race, age, gender and even accent.

- Members were chosen to include different professions, qualifications, etc.

While the focus group members were expected to be interested in joining a discussion group, it proved difficult to bring all the selected members together at one time. It was difficult to agree upon a date and time for the meeting that was acceptable to all the members. The study was obliged to arrange smaller focus group meetings involving 3 or 4 members, instead of 8 or 10.

Appendix IV names the members of the focus group, and shows how they were made known to the researcher for this study.

6.8.4 Pilot study

A pilot study is used to test a model before applying it on a larger scale. Semi-structured, cognitive interviews were used for this pilot. This process involved all the steps described in the methodology chapter. The pilot study was conducted at three different times, and each time the model was corrected to make it easier and more comprehensible. The pilot showed that the members:

- Were answering the questions at different scales of resolution. The first group is involved with the heritage values of the resource at the national scale. The others are concerned respectively with the heritage values of the resource at the regional, national and local scales.

- Were not able to talk about the present values of the resource in isolation from its past and potential ones.

- Were not able to answer some of the questions, simply because they were not expert with all the aspects of the resource and could not afford the time to search the data concerning it.

- Needed some time to understand the model before engaging with it.

- Needed better definition of the expressions used to describe heritage significance, characters, variables and sub variables.

- Needed more examples of resource heritage characters, variables, elements and attributes.

- Needed some time to become fully involved with the model.

Following these findings, the researcher made a number of corrections to the model.

- The default questionnaires of the model were limited to one scale of resolution. This is the local scale. However it is possible to adjust the model for use with the three other scales (international, regional or national).

- Three separate categories were provided for the heritage characters (past, present and potential).

- The consultants and public candidates were required to provide data about the aspect of the resource they were qualified to give.

- The model was provided with more instructions, and definitions of the significance, characters, variables and sub variables of the heritage resources.

- The model was provided with more examples of those heritage characters, variables, elements and attributes.

- A hard copy document was produced, that translates the expressions given by the model into mother language. It would not have been easy for an academic research such as this to develop two versions of the model, one in English and one in Arabic.

- The researcher was required to give those candidates who were not familiar with the computer a quick introduction to its digital process.

6.8.5 Selection of Candidates

After correcting the model, the members of the focus groups were asked to give the names of candidates that could be interviewed. Those names were studied in relation to the kind of stakeholders identified as necessary, in the literature review. This indicates that urban heritage appraisal must involve different kinds of stakeholders, that belong to:

- Different categories of people. Some classes identified by this study were Conservation Officers category, Consultants category and Public category

- Different professions, qualifications, gender, social class, political affiliation.

From the nominated candidates only 19 candidates were interviewed. The others were very busy, abroad, or not interested. Appendix V shows the selected candidates in relation to their personal details.

The interviews with the candidates all began with some general questions, and progressed to more specific ones.

A number of factors affected investigation of the simplicity and usability of the model. These include:

- Interest of the candidate in discovering the urban appraisal model, that was greater than his/her interest in providing the data requested.

- Interest of the candidate in talking directly about the area, which was greater than focusing on giving the data requested by the model.

- Delays due to the time required for explaining the concepts of the model to the candidate, and to provide the necessary technical and theoretical training.

Despite the factors that affected the investigation into the usability of the model, nevertheless it proved its value for the appraisal of urban heritage. The model produced a range of significant information about the heritage significance of medieval Tripoli. The information it produced includes the significant characters of its heritage, the variables of those characters and their sub variables. This information also involved the rate of its heritage significance, the rate of each character, variable and sub variable. The model also identified the elements and attributes that give the heritage characters of Tripoli their significance. The advantage of this information is that it is all tabular, and can be spatially presented and analyzed (refer to chapter 9).

6.8.6 Observation and the Transect Walk

To recognise the character of Tripoli, to identify the members of the focus groups and to be able to discuss it with these members, this study has visited medieval Tripoli many times at different days and hours. Every time the research of this study used different directions and stopped to talk to different people. In some of these visits, members of the pre-selected focus groups are accompanied. Generally, these visits were observational and they have used most of the techniques mentioned in the methodology chapter.

6.8.7 Historical Studies

6.8.7.1 *Introduction*

Lebanon enjoys a rich cultural legacy inherited from past civilizations with five World Heritage Sites designated by UNESCO (Figure 6.2). However, most of its internationally renowned historic sites are situated in densely populated urban areas, which are typically exposed to the pressures of modern development and post-war reconstruction. The development pressure is compounded by the fact that local governments lack the resources

and mechanisms to preserve and manage these sites. As a result, the historic and archaeological sites are suffering from physical and environmental degradation, with local municipalities and residents reaping little economic benefits that come with a thriving tourism industry (Juma, 2003).



Figure 6.2: Five World Heritage Sites in Lebanon

(Baalbeck (a), Byblos (b), Anjar (c), Tyre(d) and Quadisha valley (e)

(Photos gathered from photosLangran.com and and Pbase.com)

The World Bank today approved a loan to the Government of Lebanon to create the conditions for increased local economic development and enhanced quality of life in the historic centres of five main secondary cities, and improve the conservation and management of Lebanon's built cultural heritage. The proposed Cultural Heritage and Urban Development project (CHUD) will extend technical assistance and targeted investments in the cities of Baalbeck, Byblos, Saida, Tripoli and Tyre where signs of damage, decay, poverty and economic stagnation from the civil war are still visible (Juma, 2003). The project also received co-financing from Agence Française de Développement, the Government of France, Government of Italy and the Government of Japan. UNESCO supported the project from its inception, providing scientific oversight for all cultural heritage studies and activities.

The major component of CHUD is to rehabilitate historic city centres and improve urban infrastructure in and around old towns with the involvement of the private sector. CHUD is also to provide technical assistance to help municipalities to effectively revitalize and manage historic urban cores and sites and ensure their upkeep and productive use for the

benefit of local residents. Council Genėral de Reconstruction CDR (2004) notes that the World Bank project in Tripoli involves urban rehabilitation and/or construction of:

- Facades in the old Souq of the historic city;
- Public spaces rehabilitation in the old town;
- Historic monuments (Khan AL Askar, Khan & Hammam),
- Abou Ali River public spaces and around the Citadel;
- On-street parking and meters in the old town;
- Lot (Parcel) 131 rehabilitation; and
- Listed houses.



Figure 6.3: Historic centers of Sidon & Tripoli

The historic centers of Sidon (a) & the historic centers of Tripoli (b)

(Photos gathered from Tripoli-city.org and Pbase.com)

Despite being non-world heritage sites, Sidon and Tripoli are as shown receiving a conservation interest that is equal to the world heritage ones (Figure 6.3). In the Tripoli case, the reason is related to the strong belief that the Mamluk city will become the fifth site in Lebanon to be listed by (UNESCO). Such believe is brought with Nashabe, who also represents Lebanon on UNESCO's executive board (Doughty, 2000).

6.8.7.2 *City of Tripoli*

Tripoli (Trablous), Tripoli is located on a rock the western side of which is washed by the sea and the eastern side lies under the shadows of the Cedar Mountains Tripoli is overlooked, from the northeastern side, by the round-shaped "Leopards" mountain (Figure 6.4). The eastern part of Tripoli is divided into two parts by "Abu Ali" that flow out from the "Gardens' Spring" in the sacred canyon of "Qadisha. Tripoli is at a distance of 85 km

from the capital Beirut and is only 40 km away from the Syrian borders. Tripoli has a population of about 500'000 and it is administratively divided into two parts: El-Mina (the port area) and the ancient city. It is the main port and trading centre for northern part of Lebanon.



Figure 6.4: Map and aerial view of Tripoli

(Photos gathered from Tripoli-city.org)

6.8.7.3 *Historical Development*

Tripoli can reflect on a long history, as one of the oldest towns of the Mediterranean coast. Tripoli was founded by the Phoenicians, who made it their administrative centre and seat of government (800- 358-century B.C.). The town remained important under Persian (358 B.C. - 351), Greek (351-64 B.C.), Roman (64- 63B.C), and Byzantine administrations.

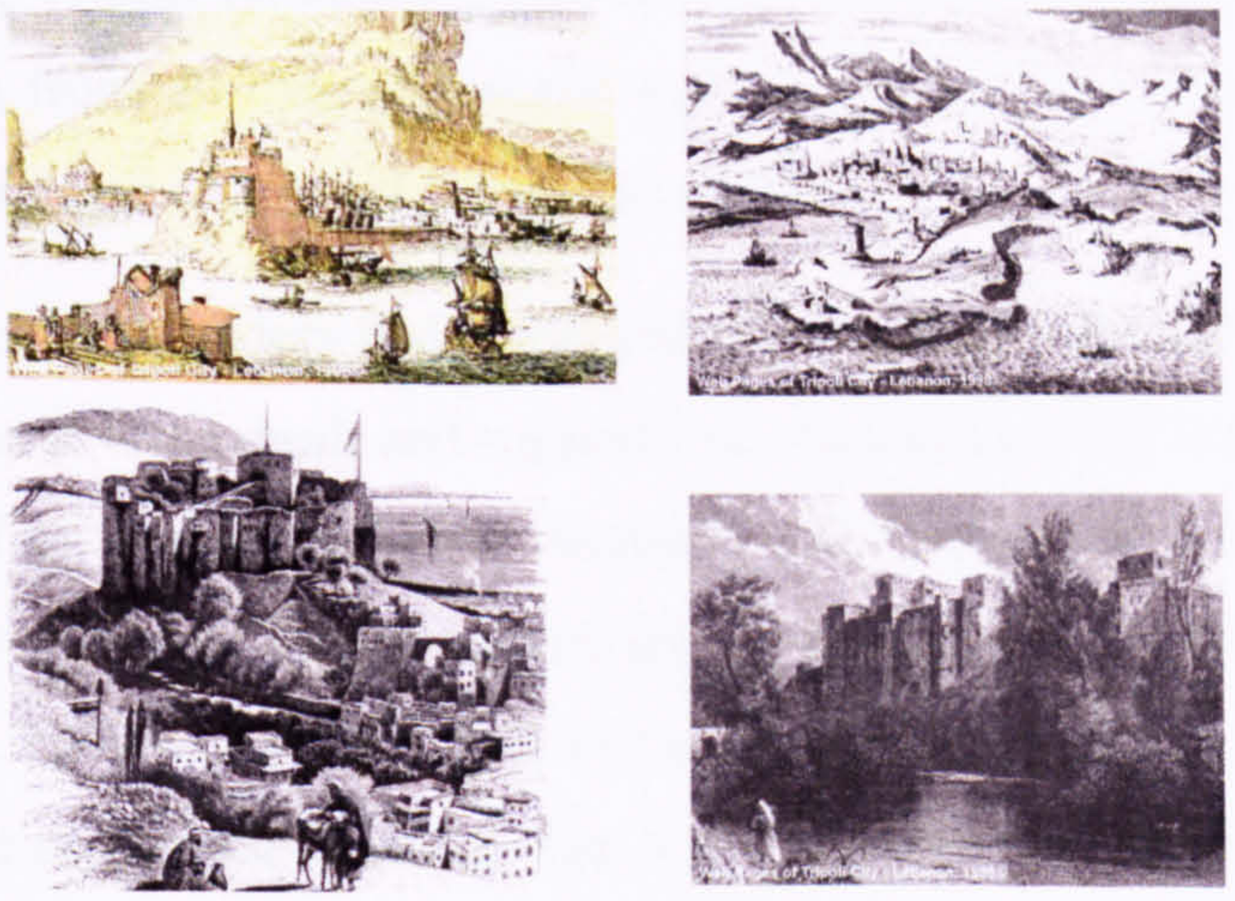


Figure 6.5: Drawings from the past showing how Tripoli once was

(Photos gathered from Tripoli-city.org)

The Greeks made it an important ship building centre for Alexander the Great's army, and the Hellenistic regime gave the town its independence and permission it to mint its own coin (112 B.C.). The Romans allowed Tripoli to govern a large territory. Its prosperity was sufficient to allow it to support the construction of some major buildings, including a number of temples (Leibich, 1983; Tadmouri, 2002).



Figure 6.6: Fatimids' octagonal mausoleum of Tripoli castle that illustrates its Arabic origin. (Photos gathered from Tripoli-city.org)

Falling under Muslim dominance by the year 635, Tripoli flourished under the Ummayyads (661-750), Abbasids (750-973), and Fatimids (937-1070). The Umayyad Galiph, al Walid rebuilt and re-fortified the city. The Fatimids ordered the constructions of several monuments in the area where medieval Tripoli now exist. They built the Soufian's fort then they built a small mosque (Mashad) in it (Figure 6.6). The Fatimid also, built a Khan (Kisaria) on the eastern side of Tripoli's river besides, many other Fatimid milestones were raised, however, their features disappeared with time (Tadmouri, 2002). And by the time of Abbasid and Fatimids both travellers and chroniclers testified to its beauty, wealth and wonderful harbour (Geographers: Ahmad Ibn Abi Ya'qŭb al-Ya'qŭbi in the year A.H. 278 (891), Iṣtakhri in the mid-tenth century, and NăşIR-I-Khusraw in 1047).

During the Fatimid period the local Kadi, Ibn Ammar declared independence for Tripoli. Under Ibn Ammar Tripoli remained a rich and prosperous port and an intellectual centre, attracting scholars from all over the world with its university, schools and library, which was said to have boasted a hundred thousand volumes.

By the year 1109, the crusaders had destroyed all this. The city had resisted the crusaders for seven years, but it was rebuilt and regained its commercial and scientific role. It boasted a large number of oil presses and four thousand silk looms, and public buildings. During the Crusader's occupation of Tripoli, which lasted 180 years (502-688 H)/ (AD 1109-1289), they built the fort, known as Saint Gilles fort at the place of Sufyan's fort (Figure 6.7). The Crusaders also put up several constructions at the northern and western bottoms of the fort so a small Latin Street emerged (Tadmouri, 2002).



Figure 6.7: Castle of Tripoli

Tripoli Castle has been renovated and changed many times during its history. Originally, it is a Fatimid construction converted to Crusaders structures in the 12th-13th centuries. The castle is expanded by the Mamluk in the 14th century then by the Ottomans in the 16th century

(Photos gathered from Tripoli-city.org)

During the year 1289, the Mamluk invaded Tripoli and moved it inland to provide better protection and defences against future attack from the sea. The new town, according to the geographer Dimashqi, (1300) was built on a spur of the Lebanese mountain range inland from the old town, on the bank of the Qadisha River just above the point where it flows into the sea. This provided a site, partly level and partly on a mountainside, which had the advantages of proximity to both sea and countryside. Mamluk started building the new city; they used sculptured stones from the ruins that were brought from the old demolished coastal buildings of both the Crusaders and Fatimids. These stones were originally cut from the solid sandy rocks of the seaside. Mamluks also used the granite pillars, brought since ages from the Egyptians, Romans and Crusaders, as erected supports and to give more strength to many different constructions, many of which still do exist nowadays in buildings such as Tahhan mosque, Houjayjieh madrassah, Al-Mansouri mosque, etc (Figure 6.8). Under Mamluk dominance Tripoli, become one of the six kingdoms established in Syria (Tadmouri, 2002).



Figure 6.8: Al-Tahhan mosque (a & b) and Houjayjieh School madrassah (c).
(Photos gathered from Tripoli-city.org)

Descriptions of Tripoli in the fourteenth century often comment both on its rate of growth, and on the speed with which the city was constructed. Travellers spoke of its numerous mosques and madrasahs, its beautiful markets and luxurious baths, and its construction of whitewashed stone. However, what most impressed everyone who visited the city was the water system. Running water was supplied to every house. Water reached the tops of houses several stories high. Equally impressive were the gardens, with many trees and orchards producing all kinds of fruit. There is hardly a house in the town that does not have a number of trees.

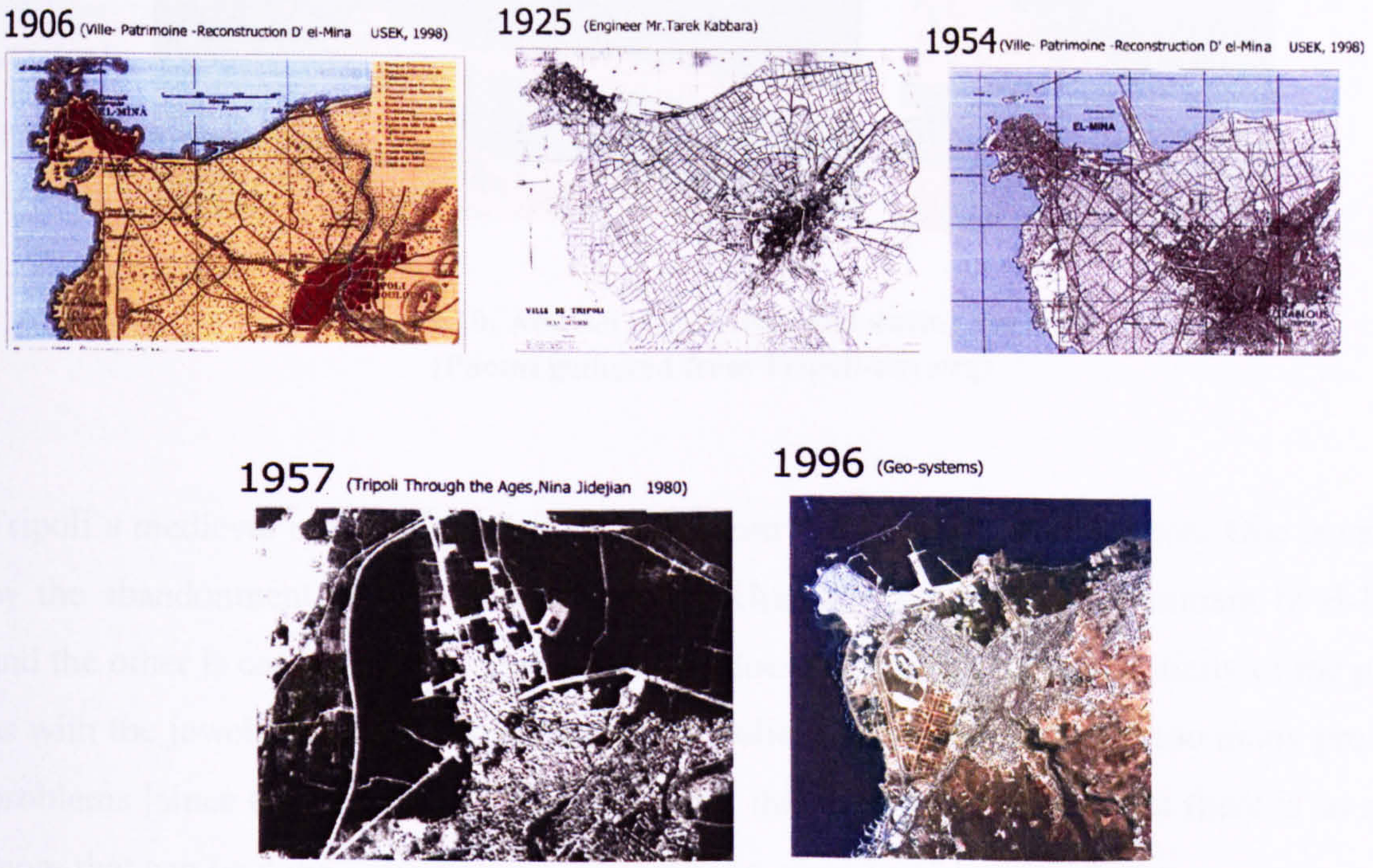


Figure 6.9: Expansion of Tripoli during the last hundred years
(Photos gathered from Archnet.com as published by American University of Beirut)

During the Ottoman rule (1516 - 1919), Tripoli remained a major commercial and trading centre. The Ottomans raised its status to being the provincial capital but later it began to lose ground, as fighting among the Ottoman pashas weakened trading and commercial systems. Eventually Tripoli gave way to Beirut as an administrative centre. From the Egyptian period (under Ibrahim Pasha, c1830), under British and Free French dominance (during World War II) then as the independent Republic of Lebanon (in 1946), Tripoli gradually became the second most important city in Lebanon.

In 1955, a flood destroyed the river's two embankments and swept away buildings along both banks in the process, including several Mamluk monuments (Figure 6.10). During the war of the 1970s, unauthorised and uncontrolled buildings sprang up in the historic city centre, and indeed on the country's entire heritage stock. Management plans that followed omitted any input from the heritage conservation specialism. Land speculation only exacerbated the exploitation, and resulted in disfiguring both urban and semi-urban areas.

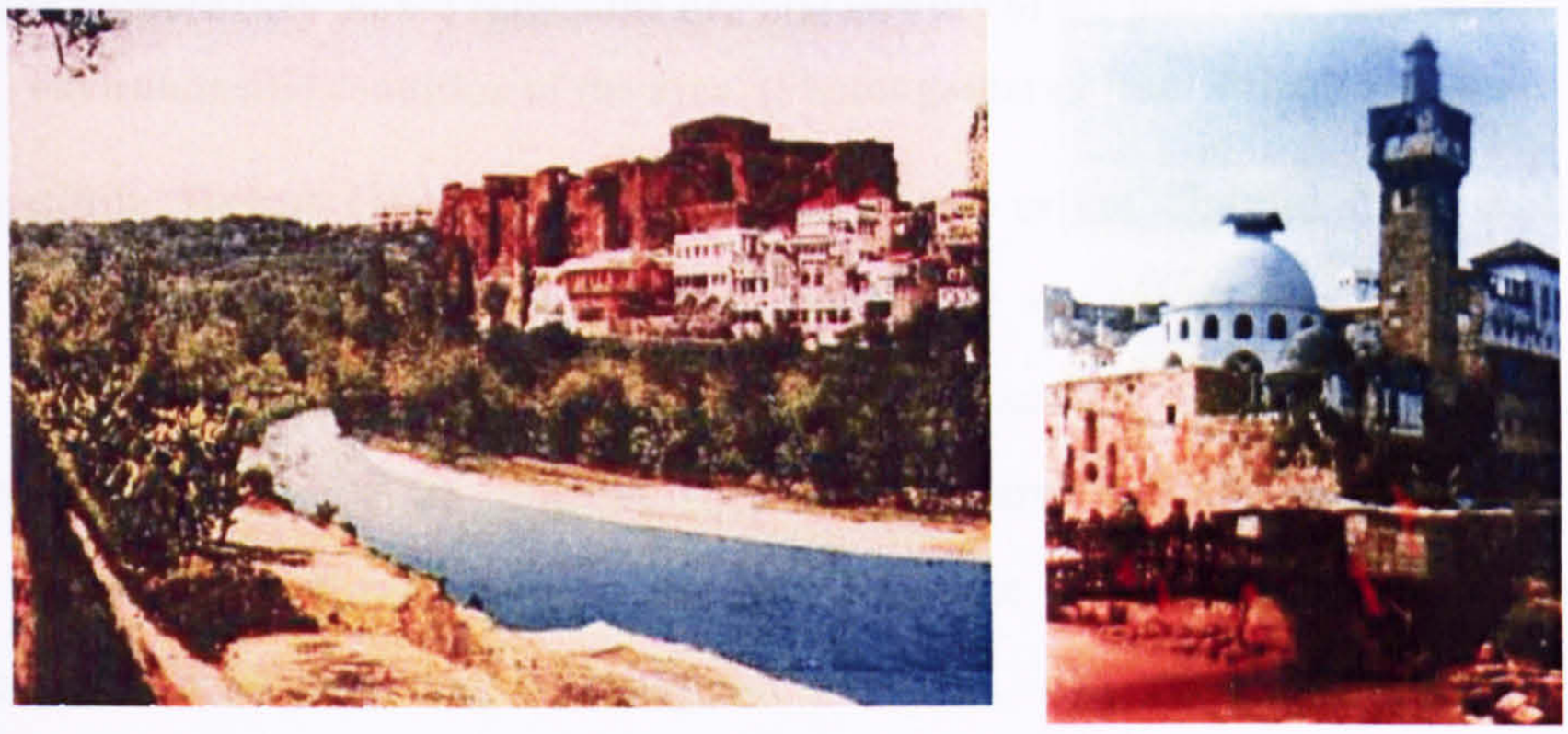


Figure 6.10: Abu Ali river before and during the flood
(Photos gathered from Tripoli-city.org)

Tripoli's medieval urban fabric suffers daily from two forms of degradation. One is caused by the abandonment of monuments, as with Khan el-Massryin and Hammam Iz el-Dine, and the other is caused by bad restoration that does not respect the authenticity of the place, as with the jewellers' souq. People in Tripoli believe that even there are too many pressing problems [since the end of the Lebanese civil], this is understandable, but there is so much more that can be done - excavations, restorations, even just cleaning things.

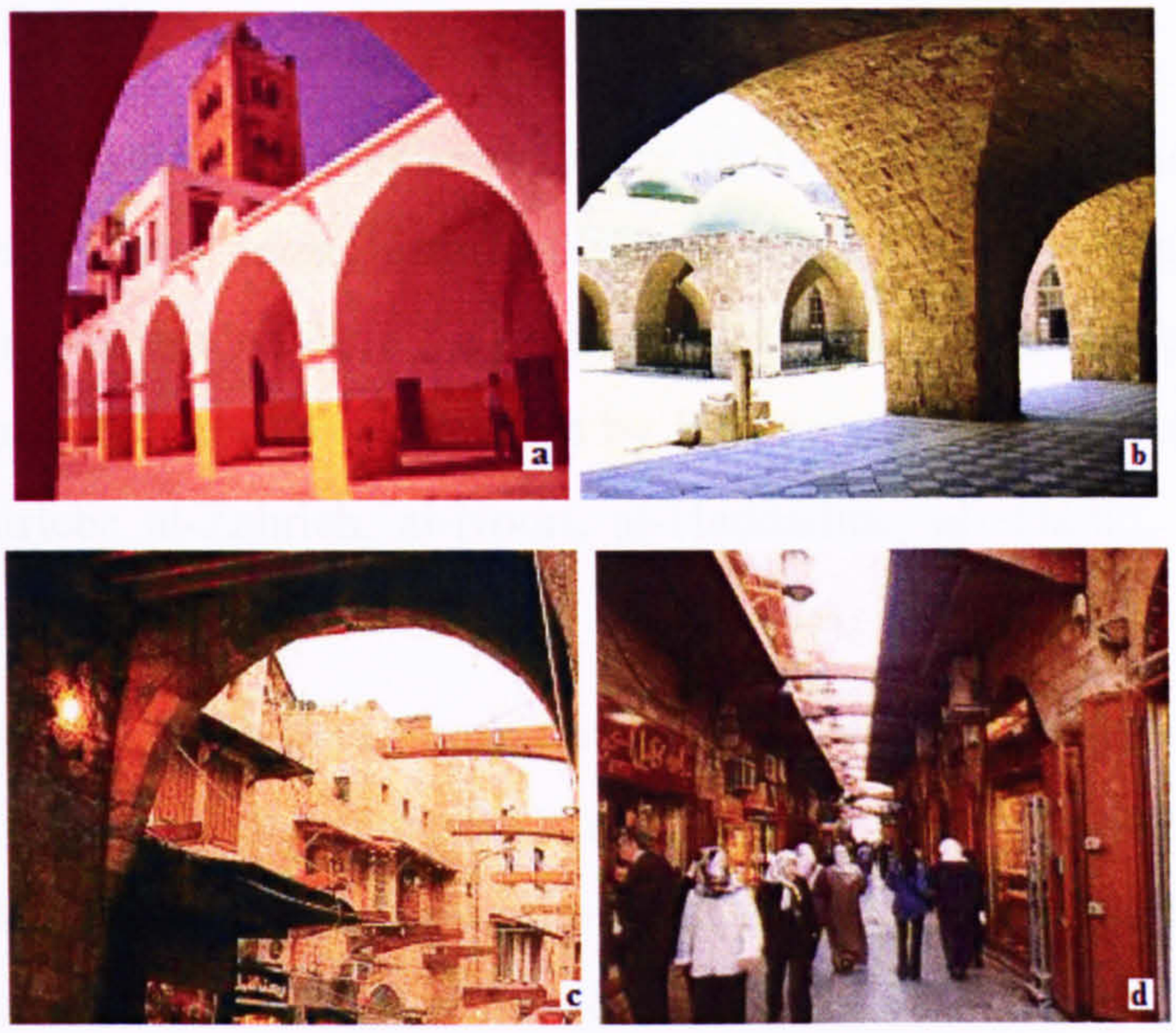


Figure 6.11: Renovation of al Mansouri mosque and souk al Sagha

Al-Mansouri mosque before (a) and after (b) the last renovation and Souk Al Sagha during (d) and after (e) the renovation. These renovation plans are considered by some of the focus groups members inappropriate because they do not reflect the original identity of the place and they do not respect the environmental condition of the area. (Photos gathered from Tripoli-city.org)

Oriental Institute Beirut OIB (2001) says that rapid urban change in Tripoli makes it imperative to take stock of local architecture, otherwise as vast parts of the old town centre disappear, both significant cultural heritage and research opportunities will be lost. Unfortunately, the absence of interest, the lack of care, and the ever-present time and economic factors have contributed to the loss of some of its beauty. Limestone facades have suffered from weathering and neglect and this, too, requires a conservation and maintenance programme (Al-Radi, 1996).

The majority of ancient buildings left to Tripoli were destroyed. Nevertheless, the remainder heritage resources are worth looking at. It deserves a great deal of attention and interest, having been a cradle of civilization during the different ages. The focus group states that for these reasons, Tripoli must be at the top of the list for renovation and cultural preservation. They add that if the same judicious planning evident in Byblos were applied to Tripoli, it could be revived to a level of grandeur befitting the capital of northern Lebanon. The focus groups members have agreed to choose Al-Mansouri mosque and Khan Al-khayyatin as two case studes for testing the reliability of the model, arguing that the two buildings address different historical periods, function and characters and the two of them are very well known by all the members of the focus groups.

6.8.7.4 *Medieval Tripoli*

At the heart of Tripoli lies the Medieval Centre of Tripoli that is considered by far the Lebanese city centre with most historical monuments, with 164 registered buildings. Medieval Tripoli is surrounded from the north by al Tebaneeh, the western part by al Tall, from the east by al kubah and from the south by Basatin and zaytoun Tarablus. It involves the following districts: al-Zahrieh, al-Nouri, al-Haddadine, al- Hadid, al-Suiqah and al-Muhaitrah (Figure 6.12 & Figure 6.13)

Tripoli has flourished through the centuries until the present time. It has a rich history that goes back at least to the eighth century B.C., and through which it has evolved into a living museum that encloses a unique and rare mixture of Roman, Byzantine, Fatimid, Crusades, Mamluk, and Ottoman monuments (Leibich, 1983).

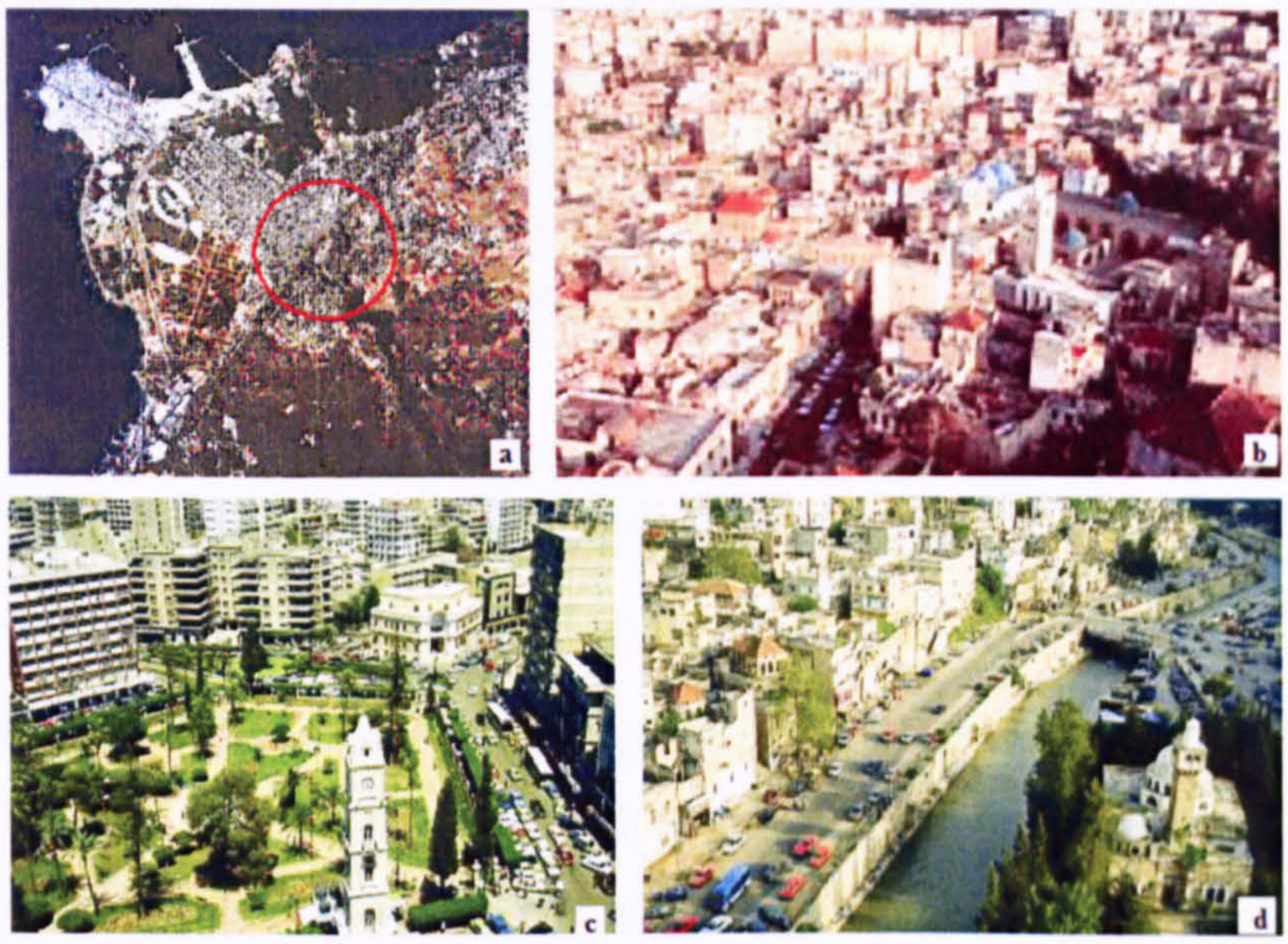


Figure 6.12: Different views of Medieval Tripoli

An aerial view of medieval Tripoli (a) - An east view from Abu Ali River and Al-Burtassi (c) - A west view from Manshiyah Park and the Ottoman Clock Tower (d) – A view of Medieval Tripoli from Al-Masouri Mosque. (Photos gathered from Tripoli-city.org)

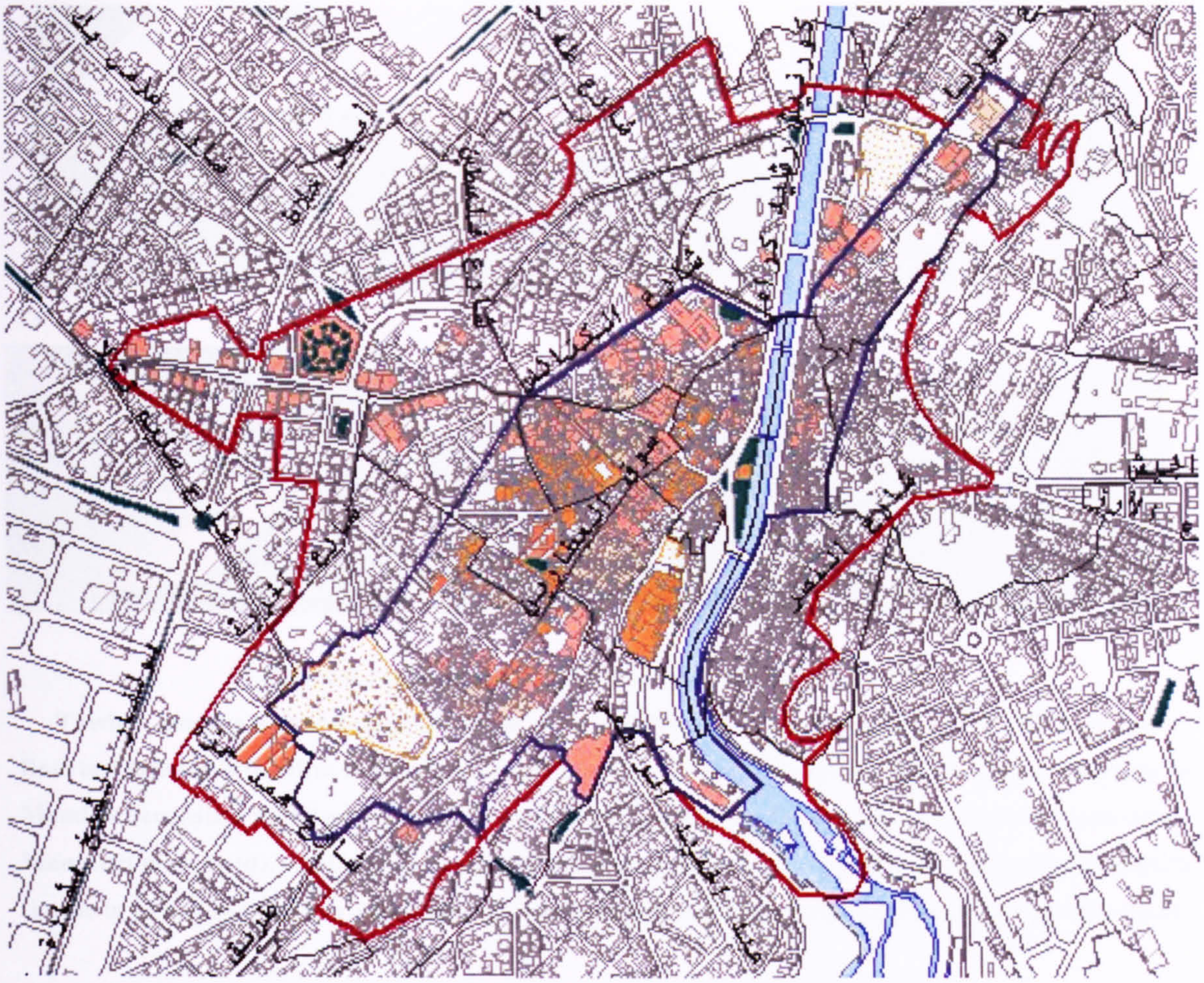


Figure 6.13: Boundary of Medieval Tripoli

(Map-viewer gathered from the municipality of Tripoli)

The medieval centre of Tripoli counts among the most important historical cultural monuments in the Middle East. It is the town with the most Mamluk monuments in bilad al sham (Oriental Institute Beirut OIB, 2003). It is also the sole depository of Mamluk art and architectural treasures in Lebanon. Tripoli comes second only to the Mamluk area of Cairo, because of the monuments it contains (Tadmouri, 2002). Numerous mosques, schools, baths, caravanserais and bazaars are among the most prominent representations of their kind. OIB (2003) claims that seen from the viewpoint of art historians, the extraordinary buildings of Mamluk and Ottoman origin also represent important records of Middle Eastern history (Figure 6.14)

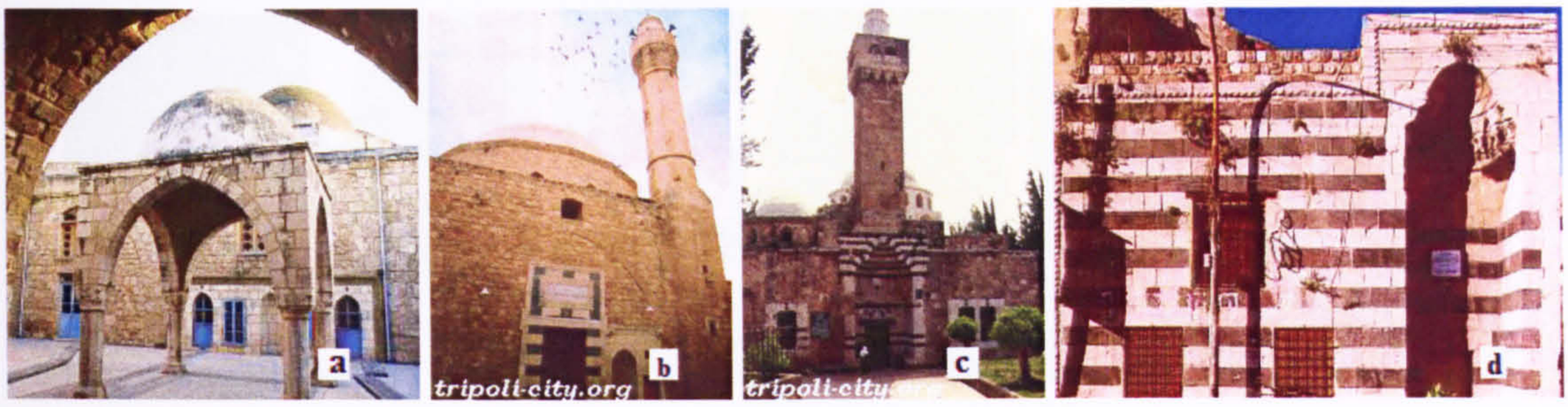


Figure 6.14: Some Mamluk & Ottoman buildings in Tripoli

Tawbah mosque is containing both Mameluke and Ottoman panels (a). Owaysiyah Mosque (b). Bourtasi mosque is the first in the city to make use of what are now regarded as the major elements of Mamluk decorative architecture (c). Nasiriyah Madrassah is standing opposite to the main gate of the Mansouri mosque (d). Al Hammam Al-Jadid (e). Iskandari House is considered as the oldest Mamluk house in Lebanon (f). Khan Al-Saboun (j). (Photos gathered from Tripoli-city.org and Aramco.com)

Medieval Tripoli was a trade market of the Mamluk Kingdom, and it is still the market centre of North Lebanon. It is teeming with markets specializing in gold, vegetables, perfumes, spices, nutritive products, shoes, clothes, leather goods, furniture, cupric materials and many others (Figure 6.15 and Figure 6.16). From this market, lead alleys into various quarters, intersecting with the diverse heritage resources that occupy the area.



Figure 6.15: Material culture of medieval Tripoli's markets

(Photos gathered from Tripoli-city.org and Pbase.com)



Figure 6.16: Souks of Medieval Tripoli
(Photos gathered from Tripoli-city.org and Pbase.com)

Medieval Tripoli covers a distance of 2 km from North to South, and 1.5 km from East to West (Tadmouri, 2002). The heritage resources include mosques; madrassah (theological schools), old baths and caravanserais, these being some of the most significant examples of their kind. The Izz al-dĭn bath, and the suq al Khayyatin and hamam al Jadid can easily compete with contemporaneous architecture in Cairo, Damascus or Aleppo (OIB, 2003).



Figure 6.17: Hammam Al Jadid (a), Hammam Izz al-Din (b) and Khan Al Khayyatin (c)

Hammam Izz al-Din first hammam built in Mamluk Tripoli and the largest and most important hammam in the city. (Photos gathered from Tripoli-city.org and Aramco.com)

6.8.7.5 *Al Mansouri Mosque*

The Mansouri is the best known of the city's mosques. It is largest and oldest Mamluk mosque in Lebanon. It was erected to the order of Sultan Ashraf Khalil Bin Qalawoon, by the architect Salem Sahyouni Ben Nasser din Aajami (tadmouri, 2002; Leibich, 1983). The mosque like all big mosques of Islamic cities is theoretically both a place of worship as well as a political forum. The Mosque occupies an area of about 50 by 60 metres in the middle of the city, in the al Nouri district. As well as the residential Mamluk buildings,

hamams and khans, the mosque is surrounded by a number of Mamluk madrasah (Al Mashad, Al Shamsiyah, Al Nasiriyah, Al Khayriyah Hassan, Qurtawiyah).

The jewelry market was built near the northern main gate of the mosque. At the same time, and at the eastern side of the mosque, the perfumers market, to which two other gates of the mosque can be opened, was built. The fourth gate, however, opens to the west, where was one day the nice smell of orange and lemon. Not far away from the mosque, stands the Nouri bath (Tadmouri, 2002)

The mosque does not have an elaborate facade, but is readily identified from the outside by its minaret and its main gate. This gate and minaret probably belong to an earlier Christian structure, being incorporated into the mosque when it was built, but the building's courtyard, arcades, fountain and prayer hall make it essentially a Mamluk creation.



Figure 6.18: Al Mansouri mosque

(Photos gathered from Tripoli-city.org and Pbase.com)

6.8.7.6 *Khan Al Saboun*

The Khan as-Saboun (Soap Khan) was built at the beginning of the seventeenth century by Yusuf al-Saifi, pasha of Tripoli. Originally, it was intended to serve as a military barracks to garrison Ottoman troops, and it was built in the centre of the city to enable the pasha to control any uprising. It is a large, imposing rectangular structure, with two-storey arcaded corridors running around a fountain courtyard. The outer walls have a number of loopholes and arrow slits for defensive purposes. In front of the building is an arched portal, flanked by stone benches for the pasha's guards. A white marble plaque commemorates the building (Tadmouri, 2002).

6.8.8 Source of Data about Tripoli

Different sources are used by this study to obtain the information needed by model about Tripoli. The spatial information was gathered from different sources. The main sources of this information are the archive centre in medieval Tripoli, and the local Municipality. This information was obtained in digital and hard copies. The most significant elements of this information are:

- The digital map developed by the Map Company.
- The digital maps developed by the Dabbes survey.

These two maps were obtained from the Municipality of Tripoli.

The map developed by Maps Company includes information on medieval Tripoli's buildings, roads, parking spaces, landscapes, lighting spots, contours.

The map developed by Dabbes includes information on the lots and roads of medieval Tripoli.

Much effort was required to correct the first map and transfer it to GIS. The researcher had to transfer the whole map from 3D to 2D, and had to identify the correct boundaries of each building, road, garden, etc. The researcher then had to alter those boundaries into the appropriate form required by GIS (points, lines, polygons).

The work needed to correct the second map was less than that for the first one, however the critical part was to combine these two maps into one. It was very difficult to get the information required from the two maps, because they had different scales of resolution.

Apart from these principal sources of information, the researcher used many more. These included:

- Hard copy maps of Tripoli, obtained from the urban planning directory.
- Online maps of Tripoli obtained from online atlases.
- Online maps of the World obtained from Esri.

- Hard copy plans of buildings obtained from the real estate directory.
- Digital plans and elevations of buildings obtained from the archive centre in medieval Tripoli, more precisely from surveys undertaken by students of the Lebanese and American universities.
- Hard copy building plans taken from the MPhil. thesis by Dr. Ibrahim Tahoun.

These sources were used to identify the location or boundaries of the country and the city, the boundaries of its districts, units and buildings. This process was a little protracted, as the researcher first had to trace the requisite hard copy plans. The digital copies required a great deal of editing to fix the symbolized forms (points, lines, and polygons) required for the spatial analysis.

When this information was collected, no better digital information was available from the Municipality of Tripoli. Now there is no need for all this effort, as the Municipality has produced accurate GIS layers for the city. The only problems that a researcher might face are:

- Access to these GIS layers.
- Development of units layers and irregular buildings layers.

The Municipality of Tripoli is in fact ready to adopt the model proposed by the researcher in this study. The Municipality has most of the spatial layers needed to adopt this model, and also most of the a-spatial information. However it will need some significant effort to organize the a-spatial information in the way proposed by the model. Once it has done so, the Municipality will be able to use that data not just for the benefit of urban heritage appraisal but also for a great many research and intervention decisions.

Concerning a-spatial information that might be useful in the appraisal of medieval Tripoli, it is worth listing the following:

Information that exists in the national census department, in the planning department, in CDR, in the department of antiquities, and those gathered by research and academic studies such as :

- The thesis by Dr. Afyouni and Dr.Tahoun, more precisely the survey conducted by Dr. Afyouni in the 1970s and the survey undertaken by Dr. Tahoun.
- The excavation work by Dr. Sarkis.
- The research and survey conducted by the Lebanese university, (school of Sociology) and those conducted by Beirut Arab University.
- The Municipality is also about to record information from people belonging to the contemporary generation, about Tripoli before the Abu Ali flood.
- The Municipality is charged to check the originality of all the information gathered about Tripoli, before using it in the proposed model.

Tripoli will not encounter problems in encouraging a large number of candidates to participate in the appraisal of medieval Tripoli, using the model proposed in this study. All the stakeholders in Tripoli are aware of their heritage, and care about it. In this researcher's experience, they are all keen to be involved in future decisions about conservation.

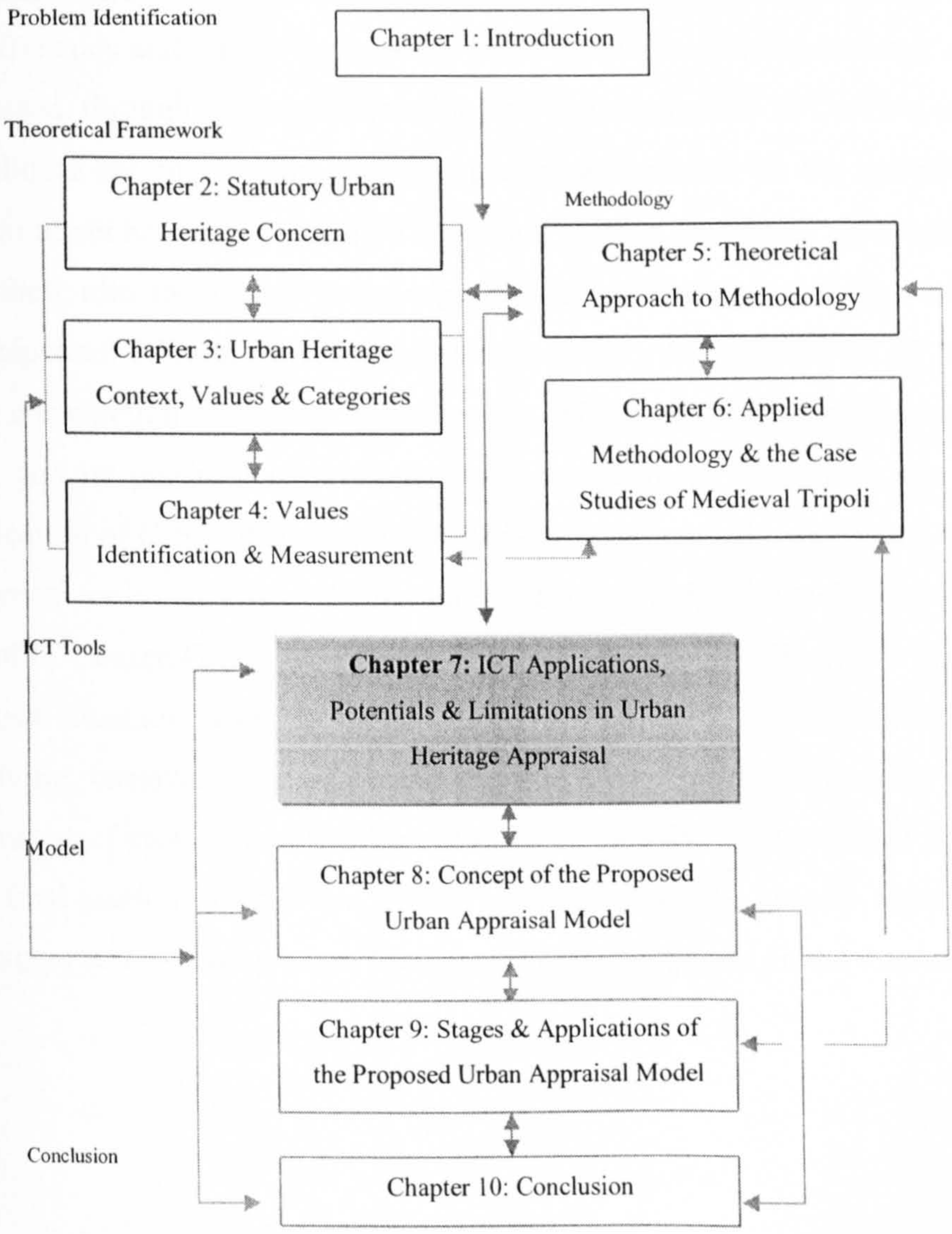
6.9 Conclusion

This chapter provides an overview of the methodology applied by this thesis. It starts with the methods of justifying the core hypothesis, and then introduces the logical context within which the questions of the thesis are considered. This is followed by a description of the methods applied to answer each question.

This chapter lists the issues that underlie the selection of methods suitable for the assessment of urban heritage values. It offers a detailed justification for these various values, then justifies the use of the model in research exploring the proposed appraisal theory. It suggests that the proposed model for the appraisal of urban areas can be tested through case studies. It explains the method of adapting the model to the case of Tripoli and its heritage resources, involving the selection of the case studies, focus groups, pilot study and observation. This chapter shows that despite various constraints, the proposed methods and model are flexible and applicable to the case of Tripoli. The chapter also

shows that the case studies are relevant to the proposed testing. Finally the chapter demonstrates that information resources in Tripoli are diverse, and the people of Tripoli are concerned with attempts to conserve heritage resources such as theirs. Tripoli's Municipality can easily adopt the urban appraisal model proposed by this study.

ICT Applications, Potentials & Limitations in Urban Heritage Appraisal



7. ICT Applications, Potentials and Limitations for Urban Heritage Appraisals

7.1 Introduction

The need for adequate information communication and technology ICT resources is a common thread running through various issues relating to the conservation of urban heritage. Neither the planning process nor the wider objectives of local authority conservation policies can be served well without adequate ICT support, and good quality information. ICTs are being promoted widely at all levels of urban planning and for most of its functions. However in urban heritage appraisal, the use of ICTs has not yet come to full fruition. The problem lies in a wide array of factors. This chapter addresses the factors that influence the use of ICTs in the urban heritage appraisal process. This chapter explains how the efficiency and effectiveness of the current process of urban heritage evaluation could be increased, through the implementation and use of planned ICTs. This chapter is organised as follows: the first section provides a critical overview on the importance of ICT based GIS to urban heritage appraisal. The second section introduces the recent advances in ICTs and their role in sharing knowledge, managing decision-making and increasing public participation. ICTs are discussed not only from a technical point of view, but also from their contribution to heritage management. The third section gives a detailed overview of GIS, and its potential in urban heritage management. Examples are provided from the application of GIS in different fields. This is accompanied by a review of the GIS methods, analytical tools and software. The third section investigates the difficulties affecting the full use of ICT based GIS in the heritage management process. Examples are provided from the English situation, with recommendations in relation to heritage recording, documenting, archiving, retrieving, accessing and sharing. These recommendations are intended to find the means of providing both efficient and interoperable Geographical Information Systems. The final section outlines the lessons gathered from the chapter about effective ICTs for managing and assessing urban heritage, with the emphasis on the role of GIS in this regard.

7.2 Critical Overview

The glance through heritage theories, charters and statutory programmes made in the theoretical chapters, reveals that urban heritage areas are conserved for many reasons including aesthetic, cultural, historical, scientific and socio-economic ones. This is justified by the existence of diverse heritage resources within the urban area, ranking from archaeology, landscape, and architectural heritage to the heritage of everyday life. However, conservation inventories, do not appraise the urban heritage areas from within such multiple values. The problem is not only related to the use of older criteria for heritage designation that do not conform to the current view of heritage conservation, the unclear recognition of the variables against which such values could be measured and the subjective methods used in investigating urban heritage areas values. The problem is also related to the poor awareness of modern tools that could be applied in conducting analysis at spatial and temporal levels and in structuring heritage data. This problem is increased by the lack of poor understanding of modern recording tools and the absence of obligations concerning the quality, range or quantity of specialist skills required for decision-making affecting the urban heritage areas. The coming sections of this chapter show that in English local authorities, the staff who undertakes historic environment conservation may be qualified or unqualified. Their number can range from a single officer in a unitary or district authority to a multi-disciplinary team in a large county or lead authority, or be composed of retained consultancies.

Darvil & Mathers (1997) state the complexities of heritage management seem to have frequently outpaced both conservation officers' imagination and methodological tools. While varying degrees of idiosyncratic, ad hoc and implicit assessment strategies continue to be commonplace in the day-to-day practice of heritage management, theoretical models and operational examples of best practice continue to be rare. In fact, different technological tools can serve the analysis requirements of heritage. At the top of these tools is GIS. GIS is used effectively in different fields, especially those that have a common analysis target with urban heritage areas such as planning, archaeology and sociology. GIS is implemented in the cultural resources management context, where archaeological site locations are predicted using statistical models based on previously identified site locations (Ford and ElKadi, 1999). It is also used to simulate diachronic changes in past landscapes and to produce intra-site analysis (Boehler, 2001). Its 3D techniques are used for landscape documentations and visualizations. Such techniques are also introduced to create lost

objects from the past, and to evaluate new buildings for example within the old town area in Edinburgh (Thompson, 1997). Within the urban sphere, GIS is also used to support planning, inventory, design, construction, operation, maintenance and aspects of engineering, administration and finance. For instance it was used by Napier in 1994, for analyzing large architectural and socio-economic housing databases, by reducing the house plans to diagrams following the methods of Grason, March and Steadman. In the sociological area it is applied to analyze spatial clusters, ranging from the clustering of crime and disease incidence to the location of problematic mortgage areas in urban neighborhoods, to the assessment of spatial equity and the evolution of trading (US National Science Foundation NSF). In transportation it is implemented for information processing on highway networks, transport models, public transport and transport data metrics. GIS is also used to manage complex power, drainage & telecom infrastructures and to manage forest and coastal resources including shorelines, aquatic and terrestrial habitats and biological resources. The endless list of application areas for GIS suggests that it can be a promising tool for urban heritage areas appraisal and management. However the problem with it lies in in conservation officers acquiring sufficient knowledge about recent ICT tools and techniques that are applied for heritage recording, documenting and analysis. The problem also exists in the information flows (refer to 7.4.8 of this chapter). When appraising the urban heritage areas conservation officers, rather than concentrating on understanding and analyzing the character of the urban heritage areas or on surveying the resources which are not currently covered in existing records, frequently spend their time investigating and understanding the existing unstructured data and the related multi-information systems. In many situations they must re-survey the same urban heritage areas resources, as they have no access to existing data or no confidence in the quality of this data; more often they have no supportive mechanism for discovering what relevant data exists. Planning, heritage management and recording departments are still in need of effective dialogue, a cooperative policy, unified metadata and formal and structured networking for effective information flow. Some countries are working to develop projects for identifying all the key-information systems related to their cultural heritage, providing details of their defined purposes, as well as their perceived role and functions. The aim is to pursue a strategic vision of interoperability (for example HEIRNET in Britain).

The coming sections shed light on the use of advanced ICT tools in the urban heritage fields. This is followed by the position of GIS, its effectiveness, methods and limitations.

7.3 Advanced ICTs for Urban Heritage Conservation

7.3.1 Introduction

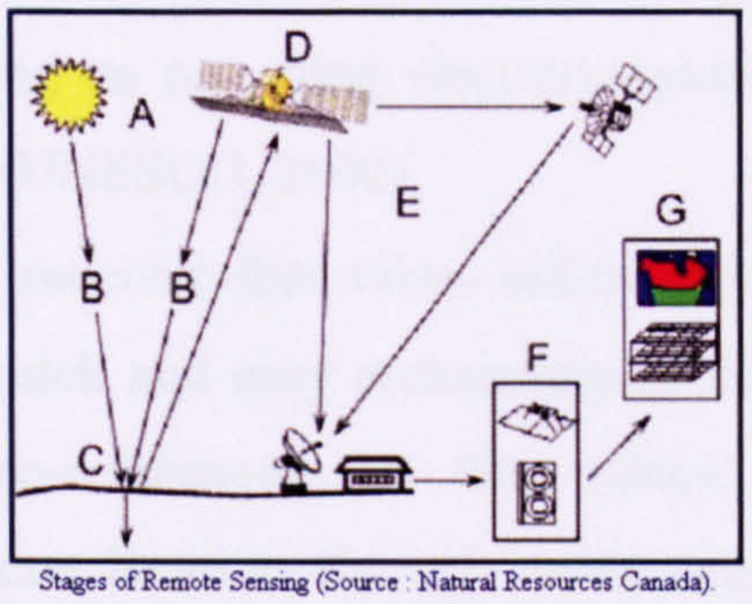
ICTs are often proposed as ways of providing new, explicit approaches to heritage management, incorporating the accumulated knowledge and understanding of the past and enhancing creativity for the future (Darke and Jagielska, 1999). ICTs enable automatic and effective recording of heritage. They also permit copying the knowledge which has been recorded and gathered in traditional reports, books, original manuscripts, paintings and other objects about that heritage into electronic versions, allowing researchers to examine alternative sources of knowledge and to see the references and contexts of various socio-political events of the day (Veltman, 1997a- 1997b). ICTs have allowed the diffusion of knowledge and the sharing of information, experience and resources at a speed never before experienced. They have also allowed processing and exchanging ideas in real time, jumping country frontiers and time barriers. Experience has shown that access to, and the effective use of, these technologies are determining factors for municipality processes, improving communication within urban administration and the ability of a city to make appropriate decisions. Cohen and Nikamp (2002a - 2002b - 2004) claim that ICTs help with changing policy to serve the citizens. They also improve citizens' access to useful information, and increasing their participation in the policy process by giving the administration better access to public opinion.

This section discusses the various contributions of ICTs in the field of urban heritage. The first part discusses ICT products for surveying urban heritage. The second part reviews ICT software that enables better recording, documentation and retrieval of heritage data. The third part studies ICT modelling and analysis techniques. The fourth illustrates the weaknesses and strengths of existing techniques, and emphasises the potential of GIS in urban heritage conservation.

7.3.2 Surveying & Recording Trends in Urban Heritage Conservation

ICT based digital surveying and recording systems such as remote sensing, digital photogrammetry, GPS, professionally calibrated digital cameras and high resolution laser scanners, Electronic theodolites, total station, Personal Digital Assistants (PDA) and Smart Board added to specialized software have helped to gather information about heritage in ways that could never have been imagined previously.





Stages of Remote Sensing (Source : Natural Resources Canada).

Energy Source or Illumination (A)
Radiation and the Atmosphere (B
Interaction with the Target (C)
Recording of Energy by the Sensor (D)
Transmission, Reception, and Processing (E)
Interpretation and Analysis (F)
Application (G)

b



Figure 7.1: Aerial and GPS surveying (a), stages of Remote Sensing (b) and arial photograph using aerial camera system (c).

(Source: Leica geosystem, nnatural resources Canada and Unesco)

- Aerial photogrammetry [Figure 7.1 (c)]: is considered a standardised established method of surveying and the basis for required heritage data and information through 'the processes of recording, measuring, and interpreting photographic images and patterns of recorded radiant electromagnetic energy and other phenomena' (Wolf and DeWitt, 2000). photogrammetry has offered its services at a variety of levels and in innumerable combinations of scientific procedures, quality requirements, and usage of final products, time restrictions and budget limitations. Ogleby (1997) argues 'it is very easy now to use photogrammetry to create three dimensional models of cultural monuments and artefacts and to display or publish this information on the Internet'. It is also possible nowadays to gather extensive photogrammetry mapping of cultural resources from existing standard sources such as the International Council on Monuments and Sites (ICOMOS), the International Society for Photogrammetry and Remote Sensing (ISPRS), the American Society for Photogrammetry and Remote Sensing (ASPRS) and the Comité

Internationale Photogrammetrie Architecturale (CIPA) which provide procedural standards, as well as certain accuracy requirements.

- Laser scanners are suggested quick and efficient three dimensional surveying of archaeo-heritage features.
- Remote sensing, which is used to observe the Earth's surface from satellites and aircraft is proposed to collect and investigate information about heritage sites (especially where aerial photos are not available) and even to search for lost heritage remains [Figure 7.1 (a)]. It was for instance used in 1992 for discovering the Lost City of Ubar on the Arabian Peninsula, relying on recording electromagnetic radiation emitted or reflected from the Earth's surface (UNESCO, 2002).
- GPS which is an earth receiver that takes information transmitted from satellites is relatively addressed as quick and easy archaeological heritage surveyors to gather high volumes of precise, geo-referenced 3D data (Shaw, 2003). This is provided by calculating the user's exact location through comparing signal transmission time with signal reception time, and then uses the time difference and propagation speed to deduce the distance from each of the visible satellites. The contribution of this technique to heritage recording has increased recently, with the emergence of small hand-held GPS receivers. CIPA-ICOMOS (1999) states that small hand-held receivers GPS can produce decimetre accuracy when used in differential mode using carrier phase information [Figure 7.1 (a)]. CIPA-ICOMOS (1999) adds that GPS has proved very useful in heritage projects comprising large areas, and for control point surveys for photogrammetric or satellite image processing.
- Electronic theodolites with automatic data register and infrared distance-meters, and more recently, laser meters, have marked a substantial change in the topographical techniques used in architectural heritage recording (Almagro, 1999).
- Total station becomes not only a surveying instrument that incorporates a distance meter for measuring distances and a theodolite for measuring angles, but also an input device such as a keyboard, mouse, or a digitiser puck. Real-time digitising of structures is possible using a total station attached to an outdoor-capable computer running AutoCAD (Hunter, 2003).

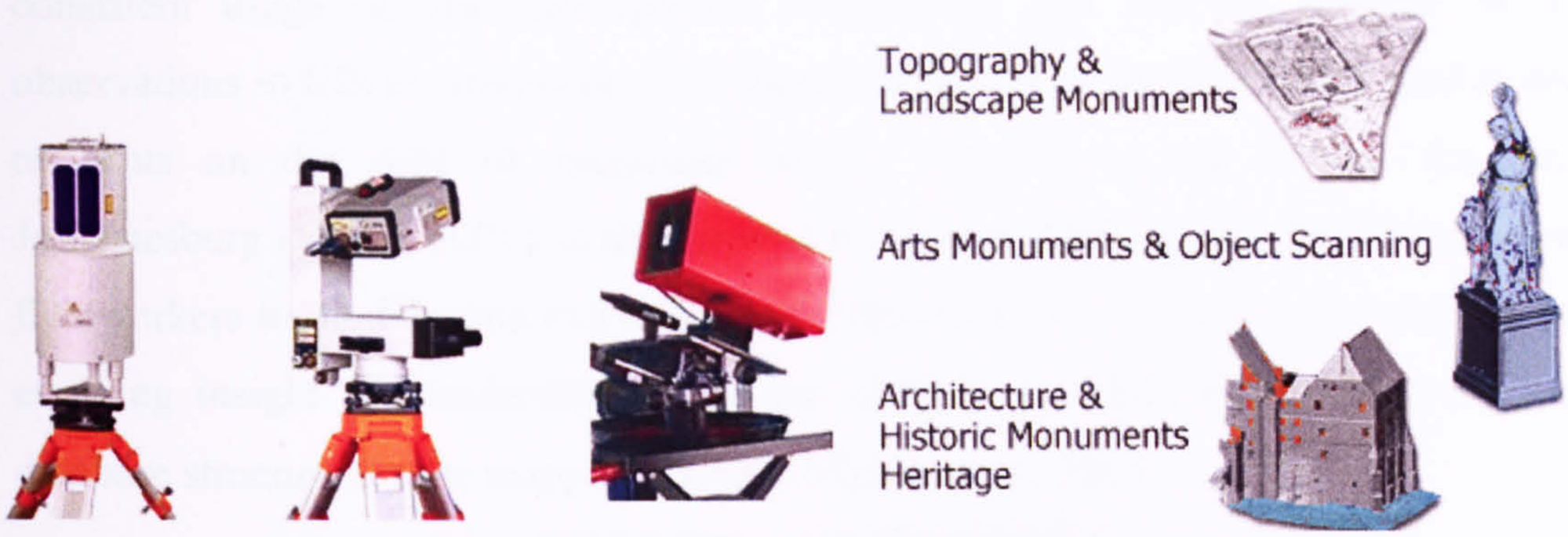


Figure 7.2: 3D Laser scanning systems (a), some examples of the application potential of a 3D laser, scanners, total stations, 3D laser pantograph surveying
(Source: ArcTron, 2004 and Fangi et al., 2001)

- Personal Digital Assistants (PDA) have proved to be a tool that has changed the way of capturing field observation, both geological and non geological (Figure 7.3). The field observations that were traditionally captured by handwritten notes and checklists are now directly captured using PDA on site and stored with their positional attributes using GPS devices through NMEA protocol and a relational data model (HanDbaseTM v. 2.7 and ThinkDB v 2.5). These relational database tools have been designed to be easily tailored to the needs of common database field types, with extensive form design functionality, one-to-many relationships up to three hierarchical levels, uni- or bi-directional synchronisation for multiple users with MS Access and ODBC, and sketching functionality (Schetselaar, 2002). This PDA approach has been promoted as offering

consistent usage of discipline-specific terminology and efficient transfer of direct observations to GIS environments. The approach proved its promise when used to survey residents on the state of municipal service delivery in and around the city of Johannesburg (Eedes, 2001). It also proved to be cost-effective and flexible in allowing fieldworkers to modify data entry forms and dictionaries as needed to accommodate the evolving insight and understanding of the study area, while maintaining a common database structure for the mapping exercise (Schetselaar, 2002)



Figure 7.3: Handled personal digital assistants (Source exeGesIS)

- ICT based group discussion techniques such as SMART Board, which is a touch sensitive board designed to access, control and present data, have changed the way people interact, communicate, discuss and save copies of their discussion. With a computer image projected onto the board, users can simply press areas on the large touch-sensitive surface to access and control any application. Using a pen from the SMART Pen Tray, users can work naturally at the board to take notes and highlight important information. The software designed for these boards enables people to integrate with Microsoft Outlook and Exchange to create an electronic meeting process (M-Path meeting productivity software) and to connect to anyone anywhere in the world, so attendants can share applications and highlight key points (Bridgit data-conferencing software). Using SMART Board with the support of SynchronEyes computer-lab instruction software, one can create a focused learning environment. Running on an existing TCP/IP network, it features an intuitive interface that helps provide one-to-one instruction in a computer lab. The SMART Camfire whiteboard camera captures high-resolution images of everything written, drawn and posted on the whiteboard. Notes can be published on a web site, printed or saved for other purposes (Figure 7.4).



Figure 7.4: Smart board interactive whiteboard (a) m-path meeting productivity software (b), synchroneyes computer-lab instruction software (c) and smart camfire whiteboard camera (d) (Sources: Smart technologies inc., 2004 and Den, 2003)

7.3.3 Software(s) for Urban Heritage Conservation

Recent software has change the ways of recording, documenting and retrieving urban heritage information. Cattani (2003) states that such software heralds new trends in computer applications for supporting the organization of heritage records. Hypertext introduced new forms of structuring textual information. CAD introduced new techniques of developing, editing drawings and building 3D models (Figure 7.5). So did MicroStation, 3D Studio Max, Alias, Wavefront Maya and others that give substantial rendering and visualisation power to a desktop computer. In this regard, ShapeSnatcher is also worth listing, for the advance it has made permitting the generation of 3D models based on the use of a single image taken by an ordinary camera. Such changes have also included spatial and surveying software such as GIS and photogrammetry. GIS introduced new forms of information treatment to perform complex analysis when the spatial dimension is the main discriminate of the search, allowing new forms of modelling for a deeper understanding of urban areas. Photogrammetry software such as Photo-modeler has made it possible to create automated or semi-automated three-dimensional models of cultural monuments and artefacts.

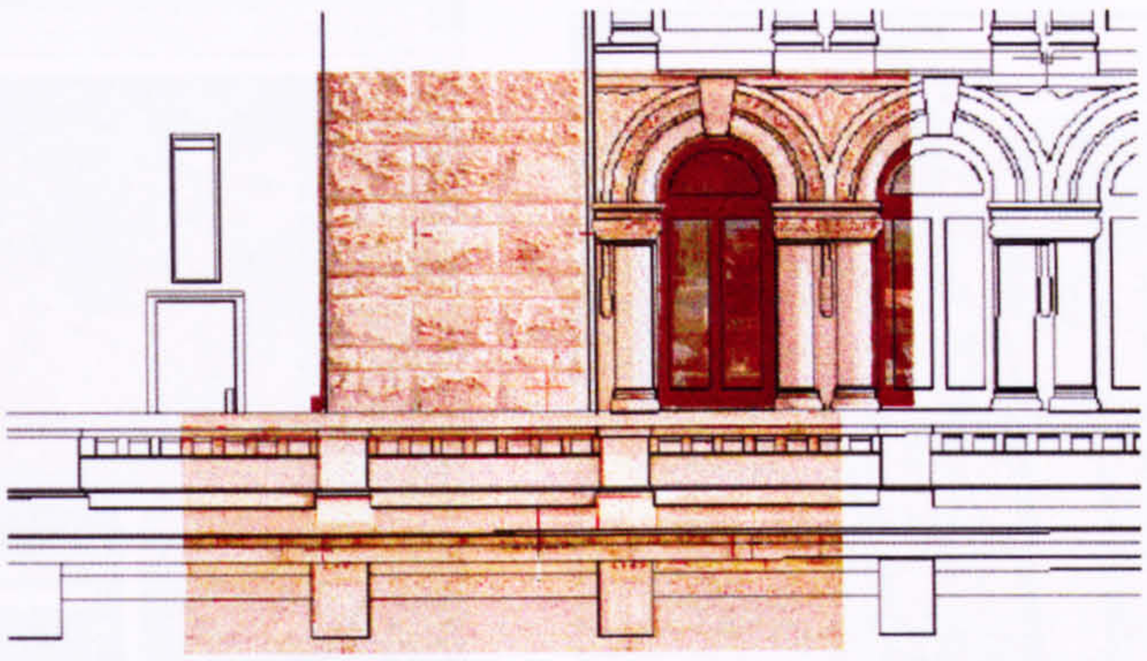


Figure 7.5: Digitally rectified photographs inserted into AutoCad drawings

The drawing is showing colours, decoration details and textures. Architectural documentation complemented with digitally rectified photographs. British Columbia legislature buildings, Victoria, Canada - pictures inserted to scale. (Borges et al., 1999)

These new trends in heritage recording have been given fresh direction with the emergence of the internet, and the desire of many organisations to publish and display their records on it. Since then software producers have begun to provide new software and methods for exporting and importing online data. They have also begun to develop languages that enable quick links to a diversity of information. Their efforts have produced advances in hypertext markup language (html), new standards entailing standard graphic markup language (sgml), virtual reality markup language (vrml), and hypermedia authoring tools such as Hypercard and Toolbook. One of the best results of these efforts is a digital atlas that enables one to access a data through spatial inquiries by clicking at any location on key maps, besides enabling the creation of customised maps with an interactive mapping tool. Some of these digital atlases not only allow the user to explore spatial information, but also to discuss and evaluate planning scenarios. Examples of the digital atlas include Atlas of Washington D.C, National Atlas Information System of the Netherlands by Koop, and the Canadian National Atlas on SchoolNet by Glen Newton (Scholten et al, 1997). A further example of the output of ICT is the online US National Map Viewer developed by the Department of the Interior and the US Geology survey. The viewer provides reliable scientific information to describe and help understand the Earth (Figure 7.7 & Figure 7.6).



Figure 7.6: Map viewer gathered from the online US. national map viewer.

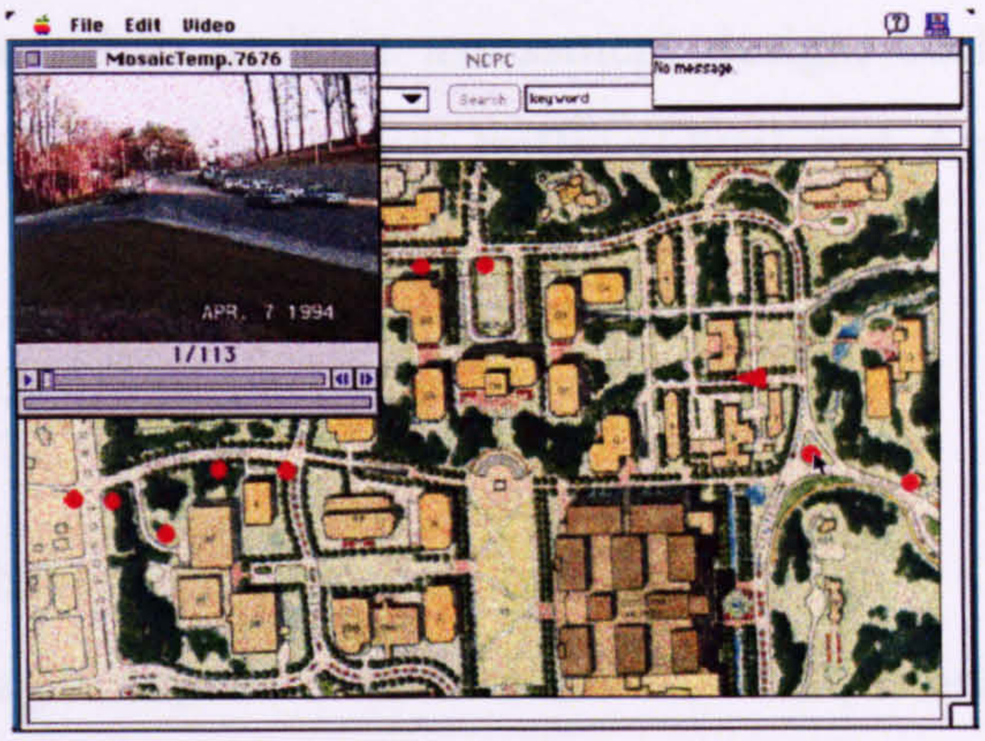


Figure 7.7: An HTML site plan of the U.S. National Health

These advances in computer software have accompanied a reduction in personal computer prices, increased computer usage and increased user awareness of the usability and capacity of different software. Such awareness has provided a new view of the usability of existing software. For instance, Veltman (1997a) has demonstrated that AutoCAD can be used to show the principles of Alberti's legitimate construction (costruzione legittima). Veltman (1997a) used AutoCAD to show how the interpretations concerning the precise details of Alberti's construction relate to each step in the verbal description, using diagrams rendered in 2d and 3d. Veltman (1997a) stated that 'Such reconstructions also serve in showing the development of a succession of ground plans, how these relate to elevations, models and the actual churches. Such reconstructions can help in illustrating the processes underlying building technologies. Hence they are as useful in understanding otherwise invisible structures in the built environment as in helping to see and understand functions of lost buildings, and possible structures of projected ones...'.

The software programs currently receiving a great deal of interest in the heritage field are those that support the development of virtual reality models, mainly because they bring users very close to representing the physical environment in a realistic way using mesh-based, spline-based and NURBS (non-uniform rational B-spline) models. The realism of such models is accomplished by manipulating certain properties of textures, such as colour, reflectiveness, transparency, refraction, procedure mapping and bump mapping in building materials (Heim, 1993), as well as different rendering algorithms such as raytracing and radiosity. Research in this field is not limited to visualization but addresses other human

senses, some of which could be relevant to urban heritage assessment design; such as hearing the virtual acoustic environment influenced by heavy traffic (Okeil and Araby, 2003)

7.3.4 Recent Trends in Urban Heritage Conservation

The objects that make up the virtual world have been created using authoring tools, CAD software, 3-D scanners or by stitching images together. In Bubble Worlds, panoramic images have been stitched together to create cylinders or spheres giving the impression of a three-dimensional space or object. Bubble worlds have been created with standard camera and computer equipment and with no special training, although special hardware was available to assist. All application packages take a broadly similar approach. The technique gives the impression of viewing an entire space from the ground to the sky and 360 degrees around, through a moveable window.

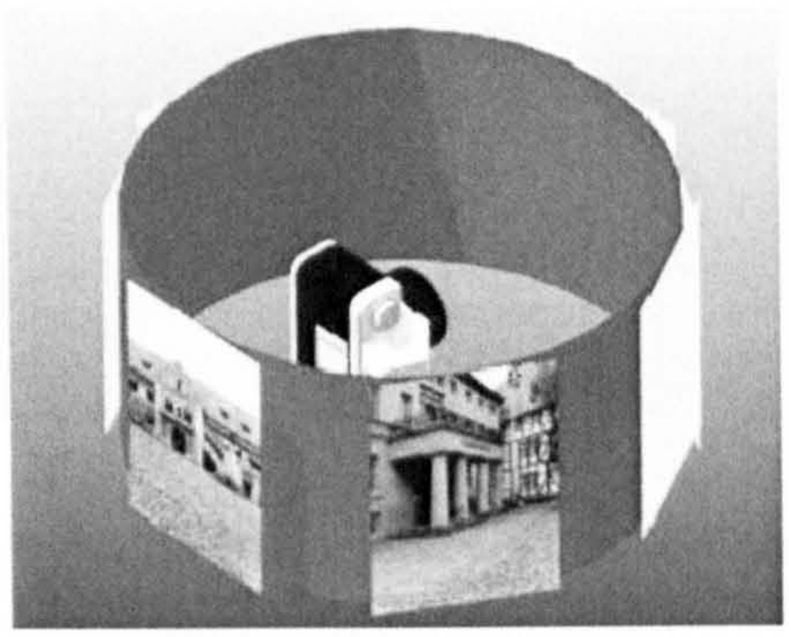


Figure 7.8: Principle of the segmented method for taking panoramic images.
(Pomaska, 1999)

In VR authoring tool such as a polygonal modeller or 3-D authoring software (e.g. AutoCAD, 3D Studio Max) objects are created from scratch and edited from another source, such as an object library. However the numbers of facets that make up the modelled object have a direct impact on the speed with which the object is drawn on screen, and also on file size. Thus software developers introduced new techniques such as the Level of Detailed (LOD) operations for removing any unnecessary facets that slow down the rendering of the object. LOD operations prevent the computer from rendering detailed objects that the user cannot 'see' from his or her viewpoint, and help to speed up the rendering of the world (Fernie et al, 2002).

Well known virtual reality software includes the Photo modeller and CyberCity-Modeler programs. Photo modeller helps with building 3D models of an object by rotating on screen, images of the object captured from different locations. CyberCity-Modeler (CC-Modeler) helps creating 3d models not only of buildings but also of cities, relying on data from aerial and terrestrial images gathered using semi-automated techniques. CyberCity-Modeler (CC-Modeler) is generic in the sense that it allows the user to model not only buildings, but any and all objects of interest which can be represented as a polyhedral model, including DTM, roads, waterways, parking lots, bridges, trees, ships and so forth, see Figure 7.9 (Gruen et al, 2003). Many other software programs can build models of city blocks such as Inject FROM Inpho, IMAGIS from Ssupersoft, or metroGIS developed by Karner et al. with augmented measured terrestrial data.

Figure 7.9: Visualization of 3D-City models: Cyber-walk

(Source: Gruen et al, 2003)

Virtual reality software permits the creation of full-scale, three-dimensional simulations of the physical world, such as creating completely realistic simulations of historical buildings or an urban area, and tracing how they have changed over time. To this is added the reconstruction of objects, which no longer exist, and the exploration of hypotheses concerning objects which are thought to have existed (Bocchi et al., 2000). The ranges of virtual reality techniques have developed to an unbelievable extend. Today it is possible to develop virtual reconstructions, 3D CG model, Virtual city, Virtual actors and Virtual travel, augmented reality models, reality rooms (CAVEs), Virtual reality based distributed video project, virtual spatial simulations and VR based GIS models.

Virtual reconstructions: One of the best-known, high quality virtual heritage reconstructions is the one created by the Virtual Notre Dame project, from Digitalo Studios (Figure 7.10). This application, the VRND Demo, takes the user into a real virtual reality

model of the famous Notre-Dame cathedral in Paris. It enables the viewer to experience Notre-Dame Cathedral in all of its glory, virtually and in full detail, for as long as is wished. The user can take photo-snapshots of anything inside the cathedral, and save them, take a guided tour with a virtual genuine friar tour guide, learn about the history and heritage of Notre-Dame de Paris, engage in interesting conversations with real historians and architects, or chat with other visitors. VRND includes a virtual human in the model, so that the viewer's sense of participation is increased. VRND developers argue that they introduced a new methodology based on standard, widely available tools and APIs (Digitalo Studios, 1999)

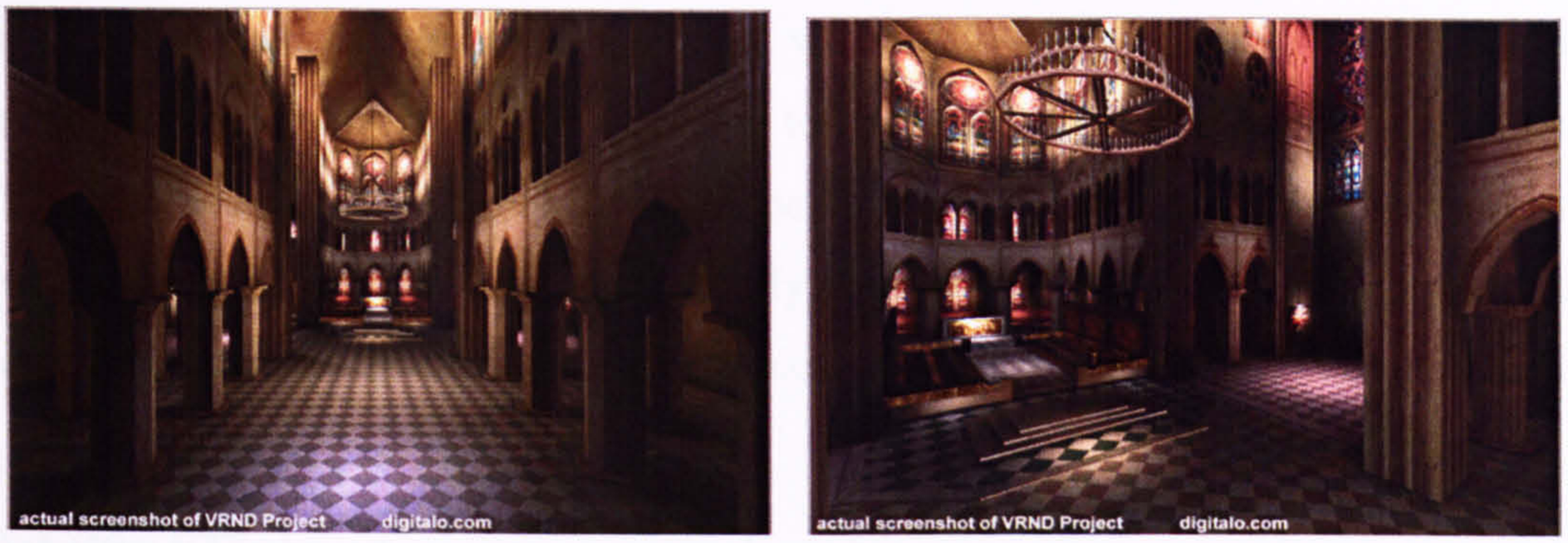


Figure 7.10: Real virtual reality model of the famous Notre-Dame of Paris cathedral

(Source: Digitalo Studios, 1999)

3D CG models: ICT based virtual reality applications have been extended to involve the creation of historical monuments using 3D CG that enables modelling and automatically replacing the basic parts of the structure according to attribute data acquired from the planimetric map. An example of this application is the Palatitsa Palace in Greece, Figure 7.11 (Sakamoto and Chikatsu, 2001)

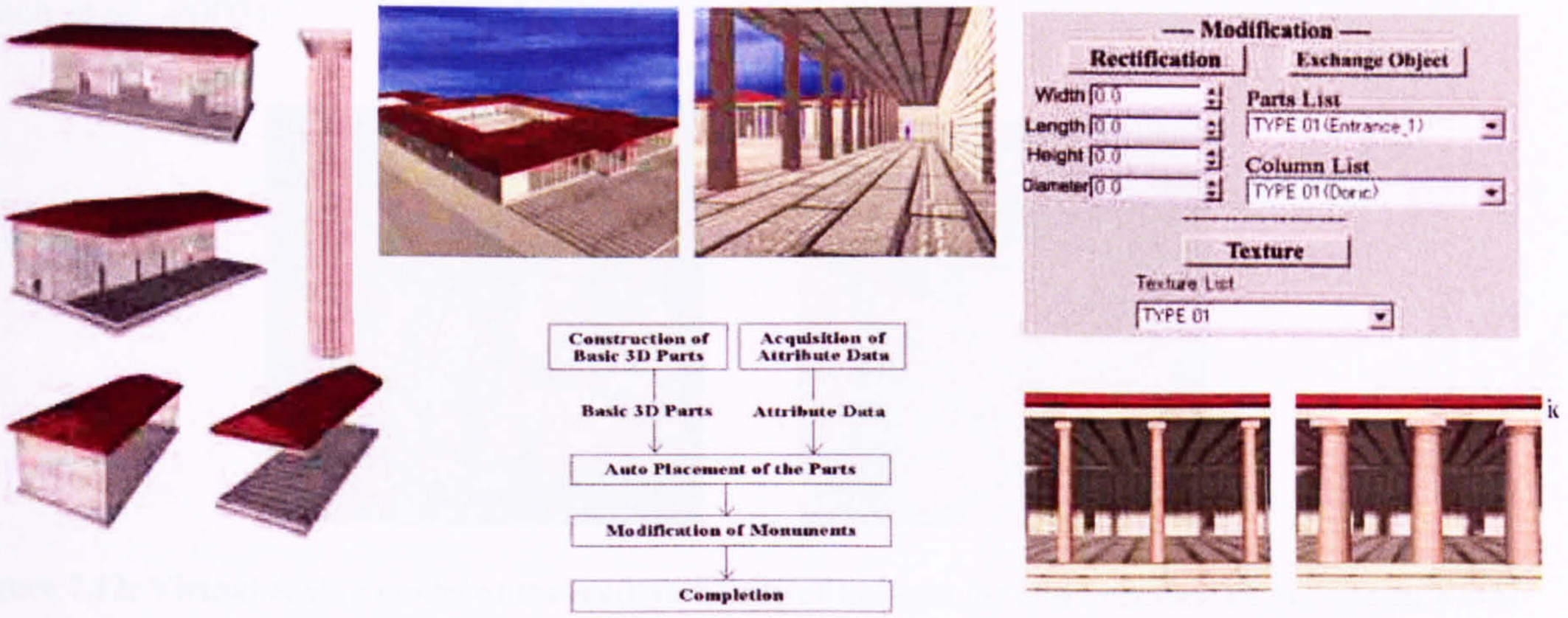


Figure 7.11: Virtual modelling process for the Palatitsa Palace in Greece

(Source: Sakamoto and Chikatsu, 2001)

Such techniques for modelling and automatically replacing the basic parts of the monument bear some similarity to the automatic modelling technique developed many years ago by Autodesk, relying on the notion of object-oriented programming of the building blocks of the man-made world through what they term industry foundation classes. Autodesk modelling is considered as a revolution in architectural practice, because it means that those designing buildings will automatically have at their disposal the "appropriate" dimensions and characteristics of architectural building block which concerns them. People working in the field of heritage conservation such as Veltman are hoping to extend the concept of foundation classes to include cultural and historical dimensions. Veltman (1997a) noted that if this occurred, an architect in Nepal wishing to build a door, in addition to the universal principles of construction applying to such objects, would be informed about the particular characteristics of Nepalese doors, perhaps even of the distinctions between doors in Khatmandu or nearby Annapurna. Similarly an Italian restorer would be informed about the particular characteristics of doors in Lucca, in the fifteenth century. All of this may seem exaggerated.

Virtual city: ICTs based on virtual reality have been extended, not only to create a model of the whole city but also to provide the possibility of walking through the streets of this virtual city. An example this is the virtual model of the mediaeval city of Bologna developed by CINECA, as part of the MOSAIC project, see Figure 7.12. Veltman (1998) argues that the model is sufficiently detailed that it can be used to check the validity of historians' claims about specific historic events. Another example of a virtual city model is that of the historical centre of Graz, relying on combining aerial and terrestrial images supported by the methods that reduce the complexity of geometric objects, Figure 7.12 (Zach et al., 2002).

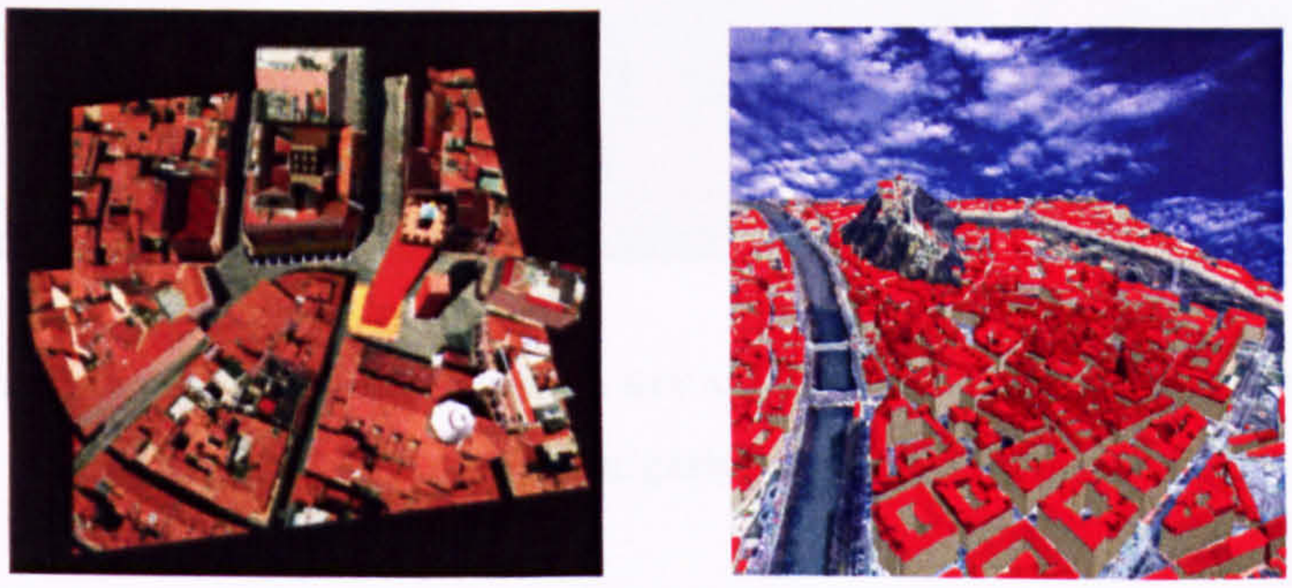


Figure 7.12: Virtual reality model of the mediaeval city of bologna (a) and overview of the virtual world cultural heritage Graz (b).

(Source: Bocchi et al, 2000 and Zach et al., 2002)

Virtual Actors: ICT based virtual actors give virtual reality models more life by adding virtual actors into computer graphic sequences with the use of video production techniques, mainly 'chroma-keying' that works by replacing one particular chroma or colour in another image that contains the virtual actors. This technique has been used for adding actors to the virtual model of Hagia Sofia developed by University of Melbourne, working in conjunction with Chulalongkorn University in Bangkok who were developing a virtual reality reconstruction of the ancient Thai City of Ayutthaya circa 1600AD (Ogleby, 2001). Vetman suggested such virtual techniques showed promise for tracing the travels of a particular artist or movement (following the influence of a specific motif or style, such as the Romanesque or Gothic) and even exploring the parallel evolution of pilgrimage routes and new styles.

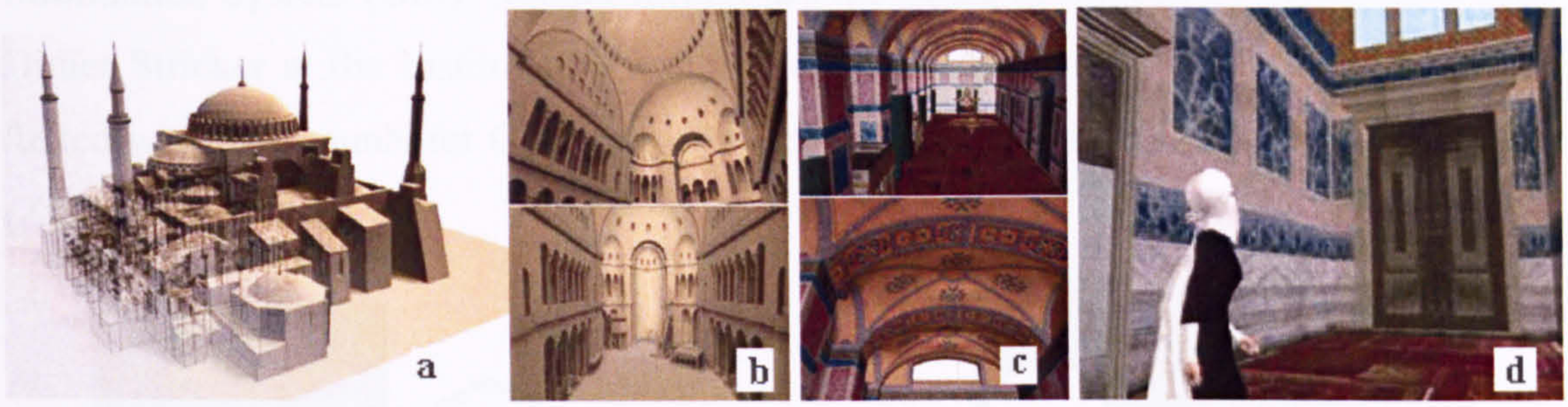


Figure 7.13: Simulation of the Hagia Sophia Building

View of the 3d model with wire-frame details (a) non-textured 3d model of the interior (b), screenshots of the 3d real-time simulation of the Hagia Sophia building, details of the narthex and side entrances (c) and non real-time photo-realistic simulation of the Hagia sophia building, details of the digital actors (d). (all figures are gathered from Foni et al., 2002)



Figure 7.14: Postcards from Ayutthaya, chroma key studio and dancers and orchestra at Ayutthaya (Figures are gathered from gathered from Ogleby, 2001)

Augmented Reality Models: ICT based virtual reality is supported with Augmented Reality techniques that allow the superimposition on reconstructed 3d, additional virtual information or layers of information. The technique is a new form of human/computer

interaction (HCI), whereby computer data is superimposed onto real life photographs and all kinds of information can be displayed to the operator depending on the content. The technique was used for mapping damage carried out on the monumental sculpture 'Bavaria' in Munich, in combination with a complete laser scan recording of the 3D geometry of the object, 3D user interfaces, information filtering and automatic integration mechanisms (Schaich et al., 2003). The technique is also used by Feiner from Columbia University, for exploring the architectural implications of augmented reality in the context of various projects, such as viewing a virtual reality version of a room and then the position of all the wires, pipes and other things hidden behind the walls; or viewing the virtual reality of a street or a whole neighbourhood, superimposed or more precisely underlying which are the various layers of plumbing, wires and tunnels that one would see in a Geographical Information System (GIS). Similar techniques are being developed by researchers such as Didier Stricker at the Institut für Graphische Datenverarbeitung (IGD, Munich) which is linked with the Fraunhofer Gesellschaft's Zentrum für Graphische Datenverarbeitung e.V. (ZGDV, Darmstadt).

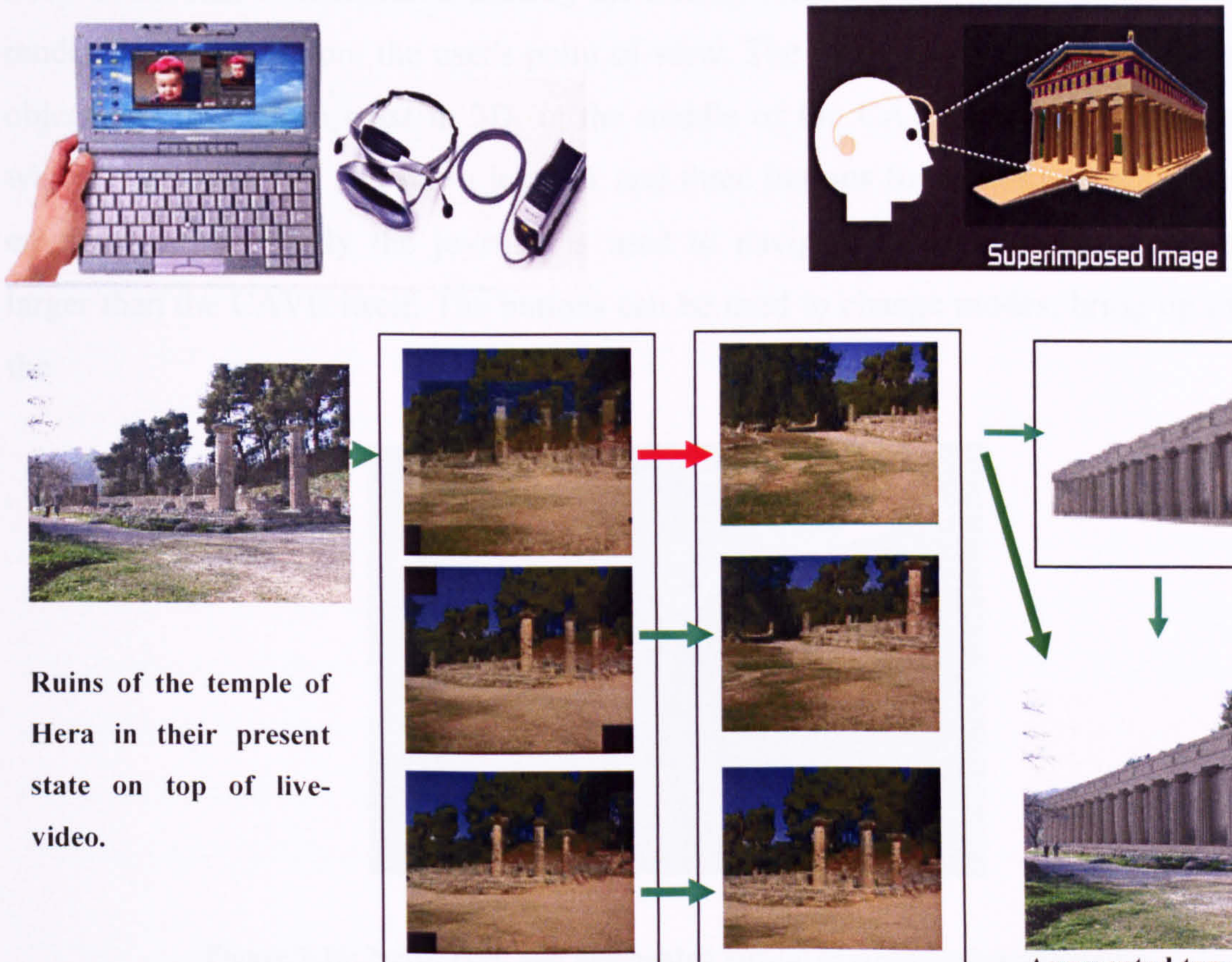


Figure 7.15: Augmented reality process for cultural heritage on site guide

(Source: ARCHEOGUIDE – Vlahakis et al., 2000)

Excited by the idea of augmented reality, the EU is funding an IST project called ARCHEOGUIDE (Augmented Reality-based Cultural Heritage On-site Guide) aiming to providing a personalized virtual reality guide and tour assistant to archaeological site visitors, see Figure 7.15 (Vlahakis et al., 2000).

Reality Rooms: Virtual environment technologies provide a variety of display possibilities such as reality rooms, CAVEs, workbenches and various interaction paradigms, to review proposed urban heritage plans and to communicate complex design concepts visually to other stakeholders. CAVE Automatic Virtual Environment is a projection-based virtual reality system that permits the user to view a virtual world through a fixed screen, used to provide a panoramic display without encumbering the user. The CAVE is a 10 foot-cubed room (Figure 7.16). Stereoscopic images are rear-projected onto the walls, creating the illusion that 3D objects exist with the user in the room. The user wears liquid crystal shutter glasses to resolve the stereoscopic imagery. An electro-magnetic tracking sensor attached to the glasses allows the CAVE system to determine the location and orientation of the user's head. This information is used by the Silicon Graphics Onyx that drives the CAVE to render the imagery from the user's point of view. The user can physically walk around an object that appears to exist in 3D, in the middle of the CAVE. The user holds a wand, which is also tracked and has a joystick and three buttons for interaction with the virtual environment. Typically the joystick is used to navigate through environments that are larger than the CAVE itself. The buttons can be used to change modes, bring up menus in the



Figure 7.16: Networked and augmented virtual environment architecture

Design and implementation of VR framework for Gyeongju VR theater (Source: Park et al. 2003)

CAVE, or to grab virtual objects. Speakers are mounted in the top corners of the CAVE structure to provide sounds from the virtual environment. ImmersaDesk is a smaller VR system. VR applications displayed on the CAVE and ImmersaDesk systems can be linked over high-speed networks. In these tele-immersive experiences, users can share the same virtual world from remote locations. They can interact with each other and with the objects in the virtual world, see each other, communicate over the network and using audio-conferencing and tele-immersion tools (Park et al, 2003)

Virtual Travels: ICT based navigation techniques enable users to travel with large-scale virtual environments using one of the following five travel technique categories: Physical Movement technique where the user's body movements are translated into travel within the 3D environment. Manual Viewpoint Manipulation, where the movement of the camera is restricted to a selected object so that the user is always looking directly at that object (Koller et al, 1997). Steering where the user's movement follows the direction of motion of the camera specified by the orientation of his/her hand for pointing, and the orientation of the user's head for gaze-directed steering. Target-based Travel that permits the user to select where he/she want to travel and the system moves him/her to that location. Route Planning that enables the user to specify a path within the environment that should be followed (Bowman et al., 2001; Hamilton and Aouad, 2003b).

Distributed Video Project: Virtual reality is supported by many techniques that extend its capacity for modelling, such as the distributed video project that enables the virtual placement of a person in one city within a different landscape or cityscape in another city, or to walk him through an ancient town as it once looked. This technology relies on taking a film or video of the original location, combining it with a reconstructed model and adding the scaled image of a walking actor. One of the best examples of such virtual modelling is that developed by Professor Iwainsky in Berlin. Iwainsky relied on the use of Softimage (a Canadian CAD program now owned by Microsoft) to reconstruct the great Pergamon Altar in the Bode Museum in Berlin. The original altar stood high on a hill in Pergamon, in western Turkey (Veltman, 1997b).

Virtual Spatial Simulations: From ICT based virtual spatial simulations have evolved methods for studying sustainable cities. This is a reason for researchers' appreciation of abstract global urban modelling games, key examples being SimCity (developed by Maxis Ltd.) and SimEarth, especially those working under INTELCITY. Hamilton & Aouad

(2003b) argue that compared to other city models, SimCity incorporates a large number of approximately true economic, environmental, and social parameters. This proximity affects the accuracy of the holistic picture of a real city; the accuracy of what is sold as a game should not detract from the merits of the modelling methods involved. Hamilton & Aouad (2003b) add that the great merit of SimCity is the way it models city problems at a higher and more appropriate level of abstraction, enabling the modelling of radical changes (See Figure 7.17). One of the projects aiming to convert the ideas in SimCity to the modelling of real cities is QUEST, which was originally produced to model Vancouver and the Fraser River basin in Canada. Now QUEST is the basis of city models being constructed in Manchester in the UK, and in Christchurch, New Zealand.



Figure 7.17: SimCity Game

(Source: Electronic Arts Inc, 2003)

VR based GIS Models: Most VR models give no information about the city apart from its physical form, but some recent city models have loosely combined Virtual Reality (VR) and GIS to overcome this problem. Those who have produced these models claim great benefits for planning processes in the cities concerned. The developers of Virtual Los Angeles claim their model "…allows the Urban Simulation team to include virtually everyone in the planning process, expert and layman alike" (Jepson et al 1996). Hamilton et al. (2001), and Hamilton and Aouad (2003a-b) claim that combining VR, GIS, and Internet technologies is not without difficulties. Whilst those cities that are developing these complex systems, including Los Angeles, Vienna, Adelaide, Bath and London all claim significant benefits, it is clear that much remains to be done in the development of these technologies and their applications.

Despite this great advance in data capturing methods and virtual reality technique it is difficult to digitally reconstruct an urban area, to host it on a server and to link it to the internet. The reason for this is that the current digital environment usually has limited capacity in terms of storage area, bandwidth and processing power. Okeil and ElAraby (2003) state that although the computer industry has been offering a rapid increase in those capacities, there remain limitations that have to be considered. For example, standard modern computers cannot perform raytracing or radiosity of a complex 3D model in real time, and a choice must be made either to sacrifice smooth navigation, or sacrifice photorealism. The "highly realistic" 3D model of a digitally reconstructed city with hundreds or even thousands of buildings, and tens of thousands of texture maps could be found "non-realistic" if:

- Its size exceeds the storage space available on the hosting server or the user's computer
- Its download time exceeds the time the user considers acceptable
- Its processing is so demanding that the user's CPU is overwhelmed and navigation becomes sluggish or impossible.

Digital reconstruction of urban areas involves modelling of possibly thousands of buildings. It requires a well-organized working team with knowledge from several disciplines such as architecture, urban design, CAAD, GIS, photogrammetry, digital image processing and programming. It involves a great deal of resource management. Experience gained from modelling single buildings might not be relevant when dealing with a bigger area, and a larger number of buildings. The process also involves training the team members. This complex task requires enough time, funding and know-how, which could affect the degree of realism if not available. Time constraints require implementing working techniques that are fast and simple. Funding constraints require working techniques that are fast, consume less material, need no costly hardware, software, datasets and require a minimum of highly paid personnel. These techniques must be either adopted or developed.

7.3.5 Conclusion

Despite the advances in data capture, recording, analysis and access methods and the progress of virtual reality techniques, the appraisal of urban areas is still limited to traditional paper based methods. The reason is that many conservation officers are not

aware of such ICT tools. Many of them are not aware of the potential of these tools, and their applications and limitations. This part offeres an overview of these tools, showing that some of them are still impractical. They are time consuming and expensive. While the others are still concerned with the visual aspects of the studied resource, in isolation of the spatial, temporal and socio-political aspects. This study shows that the promise tools for appraising urban heritage areas are those build on GIS basis. The study calls therefore to increase the efforts in this direction, arguing that GIS has the potential to extend urban heritage analysis from the physical aspects of the resource to its spatial and aspatial ones. This section thus opens the debate about the role of GIS in the proper appraisal of urban areas. The coming section discusses such debate and reviewes it from different perspectives

7.4 GIS for Urban Heritage Conservation

7.4.1 Introduction

In 1999, UNESCO published a manual to provide an accessible introduction to GIS and the uses of GIS as a tool for cultural resources management, intended for site managers and cultural policy-makers at both local and national levels. UNESCO (1999) declared that GIS has valuable applications for each of the four principal procedures involved in preparing management plans for cultural sites: research, analysis, response, and implementation. Despite the publication of this manual, and despite the long and extensive efforts made in many countries to introduce GIS to support planning and intervention strategies in urban heritage, the use of GIS for heritage management has not yet been fully implemented. It has mainly been for operational purposes, rather than managerial or executive ones (Ford & ElKadi, 1999).

7.4.2 Potential of GIS

GIS is a promising tool with which to analyse the geographical aspects of heritage, visualise relationships across time and space, and to explore more comprehensive ranges of possibility (Orland, 1994). It helps in exploring both geographical and thematic components of data in a holistic way, and handling the complex and large amount of data required for heritage assessment. This is added to its potential to bring together and integrate the heritage data collected from widely disparate sources. GIS integrates spatial and attribute data, allowing the database to be exploited in more ways than a conventional

database allows. Gregory (2002) argues that GIS provides all the functionality of the DBMS, and adds spatial functionality. Unlike a conventional DBMS, GIS allows users to gain an understanding of the geography of the heritage they are studying. Unlike a computer mapping system, GIS provides the underlying data that form the patterns shown on the map. Foote and Lynch (1997) make three observations about GIS. This study found these observations useful to explain why GIS is proposed as a key provision for assessing urban heritage:

- First, GIS is related to other database applications, but with an important difference. All information in a GIS is linked to a spatial reference. Other databases may contain locational information (such as street addresses, or zip codes), but a GIS database uses geo-references as the primary means of storing and accessing information. This function is useful for studies not only to recognise the location, form and geography of urban heritage, but also its context.
- Second, GIS integrates technology. Whereas other technologies might be used only to analyse aerial photographs and satellite images, to create statistical models, or to draft maps, these capabilities are all offered together within a comprehensive GIS. This integration capability for GIS is promising for helping understand the complexity of urban heritage. Understanding of heritage cannot rely on only one kind of analysis.
- Third, GIS is a process for making decisions. The way in which data is entered, stored, and analysed within a GIS must mirror the way information will be used for a specific research or decision-making task. This process is needed to help decide about those values of urban heritage that compete.

7.4.3 History of GIS

The idea of GIS goes back to 1950, and the efforts of Jacqueline Tyrwhitt in Britain to combine four data layers of land elevation, surface geology, hydrology, and farmland into a single map. Two planners at the Massachusetts Institute of Technology took her work further by introducing weighting techniques to map overlay, by photographically manipulating map layers (Clarke, 1997). Thus far, map overlay was a manual task that involved physically cutting, aligning, and superimposing map layers. Early 1959, Waldo Tobler introduced a computer technique that allowed the digital superimposition of maps. His techniques consisted of three stages, which he called MIMO (map in-map out): map input, map manipulation and map output. The software packages were not very powerful in

term of map analysis, but did simplify the overlay process. This work was crucial, because it gave impetus to the introduction of digital spatial data to government agencies. The Canadian government built the first GIS, the Canada geographic information system, during the 1960s to analyse data collected by the Canada land inventory. Other governments and university laboratories soon built similar systems. However GIS systems were not widely used until the late 1970s, when technological improvements and lower costs made computers widely available. GIS sales boomed during the 1980s, as governments and businesses found more uses for the systems. A number of companies began producing new GIS software to program computer systems to increase their functions. By the early 1990s, about 100,000 GIS systems were in operation (Clarke, 1997).

Undoubtedly the main interest in using GIS has come from organisations that have to manage large quantities of information that has been recorded on maps. Thus local and regional government continue to be major users of GIS, as so much of the information that they deal with is referenced geographically. For similar reasons utility companies are major users of GIS, with the requirement to maintain records of the paths of cables and pipelines being a prime concern. The various types of organisation that use the technology differ somewhat in the way it is used. For some, the main interest is simply in recording the location of particular phenomena, typical examples of which would be land registration and topographic survey. Others go beyond the purely map-oriented aspects of GIS to exploit the potential of computers to assist in searching and analysing the stored data. (Jones, 1996)

In England, the first spatially information systems were developed in the 1970s and their introduction in LPAs was driven by their aim to explore the potential of technology for improving information management. GIS is used diversely by local planning authority LPAs for monitoring land, buildings, economy, society, demography and environment; for forecasting housing, schooling, travel, economy, community; for service planning and resource management; building maintenance and social services; for transport network and archaeology. The use of GIS in England is increasing rapidly, especially for documenting heritage. Another survey showed that the number of Scheduled Monuments Records SMRs using GIS doubled between 1997 and 2000, with 50 SMRs reporting that they were using GIS and a further 8 indicating that they were planning to implement it (Fernie, 2000). Although use of GIS is now common amongst SMRs for many it is still a recent acquisition, with 22 SMRs reporting that they had taken GIS in the last 2 years and of

those, 9 respondents had been using GIS for less than a year and 1 for only 2 months. 17 of the respondents had been using GIS for between 2 and 4 years, with only 7 respondents reporting that they had been using GIS for more than 5 years. One respondent reported having used GIS for more than 10 years (Fernie, 2000). Figure 7.18 shows the heritage GIS data recorded in 2002 by SMRs compared with 1997.

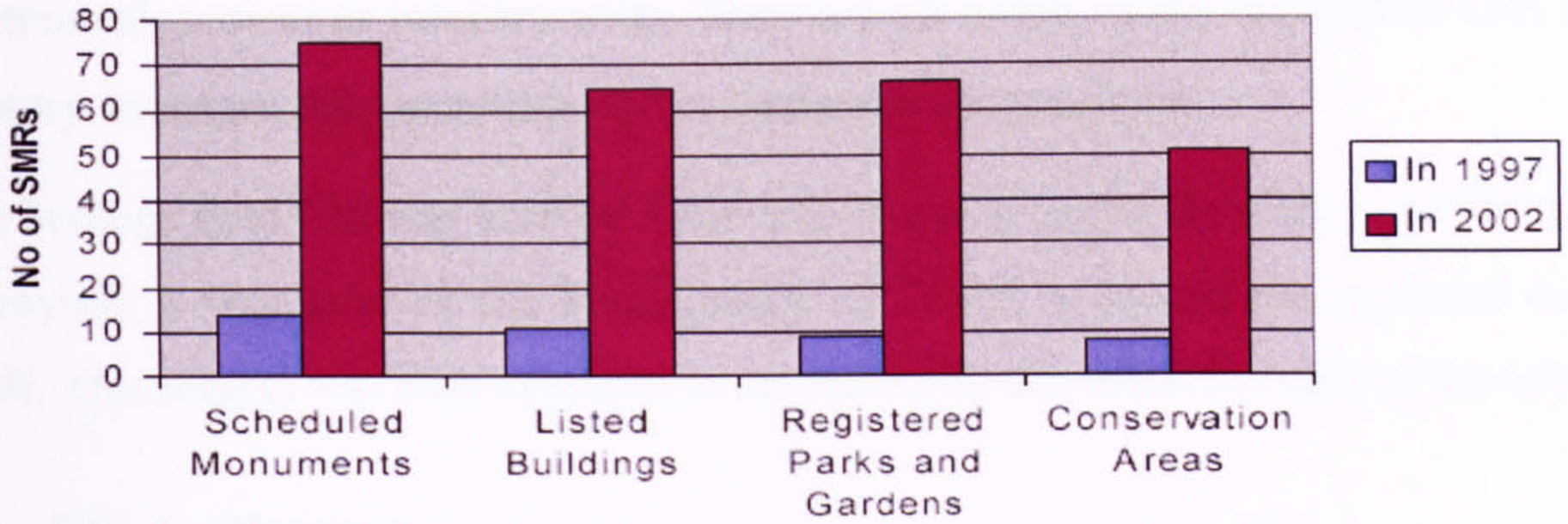


Figure 7.18: Changes in data recorded on GIS by SMRs since 1997

The first GIS spatially information systems arrived in Lebanon in 1990, via the Faculty of Engineering and Architecture of the American University of Beirut (FEA/AUB). The newly established GIS Lab at FEA/AUB soon yielded interesting and exciting results. *Using GIS for Mapping the Urban Growth in Metropolitan Beirut* by Solidère. Solidère embarked on an Enterprise GIS/Integrated Spatial Information System known as ISIS (Ekmekji, 1997). Since then GIS has used in different projects in Lebanon. (GIS) was used by Electricité du Liban (EDL), in 1993, to model and manage the electric infrastructure. The Ministry of the Environment (MOE) used it to prepare a pre-feasibility study for a Staged Wastewater Programme for the Lebanon; the Council of Development and Reconstruction (CDR) to ascertain that the proposed generating stations and transmission system designs met all the environmental regulations of Lebanon and the World Bank; the High Relief Council (HRC) to conduct a Damage Assessment Survey, and submit a report on the magnitude of the damage inflicted on the Country caused by Israeli aggression; and the Mechref Company (M.Co.) to develop a Master Plan for a community development of three hundred (300) hectares in a rugged mountainous area in the southern environs of Beirut (Ekmekji, 1997).

GIS has been introduced to almost all universities in the Lebanon, including the Institute of Internal Security Forces and the Military Academy, through orientation seminars and workshops. GIS is continuing to grow in both interest and application throughout the

Lebanon. A nation-wide GIS study funded by the European Community was recently commissioned by CDR. Likewise, the Cadastre Operation Modernization and Automation Project (COMAP) launched by the Ministry of Finance and the National Environmental Information System (NEIS) recommended by the UNDP head towards the same goal. Almost all Ministries have indicated an urgent need for some kind of GIS, whether departmental, project or ministry-wide. They are all aware of the benefits of GIS to their inventory, management, operation, and maintenance programmes.

In the heritage field GIS was used by Katib and Alami to record the historic building of Ain al Mrayseh. It was used by the Municipality of Tripoli to record the medieval centre of Tripoli. This project was then extended to the record all the urban features of the city.

7.4.4 GIS Applications

GIS is used effectively in different fields, especially those that have a common analysis target with urban heritage such as planning, archaeology and sociology. GIS is used for comparing planned and implemented projects. This covers evaluation of the relevance and outcomes of planning, the equity in distribution of public services to various segments of the community, and the search for areas that have not received adequate planning attention or have not been allocated their fair share of public resources. GIS is used to improve public access to information and facilitate public participation in the planning and policy-making process (Sawicki and Craig, 1996; Craig, 1998; Sarjakoski and Chrisman, 1998; Schon et al., 1999; Al-Kodmany, 1999; Talen, 1999; Nedovic-Budic, 2000;Yigitcanlar, Baum and Stimson, 2003). GIS is increasingly used in the spatial analysis of income levels, total population, age and housing conditions (Kennedy et al., 1999). GIS is also applied to investigate the location of human activities, the construction of social space, and the relationship between social space and physical environment.

GIS found an application in database management for archaeological records (Alderderfer, 1987). Kvamme (1989) states that GIS brought many benefits to archaeology. He noted in 1989 that 'data updates and corrections, which were once slow and costly, can be conducted quickly and efficiently with the use of GIS in a matter of seconds'. He added (1989) that the building of complex simulations that are only limited by imagination becomes possible in a reasonable amount of time. GIS is used in the history field to produce a digital atlas using a small amount of spatial data coupled to a wide variety of attribute data. A good example of this is the atlas produced by Woods and Shelton (1997)

using a single generalised layer of 19th century registration district boundaries in England and Wales to produce an atlas of mortality in Victorian times. This atlas shows the importance of spatial detail, and the power of maps to present it. GIS has also been used to produce atlases that are more sophisticated cartographically. Here, rather than linking a large number of attribute datasets to a limited number of spatial layers, the GIS becomes a database of the spatial features that will be used in the atlas and allows them to be combined to produce highly sophisticated cartographic products significantly more cheaply than through traditional methods. A good example of this is volume II of the Historical Atlas of Canada (Gentilcore and Matthews, 1993).

7.4.5 GIS Methods and Techniques

There is a great diversity of tools (software and hardware) and information systems that calls themselves geographical information systems (GIS), and there is no definitive definition to help distinguish between them. Duecker, in 1979, stated that 'a geographic information system is a special case of information systems where the database consists of observations on spatially distributed features, activities or events, which are definable in space as points, lines, or areas. A geographic information system manipulates data about these points, lines and areas to retrieve data for ad hoc queries and analyses' (Hou, 2003). Burrough (1986, 1998a, 1998b) considered GIS a powerful set of tools for storing and retrieving at will, transforming and displaying spatial data from the real world for a particular set of purposes. Rhind (1989) described GIS as a computer system that can hold and use data describing places on the earth's surface. Many others people have considered GIS including Aronoff (1989), Burrough (1986, 1998a, 1998b), Clarke (2003), DeMers (1997). Pickles (1995) argued that the definition of GIS depends on who is giving it, their background and viewpoint. He also considered that definitions of GIS are likely to change quickly as technology and applications develop further. Although definitions of GIS seem confusing, the common denominator is the manipulation of spatial data. In other words, there is a consensus that a true GIS is designed to work with spatial data and to serve the set of operations for working with such spatial data (Star and Estes, 1990). However that does not mean that all technologies that are capable of manipulating spatial data (such as CAD, photogrammetry, etc) can be considered GIS. Many technologies may be referred to collectively as spatial information technology, but while all of them contribute they are not exclusively spatial. True GIS has a number of analytical capabilities that enable bringing

together spatial and a-spatial analysis. GIS can be seen as a system of hardware, software or a kind of process that has integrated and explicit functions, and where the spatial dimension is key to each of these functions. The functions involve capturing, storing, retrieving, analysing, managing and displaying data.

Capturing

GIS captures information that has an earth-based reference, from maps, aerial photos, satellites and surveys. Some data capture functions are digitising, scanning, mosaicing, editing, generalization and topological cleaning.

Storing

GIS store data in different geo-referenced themes. Each separate theme of information is represented as a layer in the GIS. Storage functions are compression, metadata handling, control via macros or languages, and format support.

Retrieving

GIS retrieves spatial and attribute data. More often it is generating maps that allow searching for information visually, and highlighting the result. GIS a-spatial retrieval is the generating function, which allows the user to find, recode, select, renumber, sort and compute new attributes based on calculated values, restricting, joining, replacing. Geographic search is the secret to GIS data retrieval (Clarke, 2003). GIS has the ability to search data in demand, previously stored in DBMS, using one of the following methods:

- Browsing the map and picking features or locations,
- Spatial sorting features that result from attribute sorting,
- Buffering around existing geographic features, and then identifying or selecting features based on whether they fall inside or outside the boundary of the buffer, Buffering where all locations lying within a set distance of a feature or set of features are identified.
- Merging attributes to build new GIS layers (overlaying maps). This may be either informally by simply laying one layer over another, or formally through a mathematical overlay operation.
- Changing projections, rubber sheeting to join adjacent layers of data together.

Displaying

GIS displays the spatial pattern of information (stored in the system or gathered from analysis) visually, in maps and drawings supported with reports. Its display functions involve desktop mapping, interactive modification of cartographic elements, and graphic file export. Sheppard (1995) saw GIS as a tool designed to solve one aspect of a particular problem; that of translating spatially referenced empirical information into a spatial language to enable cartographic representation of patterns and relationships, and of analyzing the nature of these relationships. The hallmark of GIS is its ability to transform geographic data to reveal patterns and processes that are not immediately obvious to an observer, i.e., to make what is implicit explicit (Longley et al., 2001: 278).

Analysis Tools of GIS

GIS has a number of analysis functions. These involve:

- Analysing aerial photographs and satellite images, to create statistical models or to draft maps.
- Analysing the spatial component of data. GIS calculates basic statistics such as areas and perimeters of polygons, and spatial relationships of one object in relation to all those other objects surrounding. This can be as simple as taking measurements from a map, or as sophisticated as complex geo-computational procedures based on numerical analysis. Such analyses involve interpolation, optimal path selection, geometric tests, slope calculation, point-in-polygon operation, buffering, overlaying, intersection, dissolving and proximity analysis. These functions enable users to come out with new data and relationships.
- Analysing a network of efficient routes or paths for allocation of services and resources. Such allocation is to identify and create areas of influence, or service zones based on certain criteria. It is accomplished by assigning portions of a network to a location based on impedance. An example of such analysis is the finding of the shortest or least-cost way in which to visit a location or set of locations in a network.
- Analysing terrain through developing a three dimensional model of the topography of a geographical location. The model can be represented with x, y, z data known as a Digital Terrain (or Elevation) Model (DTM/DEM). The x and y dimensions of a DTM represent the horizontal plane, and z represent spot heights for the respective x, y coordinates.

- GIS manages and analyses data and shows them geographically. It also manages and analyses data using DBMS, address matching, masking and cookie cutting functions.

GIS has good spatial and statistical analysis techniques, and thus it is good at handling attributes and space. However it has no equivalent techniques for temporal analysis. Moreover, there are some serious conceptual issues that present barriers to handling time fully within the GIS data model. Users are thus left largely on their own in how they approach handling spatio-temporal data. This makes implementation difficult, but provides researchers with the opportunity to develop solutions that are sympathetic to their data.

Peuquet (1994) argues that the layer-based data model used by GIS does not allow easy handling of queries that involve: changes to an object (location or aspects), changes in the object's spatial distribution (replacing other objects, or being replaced by other objects), and changes in the temporal relationships among multiple geographical phenomena. He (1994) adds that relatively little progress has been made in this direction. Although some suggestions have been put forward for doing this, mainly based on object-oriented technology (see, for example, Egenhofer and Golledge, 1998; Wachowicz, 1999), these have not yet been incorporated into GIS software. One simple way of handling time within GIS is to treat it as an attribute. Healey and Stamp (2000) do this in their study of regional economic growth in Pennsylvania. So did Kennedy et al. (1999) in their atlas of the great Irish famine. In this atlas different layers are used to represent the explicit spatial situation at different dates. This is termed the key dates approach. The atlas uses census data to show demographic changes resulting from the famine. At its core are layers representing the different administrative geographies used to publish the censuses of 1841, 1851, 1861 and 1871. These layers are linked to a wide variety of census data from these dates. This allows sequences of maps to be produced showing, for example, how the spatial distribution of housing conditions and use of the Irish language change over time (Gregory, 2002). While this approach is simple and effective, it is only suitable for a limited number of dates or where change occurs at clearly defined times between periods of relative stability. In more complex situations other approaches can be used based on systems that continuously record spatio-temporal changes, and link them to any suitable attribute data. Two distinct approaches to doing this can be identified: the date-stamping approach used by the Great Britain Historical GIS (Gregory, 2002; Gregory and Southall, 1998; 2000), and the space-time composite approach which was proposed as a theoretical structure by Langran (1992). This approach has been used by the Swedish National Topographic Database

(Kristianasson, 2000), and is proposed by Ott and Swiaczny for the Palatinate area of Germany (Otto and Swiaczny, 2001).

The date-stamping approach handles time as an attribute; however the spatial data of these attributes are stored in what are termed master coverages (i.e. master layers). These are layers that have both label points, representing administrative units and lines representing their boundaries, and there is no topology to link the two at this stage. In such a structure boundary changes can be handled in the manner showing a transfer of territory from one unit to another, or using the label point attributes. Using this structure a user specifies a date, and custom written software extracts the appropriate label points and lines and creates the topology to form a polygon layer for that date (Gregory and Southall, 2000).

The space-time composite approach creates administrative units through aggregating smaller polygons, by storing the unit that each polygon lies in at each date as attribute data. These smaller polygons are referred to as the Least Common Geometry (LCG). This can consist of low-level administrative units that are known to be stable over time, as in the Swedish system that uses parishes to create districts, municipalities, and counties. Where no such units are available, it can consist of polygons created as a result of boundary changes, as is proposed by the Palatinate system. In either case the basic structure is the same, as is shown in Figure 5.3. A dissolve operation is used to re-aggregate the polygons in the LCG to form the units in existence at the required time.

One of these techniques is Aoristic. Jerry et al consider that this analysis can smoothe irregularities arising from poor database interrogation, and provide an alternative conceptualisation of space and time that is both comprehensible and meaningful. The adaptation of this process includes inserting a temporal weight into the algorithm alongside the spatial weight. Jerry et al proceed to suggest a method of displaying the spatial output from a probabilistically weighted temporal query. Bernard (2000) states also that technologies challenge new approaches to integrate geographical information systems and simulation tools for spatio-temporal modelling.

Although time is currently poorly integrated into GIS software, there is still real potential for using GIS to manage complex spatio-temporal datasets as illustrated by the case studies provided. These cases open up the potential for exploring, analysing and visualising complex spatio-temporal change in a more sophisticated manner than has previously been

possible. This should ultimately provide a more detailed and less simplistic understanding of the processes that drive these changes.

Such cases of temporal analysis are not implemented in the proposed urban appraisal model, simply because of the lack of experience of researchers in this domain. However, that does not mean that this study denies the importance of these cases. Indeed it calls for them to be considered wherever possible in the urban appraisal process, to provide a proper temporal analysis of the area and its urban resources.

7.4.6 GIS Software

To build up a realistic representation of an area, a variety of layers can be used to represent each theme of information. These layers can utilize the digital terrain model DTM, raster surface, vector (by means of point, line or polygon), or network model to spatially represent the information theme. Most common GIS software packages can handle most of these models, although the majority will concentrate on one. For instance MapInfo and ArcView are both primarily vector systems that have limited raster and terrain modelling functionality. Spans and Idrisi on the other hand are primarily raster based.

	1997	2000	Planned
MapInfo	6	24	
ArcView	6	12	1
GGP	2	3	
Wings	5	3	
Fastmap	2	2	
Axis	1	2	
Datamap	1	1	
Cartology		1	
AutoCAD Map		1	

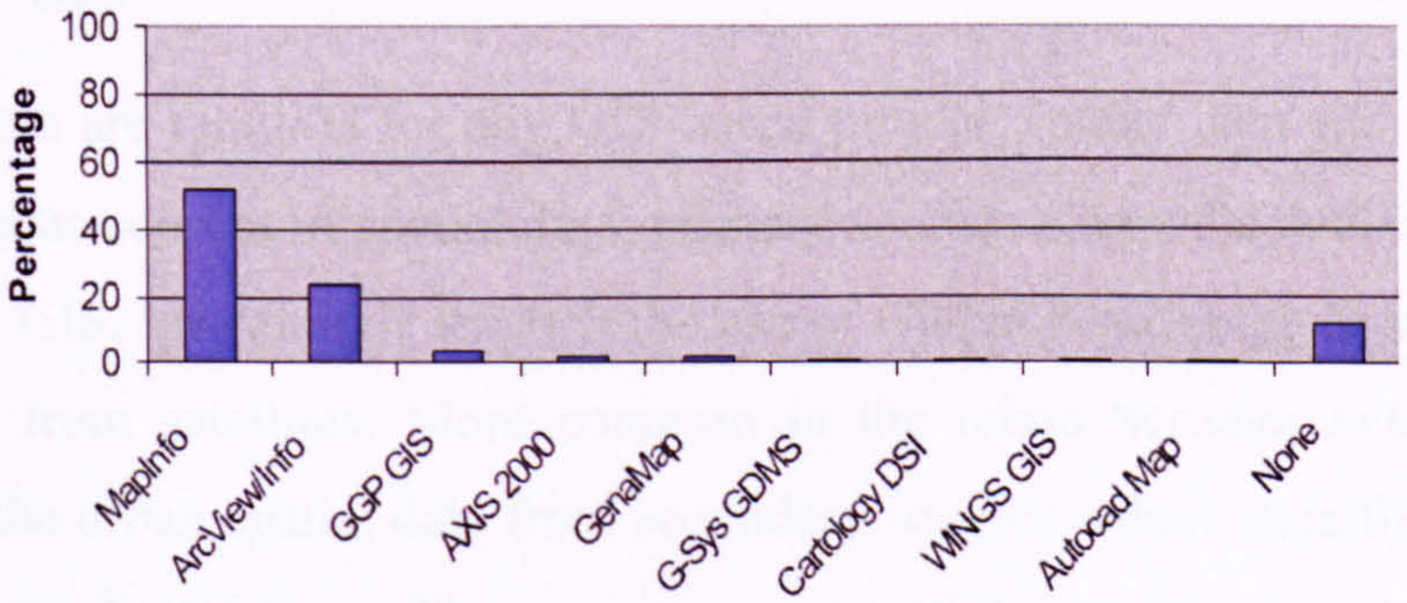


Figure 7.19: GIS packages used by SMRs

A range of GIS is available for heritage recording and management; not only MapInfo, ArcView, Spans and Idrisi, but others. Appendix VI gives an overview on such softwares.

The GIS software that are the most frequently used by English SMRs are MapInfo and ArcView. Figure 7.19 and Figure 7.20 show and range the GIS used in the English SMRs at two. They also show the rapid increase in use of GIS between 1997 and 2000 (Source Newman, 2002).

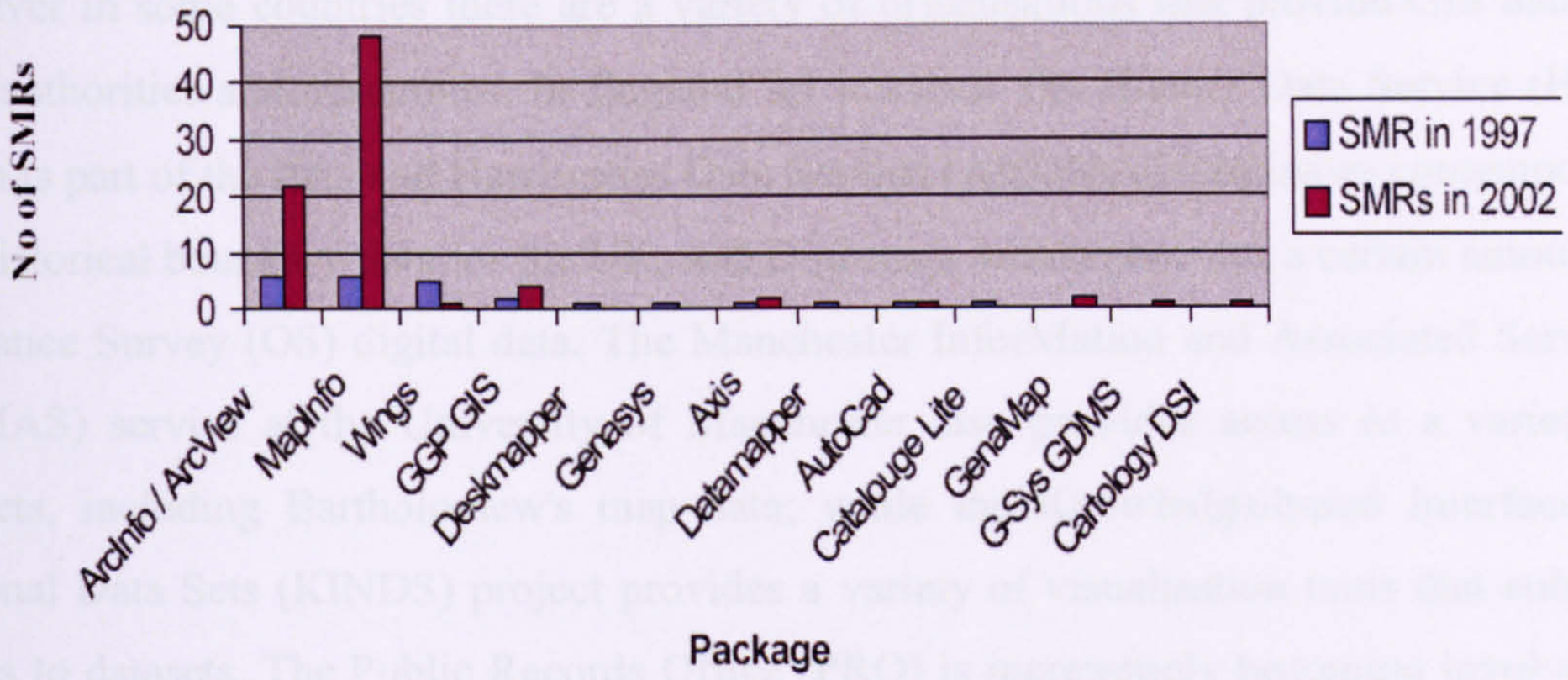


Figure 7.20: Changes in GIS package use in SMRs since 1997

Similarly MapInfo and ArcView/ArcInfo dominate the GIS packages used, with 52% and 24% respectively (Newman, 2002). This is partly due to the dominance of the exeGesIS systems which have GIS modules built in, MapInfo and ArcView/ArcInfo. Only 27% of SMRs have links to museums of the dominant Collections Management System is MODES.

7.4.7 Data for GIS

Two kinds of data are required for any GIS-based project: spatial data and attributes data. There are two basic sources of spatial data; primary sources where the data can be captured directly into the GIS, for example through the use of Global Positioning Systems (GPS), or remote sensing from satellites. More common in the urban heritage field conservation officers gather the urban spatial data from secondary sources, where data from paper maps are converted into digital form. There are two ways of doing this: scanning the maps to produce raster data; or digitising the maps where points or line features are traced either directly from paper maps or from scanned images of the maps. This produces vector data. The alternative is to acquire digital data from someone else. This is less time consuming and less risky, but spatial data are often expensive, may have serious copyright restrictions placed on their use, and need to be fit for the purpose required. The first and probably most

important decision to take when acquiring digital spatial data is what the source should be. The limitations of the original source inherently limit any subsequent use of those data. The scale of the source is of particular importance here; because of the purchase price and time required needed to capture the data (Gregory, 2002).

However in some countries there are a variety of organisations that provide GIS data for local authorities and academics. In England for instance, the History Data Service (HDS) which is part of the Arts and Humanities Data Service (AHDS), disseminates contemporary and historical boundary data for the UK; and Digi-map, which provides a certain amount of Ordnance Survey (OS) digital data. The Manchester InforMation and Associated Services (MIMAS) service at the University of Manchester also provides access to a variety of datasets, including Bartholomew's map data; while the Knowledge-based Interfaces to National Data Sets (KINDS) project provides a variety of visualisation tools that enhance access to datasets. The Public Records Office (PRO) is increasingly becoming involved in electronic publishing, although only limited amounts of data are currently available online. Other sources of free or low-cost data include the digital chart of the world, which provides data on a variety of different countries; the Electronic Cultural Atlas Initiatives (ECAI) and others. A variety of commercial companies sell spatially referenced data. The most obvious source of this in Britain is the Ordinance Survey, which sells digital versions of many of their map products. Other commercial sources include the AA and Bartholomew's. Purchasing these data can be expensive and copyright limitations may be placed on their use, but buying the data does provide high-quality products quickly and without the risks involved in capturing it.

7.4.8 Deficiency and Limitations of GIS

Gregory (2002) notes that GIS has a series of limitations that falls into four main classes:

- The first is related to its limited spatial data models (points; lines; polygons or pixels) that cannot adequately represent all spatial data.
- The second is related to data that is not often accurate enough, either because it is gathered from historical maps or because errors and limitations are added when the data are captured, digitised and processed.
- The third is related to the academic paradigm that locates GIS within technological advances in the earth sciences.

- The fourth is related to the practical problems that link to time consumption and prices. GIS hardware and software are expensive, while the data collection and maintenance are also expensive and time consuming. So are the salaries of staff with GIS training.

Many of these limitations can be overcome by following the methods applied in many successful GIS projects that relied on diverse budget and diverse data gathering, modelling and analysis techniques. GIS problems can also be prevented by following the basics of good practice, published by many experts. Gregory (2002) argues there are a number of procedures designed to prevent GIS problems. There are also some basics of good practice when using GIS, such as the following:

- Always think carefully about the impact of location. These can include apparently simple considerations such as the impact of combining two layers taken from different scale sources, as well as much more conceptually complicated considerations such as the impact of spatial autocorrelation on statistical techniques.
- Always be aware of the data's limitations. This applies in particular to the limitations of the source material, and to limitations connected with spatial issues such as scale and accuracy.
- Avoid unnecessary simplifications when exploring, visualising or analysing data. This means trying to use the data in a form as close as possible to their original with a minimum of aggregation though space, time or attribute. Where aggregation is unavoidable or is present in the source, the impact of the age

Apart from the limitations listed above, there are a number of reasons affecting the development of successful GIS. Murai (1999) identifies six major reasons:

- **Lack of Vision:** the top manager, who just purchased the GIS hardware and software by name, did not define the objectives, targets and goals of a GIS project. In this case, GIS is no more than a toy for the manager.
- **Lack of Long Term Planning:** GIS projects are long-term, and run for perhaps ten years at least. The budget for version upgrades and updating the database is sometimes not considered, and as such cannot keep the GIS project running.
- **Lack of Support by Decision Makers:** on occasions, another person who is not very supportive of the GIS project replaces the top manager in charge of GIS.

- **Lack of System Analysis:** A digital approach, with GIS as a replacement for the existing analogue approach based on manual work, is sometimes not acceptable in the existing conventional system. Restructuring of the organization and reduction/retraining are not implemented.
- **Lack of Expertise:** Improper selection and misuse of GIS hardware and software often occur, due to lack of expertise. Professional consultants or experts should be invited to evaluate the plan.
- **Lack of Access for Users:** There will be very few users if their training is not well organized, and they are not provided with a well-organized manual. Sometimes users do not feel responsible after the installation, as they did not participate in the project at the initial stage.

7.4.9 Supporting Software

GIS software combines computer mapping functionality with a form of database management system (DBMS) such as Dbase, Microsoft Access or Oracle. Computer mapping systems such as Adobe Illustrator or CorelDraw. GIS softwares are designed to produce high-quality graphical output. They include facilities such as the ability to draw features, move features from one location to another, change shading and line width, and so on. Although some, but by no means all, of this functionality will be found in GIS software, it is more helpful to think of GIS as a spatially-referenced database. That is mean for developing and editing drawings, graphs, documents and databases for the urban heritage resources, it is better to applied the kind of the software that are tailored for each target. Such as Autocad for creating and editing drawings, Microsoft access for creating and managing data-bases, Words for working with documents and reports, Adobe Photoshop for dealing with pictures, etc. The main GIS supporting software used in SMRs is Microsoft Access.

7.4.10 Microsoft Access

Access is a database management system specializing in the storage and management of all types of data, including geographic data. DBMSs are optimized to store and retrieve data, and many GISs rely on them for this purpose. They do not have the analytic and visualization tools common to GIS. Microsoft Access proved to be by far the most popular

software platform for SMR databases with 48 users, 72% of all respondents, see Figure 7.21. The number of SMRs using each is (Newman, 2002):

- Access 97 — 21 (1 moving to HBSMR shortly)
- Access 2000 — 8
- Access (earlier versions) — 3
- Oracle — 4 (1 moving to HBSMR shortly)
- Ardent Universe — 1
- FoxPro — 1
- Not Stated — 1
- TOTAL 39

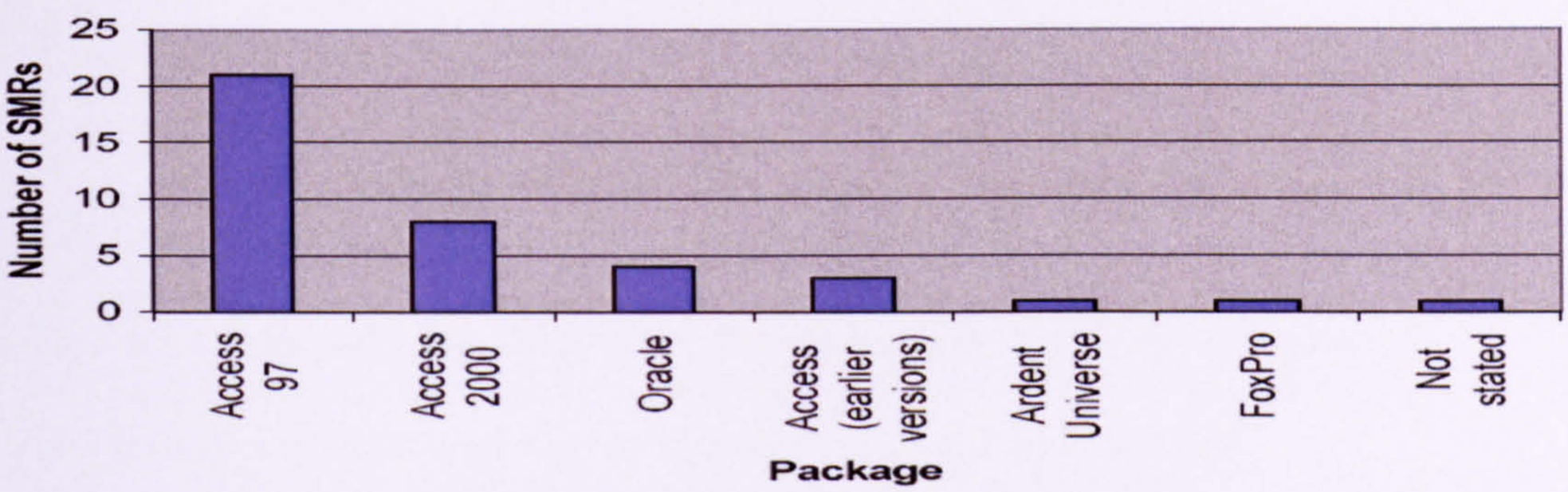


Figure 7.21: Packages used by SMRs for in house system

Access is used to easily create and publish interactive spreadsheets, and use PivotTable and PivotChart views. It promises to present important information dynamically, in different ways and to maximize productivity when creating forms, reports, data access pages, macros and modules. It is easy to open, view and update live data within a Web browser in the office or on the road, using the tools, and to allow users to view and edit live data within their browsers using Internet standards such as Extensible Style sheet Language (XSL) and Extensible Mark-up Language (XML). It enables building sophisticated Microsoft SQL Server database solutions within the familiar Access interface, allowing the creation of true client/server applications.

7.4.11 Conclusion

This section has presented GIS as a tool showing great promise for the analysis of urban heritage values. GIS can be used to capture, store, retrieve, analyse and displaying planning, historical, social and other data. It is used to analyse aerial photographs, spatial components, networks for efficient routes or paths, terrain and other aspatial data. The range of its applications shows that GIS can help in exploring both the geographical and the thematic data of urban areas in a holistic manner. This section has discussed all of these

factors, and has identified ArcView and MapInfo as the best known GIS software in urban heritage management.

7.5 Difficulties and Constraints of Using GIS in Urban Heritage Conservation

7.5.1 Introduction

In the previous sections, it was demonstrated that different reasons influence the successful use of ICT-based GIS in urban heritage conservation. Such reasons can be reduced to the following:

- The general problems of existing policies including the diverse types of authority and organisation
- The lack of a clear understanding of the subject under study
- The lack of methods that help when dealing with limited financial resources
- The lack of coordination between specialist and generalist systems
- The general problems of information systems
- The general problems of data access, and the role of metadata and interoperability in this regard
- The general problems of recording, documenting and archiving.

In the coming parts this study contextualises these general issues by the case of England which has different efforts in the use of ICT in the heritage domain.

7.5.2 General Difficulties of Existing Policies

In some countries existing policies might:

- Limit the output from national reviews and assessments, and might not allow local conservation officers to access the national heritage datasets despite their relevance for local management.
- Give ambiguous identification of heritage categories
- Result on uncontrolled responsibilities, inefficiency and lack of constructive joint-working with complementary systems and perceived differential requirements for access and retrieval between record-holding and conservation organisations.

- Produce individual information-managing organisations that often develop their own future strategies, with little awareness of other initiatives.
- Affect the degree of quality assurance and provision of validated data between different individual organisations and increase the tensions between notions of organisational territories and ownership of markets to the emerging trend of shared information resources (Baker and Chitty, 2002).

For instance, the lack of consistent policy in information archiving might affect the quality of documented sources of information, which in turn might affect the accuracy of the data transferred into GIS (Oxford Brookes University, 2000).

7.5.3 Diverse Types of Authority and Organisation

In many countries different types of authority and organisation are assigned responsibilities that interlink and overlap. In England, for instance, EH's survey on SMRs, in 2002, shows that Scheduled Monuments Records are maintained by different types of authority and organisation. The SMRs maintained by authority involve county, district and unitary authority, national park and national body. Meanwhile the SMRs by type of organisation involve: local government, National Parks, Trusts, Universities, commercial companies and national bodies, see Figure 7.22 and Figure 7.23 (Newman, 2002).

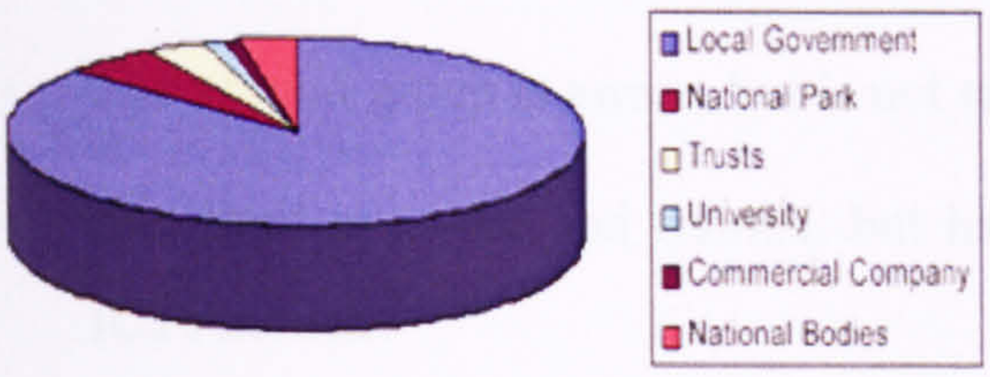


Figure 7.22: SMRs by type of organisation

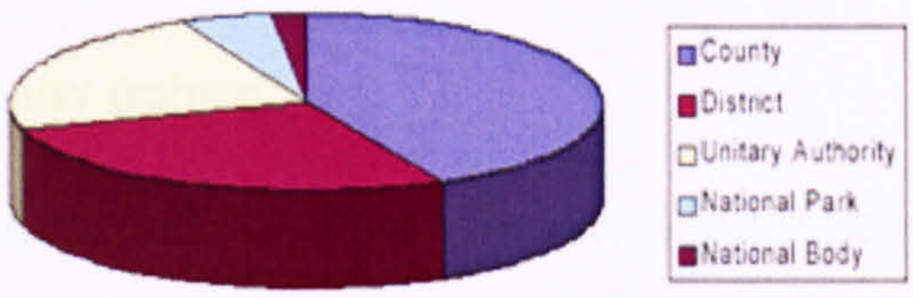


Figure 7.23: SMRs by type of authority

More often than not the responsibilities given to these authorities and organisations compromise a set of four inter-linked stages of data management (creation, storage, dissemination and re-use) and a set of different scales of data analysis (local, national and, regional). Such diverse types of authority and organisation with interlinked and overlapping responsibilities make the development of any successful urban heritage ICT model a

difficult task, as ICTs providers must communicate with varied groups having a range of views, procedures and interests.

7.5.4 Lack of Expertise and Understanding of the Subject under Study

Many of those using ICTs for recording and assessing urban heritage areas have no appropriate knowledge about heritage values, whether aesthetic, cultural, historical, scientific and socio-economic. Such lack of appropriate knowledge affects both the selection of ICTs spatial and a-spatial data, and the selection of the right ICTs analysis tool that in turn affects the assessment of heritage values. Such effects often increase with the breadth and complexity of the subject under study, the lack of theoretical models and operational examples of best practice, and lack of training.

Cecchini et al. (1996-2004) describes a new kind of professionals needed in the field of heritage management. This new professional figure is no longer only a planner in the traditional meaning, but is an adviser, an expert in communication and information systems, an expert with GIS technologies for analysis and spatial management, a negotiator. Such professionals are rarely to be found. Many conservation officers have little professional knowledge in either ICT or urban heritage conservation.

In relation to ICTs, conservation officers might be divided into four groups.

- The first group is not aware of the usefulness of ICTs techniques.
- The second group is aware, but is not sufficiently trained.
- The third is aware and trained, but has no financial resources for developing proper ICTs models.
- The fourth is aware, trained and has enough financial support, but still cannot deal with the complexity of urban heritage data, urban heritage values and the different internal or external information systems

In relation to heritage conservation, many conservation officers have no appropriately qualified specialist advisers for conserving urban heritage. The staffs who undertake heritage conservation may be qualified or unqualified, and can range from a single officer in a unitary or district authority to a multi-disciplinary team in a large county or lead authority, or even a retained consultancy. A survey undertaken in a number of English local planning authorities indicated that up to 20% of county and district authorities have no

appropriately qualified specialist advisers for historic building conservation (Baker and Chitty, 2002). Another survey showed that one authority had 20 staff, while 30% of authorities had only one. (Oxford Brookes University, 2000). Another survey, on the qualifications of English conservation officers showed that 20% of advertised conservation officer posts in 2001/2 did not specify any qualifications, while 70% did not specify years of experience (Baker and Chitty, 2002).

The findings of such surveys indicate that many local authorities or municipalities feel under no obligation to have access to the quality, range or quantity of specialist skills required for decision-making affecting the historic environment. It can be also an indication of the lack of appropriate training that helps officers to extend their knowledge. In some countries, a number of professional institutes have provided guidelines about the professional skills in heritage conservation (such as the IHBC, IFA, RIBA, & RICS in England) by defining the areas of competence needed for membership (Chitty, 1999). Many local planning authorities still ignore such areas of competence. Baker and Chitty (2002) give the example of England, where anecdotal evidence suggests that there is a poor general level of awareness of conservation issues amongst development control staff, which may mean that the need for specialist input is overlooked. So does the Association of Local Government Archaeological Officers ALGAO (1998), which argues that the impact of local government reorganisation on the distribution and effectiveness of specialist conservation staff is perceived as having been negative.

The development of successful urban heritage ICT models is more often than not affected by the lack of both ICT and heritage conservation expertise. Professional staff and appropriate training are thus very essential for successful ICTs model. Oxford Brown University (2000, 2002) suggested conducting ICT training for conservation staff at two levels:

- The first level is to raise staff awareness of the definition of an electronic record, the types of record which are worthy of long-term preservation, and of their own roles and responsibilities regarding the implementation of the strategy.
- The second level is to improve their skills through conference attendance, training courses, networking, and by formal or informal collaboration with other heritage teams and external organisations.

7.5.5 Lack of Methods that Help when Dealing with Limited Financial Resources

There is as yet a lack of strategic government investment in information systems for the historic environment. This seems to be related to the inherent tension between the lack of financial resources and the reservoir, nature and percentage of heritage. It can also be a result of some believing that the many kinds of recording and documentation needed for developing an information system represent a waste of money, as the budgets redirected to such recording and documentation activities may reduce the conservation activity budget. On the contrary, recording and documentation are critical to the heritage conservation process and they contribute in the long term to better decisions about the efficiency and effectiveness of conservation costs. RecordDIM (2002) states that in situations where there is very little funding to undertake conservation, recording may become the only justifiable activity, used to salvage information before the assets deteriorate further. More money on heritage recording and documentation may mean less money towards conservation. Based on this RecordDIM is working to develop good communication and training regarding the levels of recording and how low- and high-cost tools can be integrated in long-term conservation planning.

7.5.6 Lack of Coordination between Specialist and Generalist Systems

Another noticeable problem of urban heritage ICTs model arises from the lack of an enhancement loop between specialist and generalist systems. The scope for systematic enhancement of the second by the first has not been realized, because of uncertainties and tensions; for example, over data quality and standards, appropriate channels for dissemination, and the 'professionalisation' of data management conservation officers are not aware of available tools, possibilities and costs, while providers lack understanding of users' needs (Baker et al. 1999). RecordDIM (2002) states that despite their differences, users and providers are actually closer than it might be thought. Both groups want to place heritage at the centre, and to identify problems that exist. They have the same intentions, vision and causes.

Whatever was the case, it must be understood that a well-defined relationship between information users and providers is both necessary and essential to ensure proper conservation practice. In addition, the relationship needs to be understood and organized so that the providers respond to the specific needs of the conservation team and project, and that users and providers understand which tools are best suited for the project. Users should

be able to sustain, maintain and manage the documentation. Providers should help users assess the potential feasibility of recording. RecordDIM (2002) proposes that the ideal situation between these two groups would be:

- Communication: Users must clearly articulate their needs and the purpose of the documentation, while providers must communicate clearly the possibilities of existing tools to *improve* the documentation. Neither group should make assumptions about the other's knowledge or lack of it. The two groups must be involved in a number of joint tasks.
- Defined Terminology
- Recognising the different main types of providers (therefore their goals will not be the same) such as those involved with tool development, those who are specialist 'heritage recorders', or others including general surveyors, GIS experts, etc.
- Recognising and specifying the range of user and the user community. This means the number of people who will use the documentation and what their needs are, as different needs might require varying levels of recording.
- Identifying all parties who will use the project data; the immediate team, partners and others in the conservation field, plus anticipated future users.
- Improved training for providers (conservation) and users (surveying and recording technology). Training should help to bridge gaps between users and providers, as well as between public and private institutions. In training, developing an understanding of the complementary knowledge and skills of members of the conservation community should be emphasized, which should foster better communication and professional respect. Including mid-career specialists and management in training.

7.5.7 General Problems of Information Systems

In many countries, different information systems exist for managing data related to heritage. This diversity might be related to the desire of the authority or the organisation to work with the system it is used to, even if a new version of such system is produced or another system found to show promise. This diversity might also be a reason for the authority or organisation's desire to build its own system that fits its own understanding of data management. The survey conducted on English SMRs shows that 44% of the SMRs

use the latest version of the software for SMRs produced by exeGsIS SDM Ltd in partnership with E.H. and ALGAO, developed in Access 1997. 42% of the system SMRs use a system developed internally, all of which are different. 6% of SMRs use an earlier version of the software for SMRs produced by exeGesIS SDM Ltd. in partnership with E.H. (Then RCHME) and ALGAO, built in Access 2. 1% of the SMRs use a system developed in the 1980s for SMRs. 6% of SMRs use non-computerised systems, see Figure 7.24 (Newman, 2002). This diversity of information systems, especially with the increased number built in-house, is problematic as it reduces the possibility of sharing data within the different SMRs, and at the same time increases the difficult of providing a ICT based GIS that is compatible with all existing information systems (Being flexible enough to easily import data from existing systems, and export data to these systems).

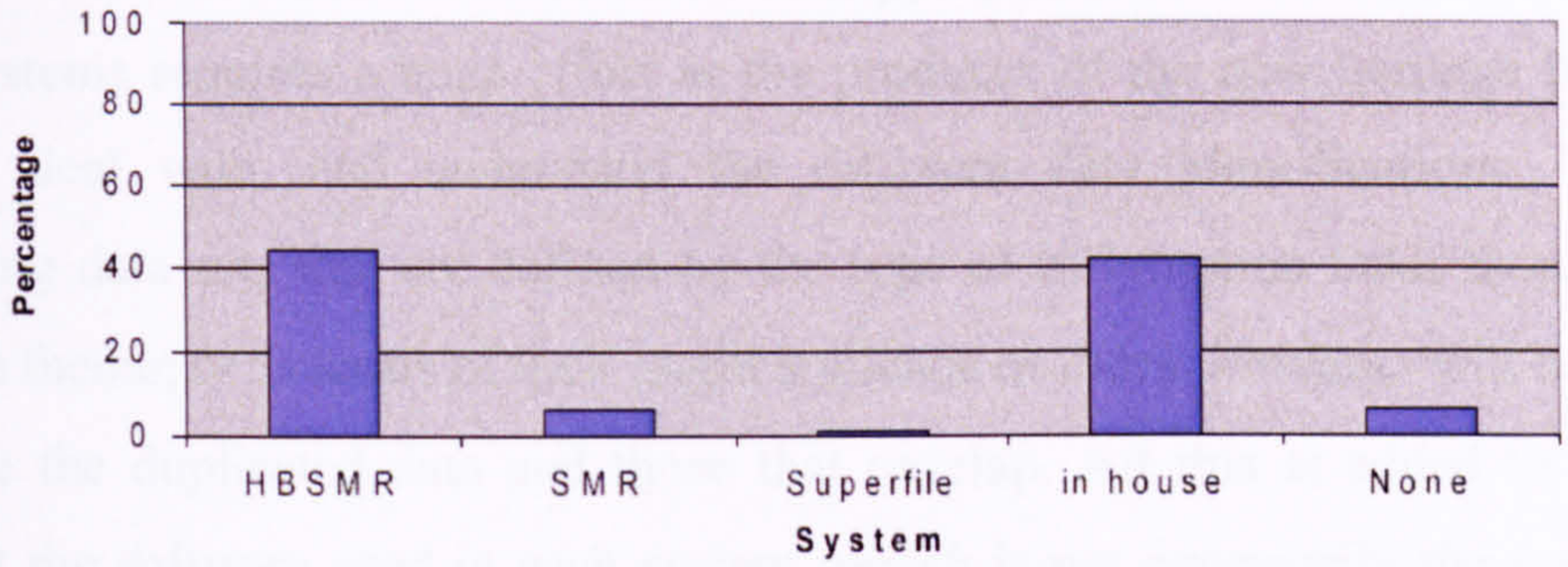


Figure 7.24: Database Systems in use in SMRs

Another example of the existence of different information systems in the heritage field is museum information. The English museum information systems include the following: MODES, ADLIB, MULTI MIMSY, CALM and Micromusee. Each system is produced by different groups and based on different standard and guidelines (such as SPECTRUM, MADII and CIDOC). For instance, MODES is produced by MDA (formerly the Museum Documentation Association), ADLIB by ADLIB Museum, MULTI MIMSY by Willoughby Associates Ltd, CALM by DS, and Micromusee by Mobydoc. These systems are not used by all museums. For instance MODES is used by more than 250 museums and archives, ADLIB is used by 50 museums, MULTI MIMSY is used by 30 institutions, CALM is used by many organisations and 10 museums, while Micromusee is used by 25 museums. Not all the 26 SMRs that are linked to museums are using the same system. The majority of SMRs linked to MODES use HBSMR as their SMR system, while all SMRs linked to ADLIB Museum use SMR systems built in house. The majority of those linked to MIMSY use HBSMR and SMR systems, two of the three SMRs linked to CALM use

HBSMR and in-house systems, while SMRs linked to Micromusee use HBSMR, see Figure 7.25 (Newman, 2002).

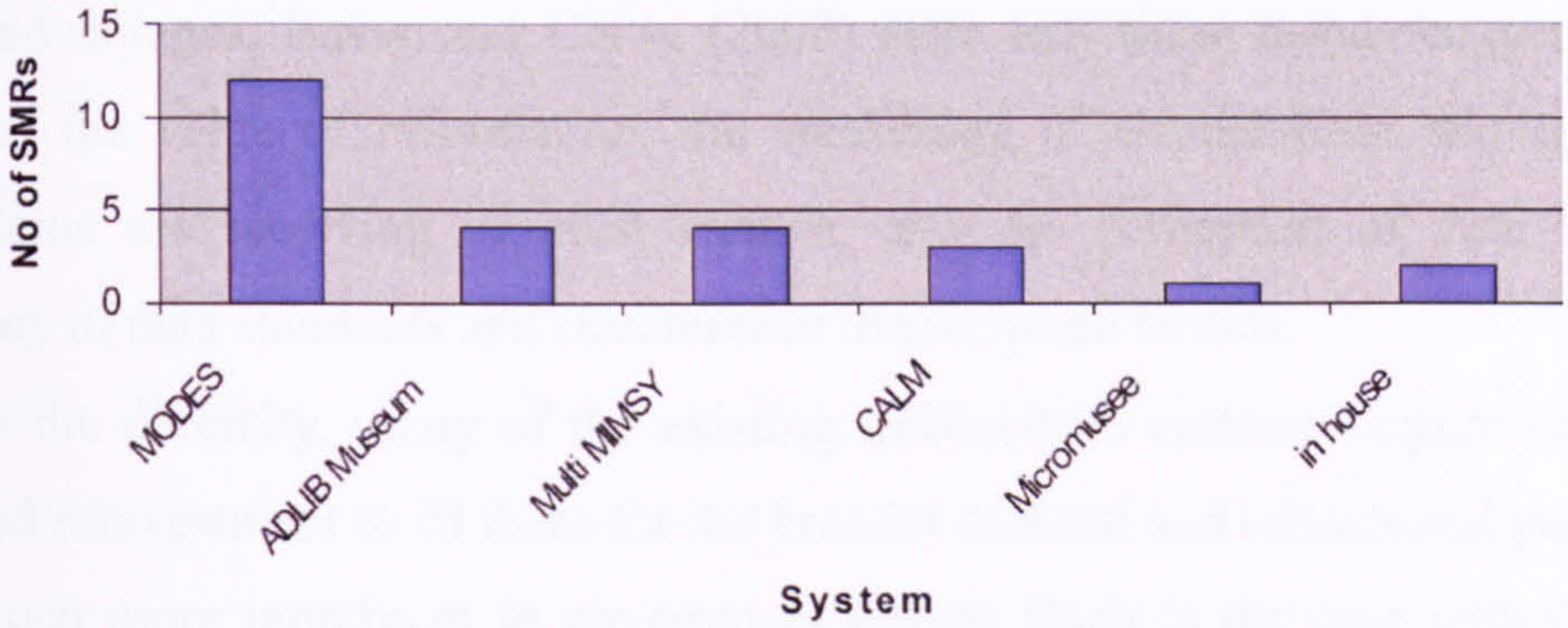


Figure 7.25: Collections management systems used by museums with links to SMRs

Appropriate ICT based GIS need sufficient and appropriate data. Such data, if recorded in different systems requires a huge effort as the producer of the new heritage ICTs will be charged to deal with, and understand the different data identifications. This means understanding data-sets that are defined by the type of information held; those defined in terms of the theme; or in terms of their target audience or users. Producer will be charged to differentiate the duplicated data and those that overlap. All this is added to the need to know about the software used in each system, which is not necessarily the same software used by the others. For instance the survey conducted on English SMRs revealed that a different group of GIS are used by SMRs or linked to SMRs (Newman, 2002) That means an SMR system when gathering data from other SMRs or from museums has to deal with different GIS, and has to change the quality of the data gathered to fit its own system see Figure 7.26 (Newman, 2002).

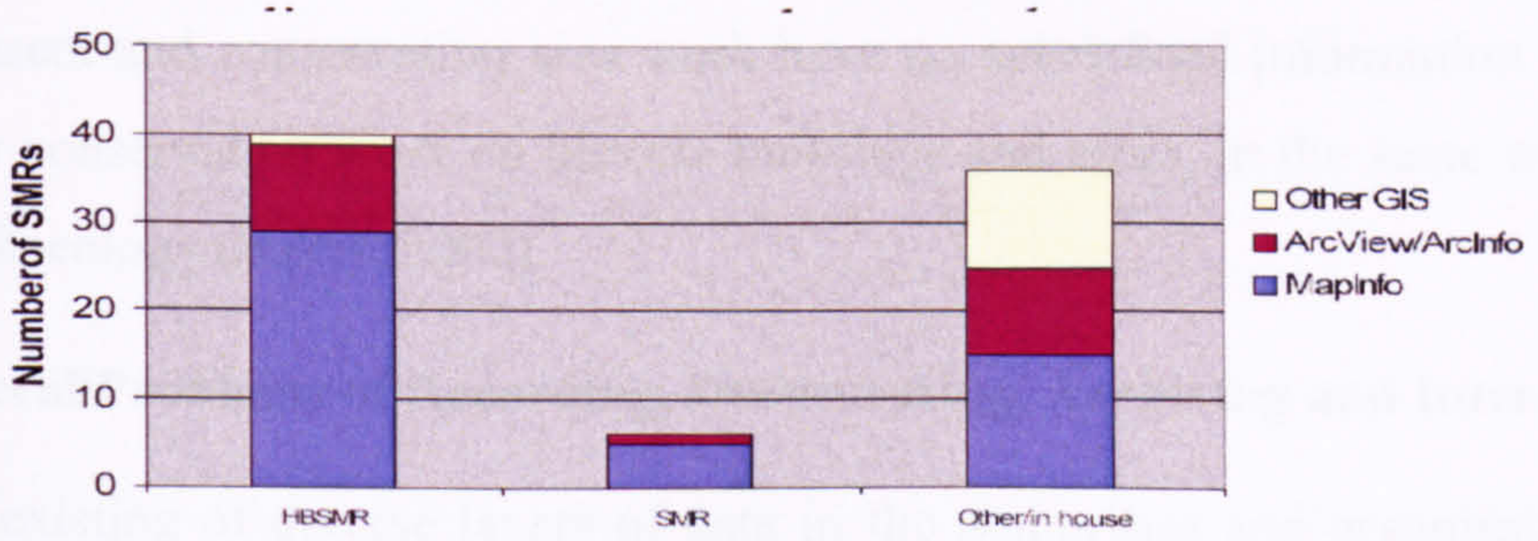


Figure 7.26: Types of GIS used in SMRs by database system

Different examples can be given of the diversity of information systems that interlink or overlap, such as those of the Scheduled Ancient Monuments, Conservation Areas, Registered Parks and Gardens, and Buildings at Risk Registers. All these systems overlap

with SMRs system, and with each other. All are separate systems holding the same or similar data, but for different management purposes. This diversity is perceived as having several disadvantages. Baker and Chitty (2002) state that these disadvantages include a reduction of the value of information, the weakening of maintenance and support that parent systems are receiving or must receive, and the corruption of data due to the inconsistency of data standards and structures in the recipient bodies.

Apart from the diversity, many of the existing information systems require considerable redesign and reinvestment to fit them for the broader cultural and educational purposes that are now much more prominent in government policy. Such is the case with the English information systems established in the 1980s and early 1990s. Many of the existing information systems comprise only limited, uneven and patchy coverage in some topic-areas and aspects, inefficient or inflexible spatial and attribute data (especially for core designations), or non-standard bibliographic material. This must lead to low confidence in sharing of the data held, repetitive collecting and documenting of the same coverage of data (such as with computerised English listed building records), and inadequate information flow.

The need for adequate information is a common thread running through various issues relating to the heritage conservation process (Baker and Chitty, 2002). English Heritage (2002) states that effective urban heritage conservation depends upon access to high quality, well-maintained information systems. Despite this recognition of the importance of information systems, up to half of all local authorities in England have no specialized information systems to support the conservation of the historic environment (Baker and Chitty, 2002). Between one half and two-thirds of all local authorities dealing with listed building consent and conservation area work have no specialised information resources to support their conservation work on historic buildings and areas, in the same way as SMRs work for archaeology (Baker, 2000).

7.5.8 General Problems of Recording, Documenting, Archiving and Interoperability.

Despite the existing of diverse layers of data in the authorities and organisations dealing with the conservation of heritage, the conservation process is not always in the right direction. The problem is mainly related to the inappropriate distribution, recording, documenting or archiving of these layers of data. Many authorities do not have original, accurate or adequate data. One organisation might have sufficient attributes of data but which are not all original, well documented and archived, and at the same time have no

accurate spatial layers of data. Another department might have well recorded, documented and archived spatial data, but little and inaccurate data attributes. Baker, in 1999 states that in UK existing systems holding data about urban heritage vary in resource and topic covered, in their consistency and usefulness, and in their documenting and archiving methods and conditions (Baker and Chitty, 2002). For instance:

- Baker in 2002 state that a survey conducted on SMRs' information systems showed that SMRs have diverse layers of data that are at different scale and level of accuracy The survey also showed that the content of 34 systems examined in a recent sample survey to be predominantly photographic, with surveys of all kinds and documentary sources consistently weak (Baker and Chitty, 2002).
- The survey conducted on English SMRs showed that many of the sources held in SMRs are not primary materials, and are created as copies of materials held elsewhere see Figure 7.27 (Newman, 2002).

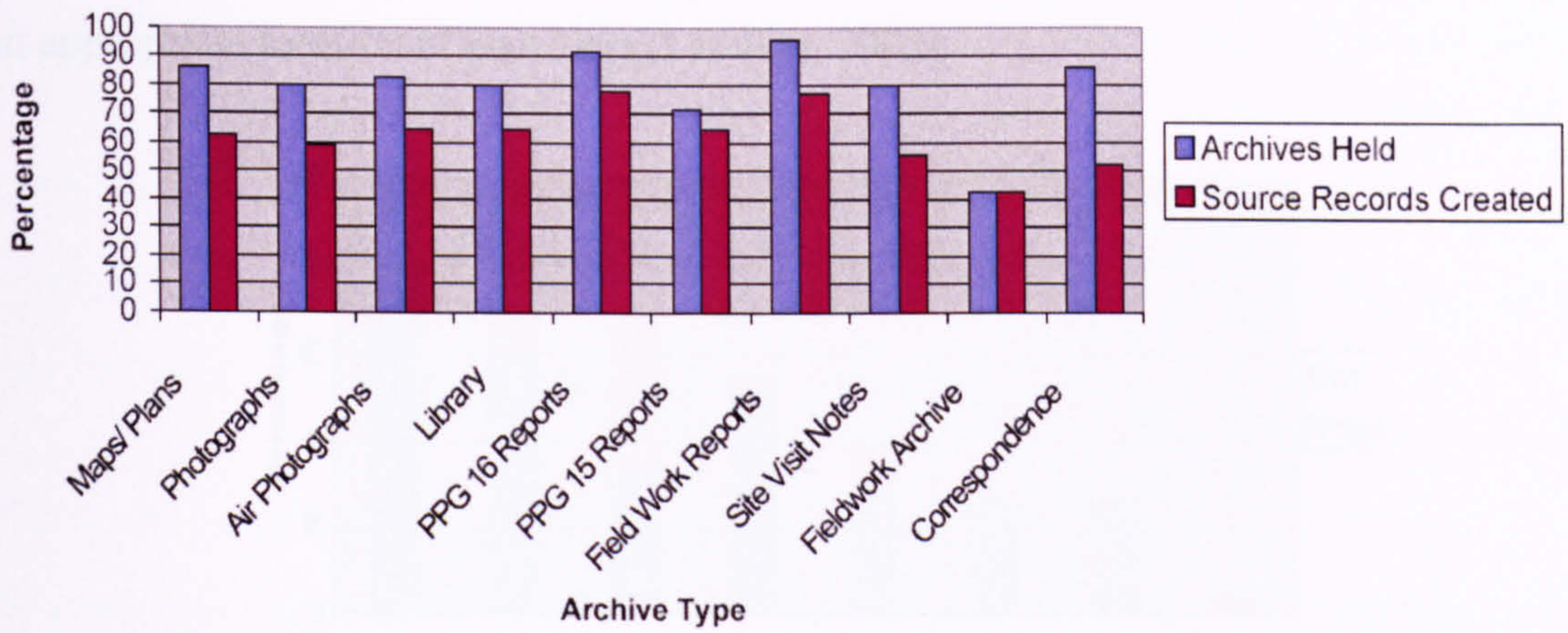


Figure 7.27: Archive types held and source records created by SMRs

- Another survey was conducted in April 1998, on 19 main topics for heritage recording across 75 English SMRs. Only 26% of those SMRs handle all the topics, while 55% handle some of them and 19% none (Baker, 1999).
- Newman (2002) also indicates that Fieldwork archives are low, although it is debatable whether an SMR should be the appropriate repository for these.

English Heritage (2002) states SMRs need to further expand the sites they record and the archives they hold, in order to fulfil a wider remit as Historic Environment Record Centres (HERCS); noting that few SMRs are recording or have access to appropriate information

(i.e. GIS layers) for other statuses which apply to land on which sites are to be found (e.g. SSSIs). This is added to the fact that fewer SMRs in each case create source records for each type of material. Newman (2002) states this is worrying, as it is essential for the Monument - Event - Archives model to be adhered to; something which should probably be part of an SMR standard.

Heritage data documentation is also affected by the ambiguous categorisation, identification and understanding of the heritage resources. In the English case this problem is much apparent at the 'Monuments' level. The types of heritage resources recorded as 'Monument', might involve resources that can be categorised under different categories such as scheduled monuments, listed buildings, registered parks and gardens, etc. see Figure 7.28 (Newman, 2002)

Many local authorities also still need to define and structure their data documentation, and to provide standards for the basic requirements of documentation. This is added to their need for proper criteria for the management and maintenance of digital documentation, and an appropriate location of providers (Letellier, 2002)

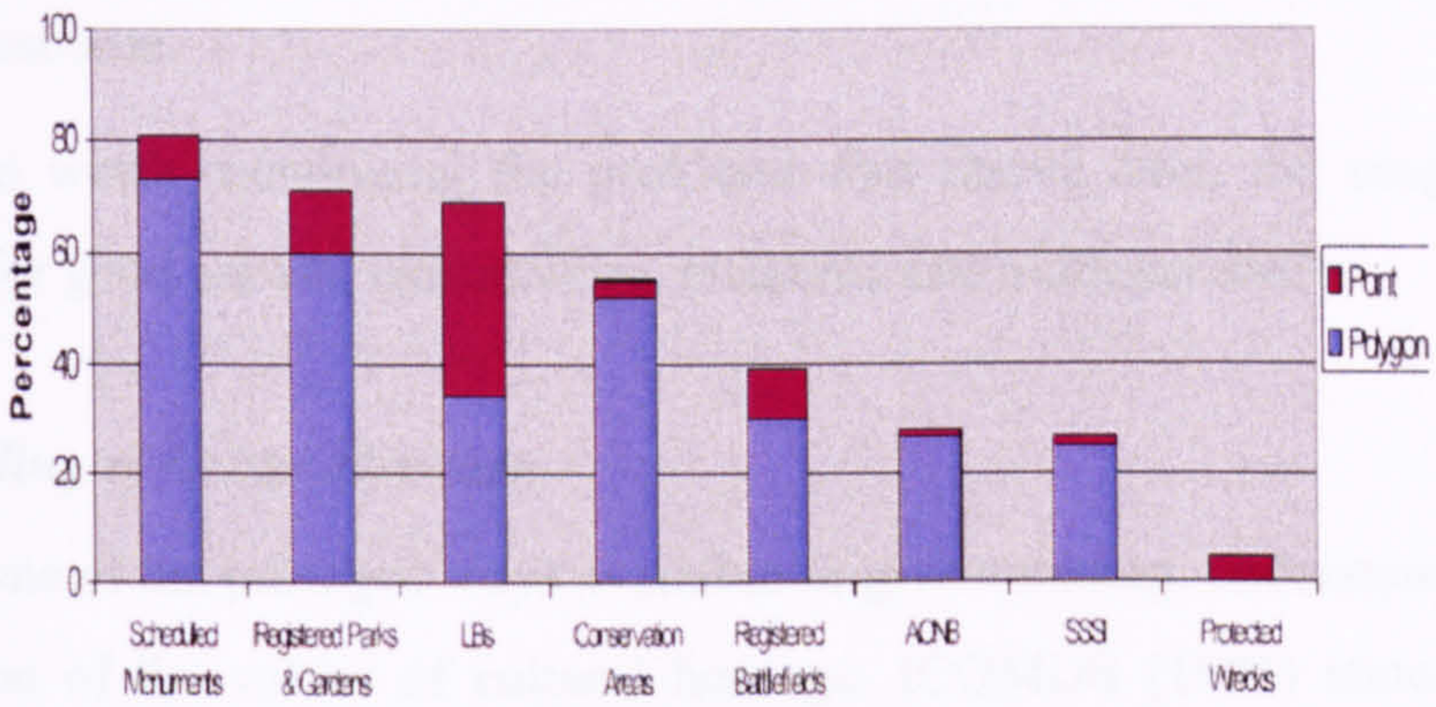


Figure 7.28: Types of protection status recorded by SMRs in GIS

There is also a lack of clear understanding of appropriate methods for recording data, especially within GIS. Many scheduled monuments, buildings and sites are recorded in SMRs as points, rather than polygons. Fernie (2000) states this raises concerns about the extent to which the full functionality of GIS is being utilised The SMR survey shows that only 10% of the 66% of SMRs that have registered their monuments in GIS have created polygons for all monuments in their area, and 50% of SMRs reported that they have digitized the boundaries in less than 10% of their area.

Recording, documenting and archiving must be integrated into conservation activities. They are central to conservation appraisal practices. To ensure appropriate assessment of heritage there is a need to develop and publish well-defined standards and guidelines about the level of documentation and recording. there are as yet some largely unresolved problems arising from different approaches to heritage recording and building conservation. Some of these problems are related to the use of appropriate techniques for recording and documentation. Letellier (2002) states that many of the techniques used for assessing and recording heritage values cannot assure the level of effectiveness and accuracy that can be achieved with specialized techniques (specialised techniques help producing better records, research, analysis, design, maintenance and monitoring). Letellier (2002) adds that although a growing number of information users are requesting training in heritage recording, documentation and information management, there are few courses that offer such training. Proper heritage recording and documentation certification or accreditation does not currently exist, especially for those dealing with the assessment of urban heritage. Policies must state clearly that heritage recording, documentation and information management are integral parts of the conservation process, starting from the listing of the resource.

Here it is also worth mentioning the problems that derive from the range of technical requirements for good access; terminology, metadata and interoperability.

7.5.8.1 *Recording of Urban Heritage*

Recording is one of the principal ways available to give meaning, understanding, definition and recognition of the values of cultural heritage. ICOMOS (1996) states that Heritage Recording is the capture of information relevant to understanding the physical configuration, evolution and condition of heritage sites and objects, at known points in time, and is the basis of decisions made to alter or care for such sites and objects. Recording activities are central to decision making. Recording facilitates and expedites the conservation process, and increases the quality of conservation research, analysis, design, maintenance and monitoring. Letellier (2002) claims that recording is essential to ensure appropriate heritage assessment, and consequently positive planning for the future of the heritage. Despite the importance of recording in urban heritage conservation, many problems still affect the proper recording of heritage resources. According to GCI, ICOMOS and CIPA, the problems of recording can be summarised as follows:

- The lack of agreement on the appropriate levels of recording; lack of strategies to increase recording, documentation and information management budgets.
- The need to differentiate between immediate versus long-term needs in urban heritage appraisal; national versus local recording expectations.
- Lack of understanding and recognition of the skill base pertaining to heritage recording and documentation.

There is therefore a need to promote Article 16 of the Venice Charter, and heritage recording statements from other charters. There is also a need to tailor each country's policy requirements that would facilitate the implementation of heritage recording and documentation for urban heritage. ICOMOS (1996) argues that recording should be undertaken to an appropriate level of detail in order to:

- provide information for the process of identification, understanding, interpretation and pre-sensation of the heritage, and to promote the involvement of the public;
- provide a permanent record of all monuments, groups of buildings and sites that are to be destroyed or altered in any way, or where at risk from natural events or human activities;
- provide information for administrators and planners at national, regional or local levels to make sensitive planning and development control policies and decisions;
- Provide information upon which appropriate and sustainable use may be identified, and effective research, management, maintenance programmes and construction works may be planned.

Letellier (2002) proposes that the methods of recording and types of documentation produced should be appropriate to the nature of the heritage, the purposes of the record, the cultural context, and the funding or other resources available.

7.5.8.2 *Documentation of Urban Heritage Data*

Documentation refers to the whole range of information about a resource, which must be maintained in order for that resource to be used and preserved. Letellier (2002) argues that documentation is information units acquired over time through heritage recording and other research means, which constitute the knowledge base for particular sites and objects. Documentation can also be defined as a process which produces written, printed or other

kinds of material, furnishing data and information from which knowledge might be derived. Based on work by Garrett & Waters in 1996, Brown (2000- 2002) argues that the criteria for evidential and integral records must rely upon the following form of documentation:

- The content to represent the data and the structural elements and at the same time describe the formats, structures, and encoding schemes which are applied to convert the data into more meaningful information, together with any technical dependencies.
- Provenance to describe the source of the record, and its custodial and processing history.
- Context to describe how a record relates to its environment, including its relationships with other records.
- Reference to define the unique identifiers, and the identification schemes, by means of which a record may be distinguished amongst other records.
- Fixity, to describe the means by which a record is protected from unauthorised and undocumented alteration.

All that must be added to a number of possible preservation strategies for digital data, which involve:

- Technology Preservation, meaning preserving the original hardware, system and application/s required to access or maintain the recording system.
- Emulation, meaning developing emulator software designed to mimic the operation of obsolete hardware platforms and operating systems. Emulation may well be a vital tool for the rescue of data which is seriously at risk.
- Migration. Data migration is simply the possibility of transferring digital resource from one hardware/software environment to another, through one of the following strategies:
  - Backward Compatibility, which allows files created using a previous version to be converted to the latest version format.
  - Interoperability, which allows making software capable of reading and converting file formats created by other, similar packages, or of converting files to common interchange formats.

- Standard formats which exist for certain types of data, (e.g. HTML for text and TIFF for raster images) to reduce the risk of access to a digital resource being reliant on any particular software package.

7.5.8.3 *Archiving of Urban Heritage Data*

Werf (2002) states that a fundamental aim of any digital archiving strategy is to preserve records that are authentic. In other words, any future user must have confidence that a record is what it claims to be. It is impossible to develop such a strategy without a clear understanding of the nature of a record, and of the essential characteristics upon which its authenticity depends.

ICOMOS (1996) argues that the authenticity of a record needs to be established from the moment of creation, and these principles consequently inform the procedures for maintenance of active records as well.

- The original records should be preserved in a safe archive, and the archive's environment must ensure permanence of the information and freedom from decay to recognised international standards.
- A complete back-up copy of such records should be stored in a separate safe location. Three copies of such records should be accessible to the statutory authorities, to concerned professionals and to the public, where appropriate, for the purposes of research, development controls and other administrative and legal processes.
- Updated records should be readily available, if possible on site, for the purposes of research into heritage management and maintenance, and disaster relief.
- The format of the records should be standardised, and records should be indexed wherever possible to facilitate the exchange and retrieval of information at a local, national or international level.
- The effective assembly, management and distribution of recorded information requires, wherever possible, the understanding and appropriate use of up-to-date information technology.
- The location of the records should be made public.
- A report of the main results of any recording should be disseminated and published.

7.5.8.4 *Terminology, Metadata & Interoperability of Urban Heritage Data*

Terminology

Most heritage authorities use different terminology when recording the same set of heritage data. For instance NTSMR's survey conducted asking SMR Officers in England about the contents of the Protection Status (Grade lookups) for monuments showed that over 87% of those who responded had added new, or edited existing designation terms. The survey showed little conformity of terminology even for Scheduled Monuments, whose designation is universal throughout England and where there is very little scope for misunderstanding. The NTSMR survey showed over 14 different terms being used to record a scheduled monument. This example shows how little conformity there is within terminology standards. Some countries have begun to realise the problem of terminology for accessing recorded data and have started to develop and implement a standard terminology for data, in the form of an adequate integrated subject thesaurus for heritage. England is one of these countries, where the FISHEN group has been charged to provide such standards. Indeed other organisations have been given such responsibility; an example being RCHME that provided in 1995 a thesaurus of Monument Types to be used in Archaeological and Architectural Records. This thesaurus standardises and correlates monument recording by listing terms hierarchically, and indicating preferred terms in the case of synonyms

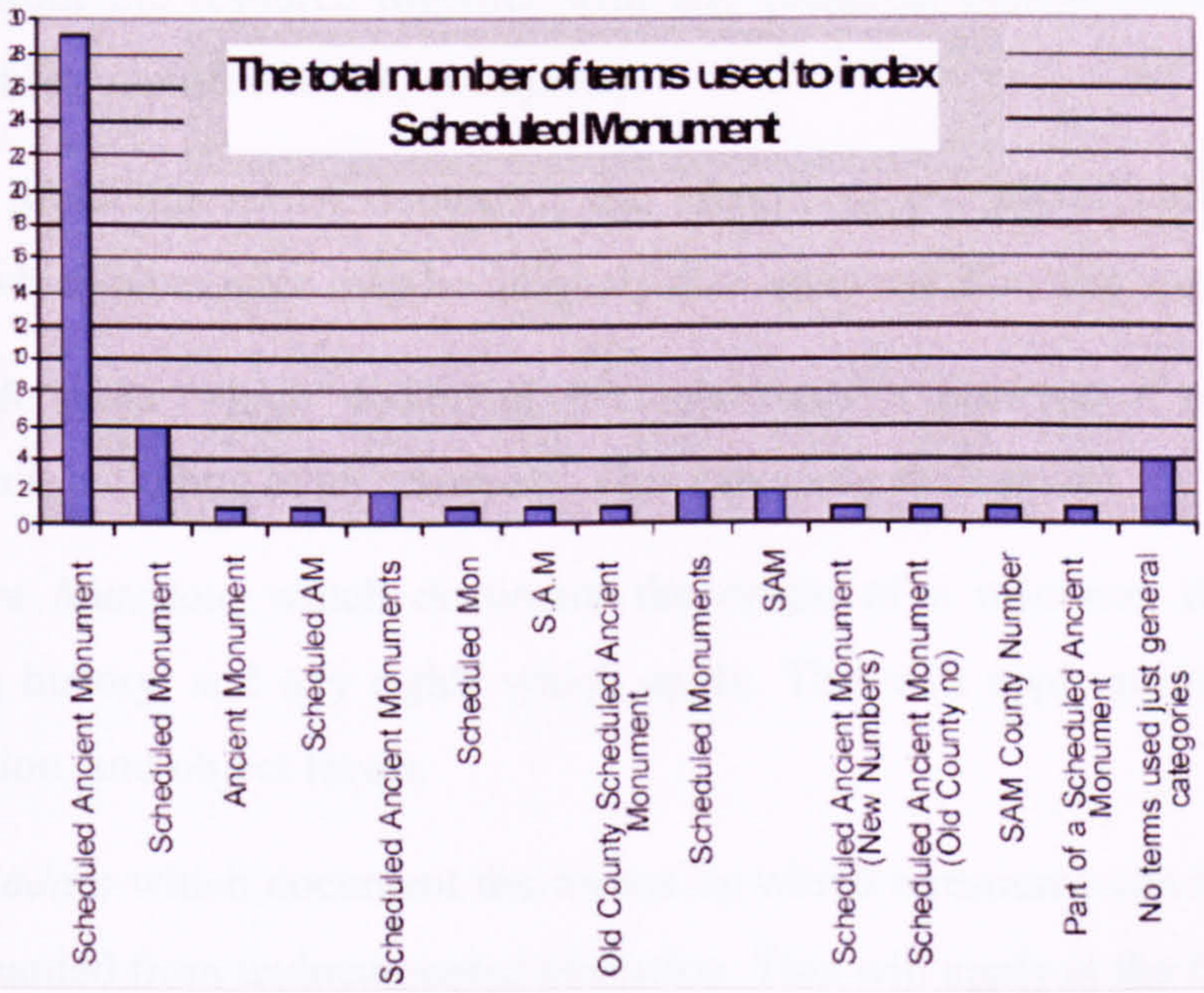


Figure 7.29: Total number of terms used to index scheduled monuments.

Metadata

The problem of data access is not only affected by diverse terminology, but a number of basics called Metadata. Metadata are element sets intended to facilitate the discovery of electronic resources. This offers simplicity, semantic inter-operability, international consensus and extendibility, permitting cataloguers to use various standard `schemes' to describe each core data field. Within a metadata scheme thesauri and control of terminology are essential, so that users can understand how search terms have been applied across their target collections. Alemneh et al (2002) states that complex relationships can exist within and between collections of digital resources, and these must be reflected by the metadata. Metadata are restricted to a standardised subset of that documentation which applies to all resources, and is maintained as a catalogue. Metadata's most famous protocol is Z39.50. Metadata protocols enable a single user to make simultaneous queries of diverse, distributed, data resources; they require data creators to provide appropriately organised and digitised material only once. Such resource discovery metadata, or data about data, covers the nature of a body of information, its electronic location and the whereabouts of similar information (Baker et al., 2000)

Metadata can be understood at different levels (Baker et al., 2000):

- *Representative Metadata* which document the file formats, structures, and encoding schemes applied to the resource, and which also document the information to be extracted from the resource together with any technical dependencies. (This can be applied to files, manifestations, or objects).
- *Reference Metadata which* document the identifiers and identification schemes by means of which a resource may be uniquely distinguished. This can apply at all levels.
- *Context Metadata* which document the relationships between a resource and its environment, including other resources. This can apply at all levels.
- *Provenance Metadata* which document the origin of a resource, its custodial and processing history, and any rights which apply. This will apply primarily at the file, manifestation, and object levels.
- *Fixity Metadata* which document the means by which a resource can be authenticated, and safeguarded from undocumented alteration. This will apply at the file level.

Interoperability

Nowadays heritage organisations wish to maximise interconnectivity or interoperability between physically dispersed systems. This desire has evolved from the belief that interoperability has the potential to transform and strengthen the roles of major organisations at national and local levels, by defining them as points of access to both national and local data-sets, in the service of the nation and community. This means that each existing system must be able to provide a clear statement of its scope, functions and purposes, as a means of communication and a practical aid to resource discovery. Interoperability and open-standards have long been buzzwords in the GIS industry. The interoperability of GIS has some requirements that are different from non-GIS systems. Open-GIS Consortium (1998) states that the interoperability of GIS can be achieved in two ways:

- Firstly, the developers of GIS must come together and define de facto standards.
- Secondly, an approach is required to develop semantic translators to define the meaning of concepts.

The Open-GIS Consortium [which is a collaborative effort by GIS vendors, integrators, academics, government agencies and standards organisations to develop interoperable geo-processing technology specifications] (1998) argues that the maximization of interoperability can only be achieved through an understanding of users' needs. The consortium adds that each existing system must be able to provide a clear statement of its scope, functions and purposes, as a means of communication and a practical aid to resource discovery. There must be a presumption, when new ones are created and existing ones re-engineered, of convergence towards standards that maximise the scope for interoperability between systems.

Several initiatives have been taken recently (among which are the OpenGIS Consortium – OGC, and INSPIRE at the European level) to improve interoperability and convergence of geospatial information technologies with mainstream IT.

Interoperability greatly accelerates the ability to access, process and ultimately understand geospatial information from multiple sources. Digital maps and earth images, which until now could not be accessed and used without special skills and software will become an integral part of the information infrastructure. Miller (2002) argues that 'to be interoperable, one should actively be engaged in the ongoing process of ensuring that the

systems, procedures and culture of an organisation are managed in such a way as to maximise opportunities for exchange and re-use of information, whether internally or externally.' 'Interoperability' is a broad term, encompassing many of the issues impinging upon the effectiveness with which diverse information resources might fruitfully co-exist. These issues are many and varied, but a key set may usefully be identified as (Miller, 2002):

Technical Interoperability: in many ways the most straightforward aspect of maintaining interoperability, consideration of technical issues includes ensuring involvement in the continued development of communication, transport, storage and representation standards such as Z39.50, ISO-ILL, XML, etc.

Semantic Interoperability: almost inevitably, these discrete resources use different terms to describe similar concepts ('Author', 'Creator', and 'Composer', for example), or even use identical terms to mean very different things, introducing confusion and error into their use. Ongoing work on the development and distributed use of thesauri such as those from the Getty is one important aid in this area, and worthy of further exploration.

Political/ Human Interoperability: apart from issues related to the manner in which information is described and disseminated, the decision to make resources more widely available has implications for the organisations concerned (who may see this as a loss of control or ownership), their staff (who may not possess the skills required to support more complex systems and a newly distributed user community), and the end users.

7.6 Conclusion

This chapter introduces the recent advances in ICT and its role in sharing knowledge, managing decision-making and increasing public participation. It outlines the contribution of ICT in heritage conservation and management. It searches for the most appropriate use of ICT in the urban heritage appraisal process. It also identifies the range of ICT tools and their tasks. It starts with surveying and recording tools that include remote sensing, digital photogrammetry, GPS, professionally calibrated digital cameras, etc. It then moves to the software and the associated languages, with a focus on CAD, Virtual reality and augmented reality software (AutoCAD, 3D Studio Max, LOD, CyberCity-Modeler). This overview covers the techniques concerned with the creation of virtual actors, virtual visits and travel, reality rooms, distributed video projects, simulation projects, etc. At that point this chapter

notes that this techniques mostly focus on the physical aspect of the urban heritage resources. Little effort is being made to use this techniques to record, analyse, preserve the socio-political and cultural aspects of urban areas. This chapter calls for greater awareness among heritage researchers about the potential of GIS in this concern. GIS can be a promising tool for the analysis of urban heritage values, It can be used to capture, store, retrieve, analyse and display planning, historical, social and other data; similarly to analyse aerial photographs, spatial components, networks for efficient routes or paths, terrain and other aspatial data. The range of its applications shows that GIS can help in exploring both the geographical, temporal, contextual and thematic data of an urban area in a holistic manner.

This chapter reviews the history of GIS' involvement in the urban heritage domain. It also studies its analytical procedures, including the advantages and disadvantages for this. This chapter studies the limitations of GIS, including its limited spatial data models (points; lines; polygons or pixels), its captured, digitised and processed data that are not often accurate enough; its academic paradigm that locates it within technological advances in the earth sciences, and the practical problems derived from considerations of time and cost.

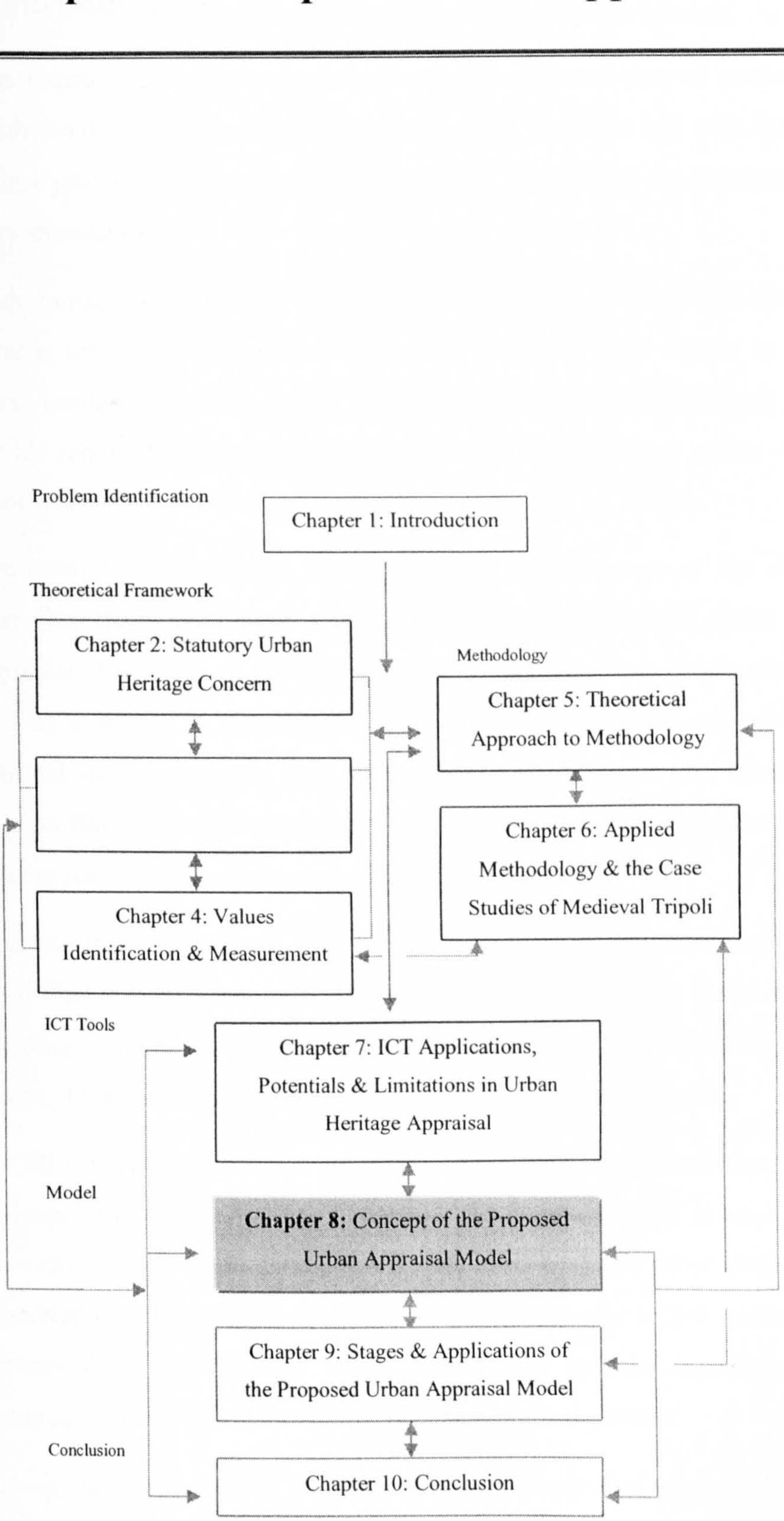
After this the chapter begins to look at methods of overcoming the limitations of GIS, by studying some successful GIS projects and basics of good practice. These have been published by a number of experts. Based on this study, this chapter suggests thinking carefully about the importance of location, the impact of combining spatial data and autocorrelation on statistical techniques, the significance of data accuracy, form and age. This chapter moves to other factors affecting the development of successful GIS, including lack of vision, lack of long term planning, lack of support by decision makers, lack of system analysis, lack of expertise and lack of access for users.

In the third section this chapter lists and analyses the factors that influence the proper use of GIS in the heritage field through the English experience. It starts with the problems derived from there being different types of authority and organisation. It then moves to the problems of existing policies, there being no clear understanding of the subject under study, lack of methods that help when dealing with limited financial resources, coordination between specialist and generalist systems.

This chapter also describes the largely unresolved problems arising from different approaches to heritage recording, documentation and archiving. It investigates the role of proper recording, documenting and archiving in the heritage management process

The chapter ends by describing the importance of terminology; metadata, interoperability for accessing recorded heritage data, discovery of electronic resources and maximised interconnectivity between physically dispersed systems.

Concept of the Proposed Urban Appraisal Model



8. Concepts of the Proposed Urban Appraisal Model

8.1 Introduction

The theoretical chapters including chapter 7 demonstrated that no method exists as yet to deal with the diversity of urban heritage resources, variables and stakeholders which at the same time provides the required documentation, access and data analysis. The theoretical chapters showed that:

- Communities differ in their ability to apply multiple methods that suit the evaluation of diverse urban heritage values. They also differ in their ability to evaluate multiple urban heritage resources and to provide sufficient levels of analysis, even though they are all required to consider urgent planning decisions that might affect the heritage significance of urban areas.
- Communities appraise the heritage values of urban areas for different purposes. Therefore they might need to consider different levels and scales of urban heritage appraisal. The focus of this appraisal can range from one single urban resource to the area as a whole. It can also be limited to the local scale or expanded to national, regional and international ones. However communities are still faced with the problem of identifying the appropriate levels and scales of appraisal and the way of relating the diverse scales and levels to each other.
- Decision makers are faced with the problem of relating the information gathered from the different evaluation methods, and consequently they are faced with the problem of deciding which resources, variables and attributes are the most significant and to whom. This fact might encourage some them to falsify the truth.
- Not all conservation officers are qualified to apply the evaluation methods that suit the assessment of urban heritage values. A systematic method is required to guide them through the appraisal process. So is the case with the other stakeholders, including consultants and the public. Because of the complexity of the urban heritage appraisal process these stakeholders might also forget to take significant, urban heritage resources, variables and attributes into the appraisal process.
- Not all stakeholders have the same role in the appraisal process. Stakeholders vary in their qualifications, professions and relation to the urban heritage area and its

resources. The methods that must be applied to appraising urban heritage values must take such diversity into account.

- Most conservation officers and decision makers are not familiar with advanced ICT techniques that provide flexible documentation and analysis of data gathered via diverse urban appraisal methods.

As such it is not sufficient to underline only the choice of methods that suit the evaluation of each set of heritage values, but it is also important to devise a system that combines together all the methodological approaches that suit evaluation of diverse urban heritage values, and which at the same time

- Enable communities to choose the level of appraisal that suits their resources, time schedule and intervention plans, and that gives an acceptable level of accuracy to the heritage significance of the urban areas.
- Guide the stakeholders through the appraisal process, and gather from them the data they are qualified to give without affecting the democratization of the process.
- Guide the decision makers to a flexible analysis of the information gathered about urban heritage resources, and help them to identify fairly the heritage values of those resources.
- Guide conservation officers, stakeholders and decision makers to the ICT packages that facilitate their work. Accelerate the interaction of these users with these packages, either by providing the necessary instructions and guidelines or by automating access to the repeated procedures at the data input, output and analysis levels.

This chapter introduces such a system in the form of a computer model. This model shows a way to build the surveyed appraisal of an urban area upon theoretical formulated criteria, and how information & communication technology can contribute to the urban appraisal process. The model incorporates differences in heritage conservation interests and values in an analytical research framework. It gives more substance to the notion of openness, offering possibilities of increased insight into the question 'what to conserve, why and for whom?' The model is able to handle a quick appraisal of urban heritage that is constantly changing. It is able to produce intelligent and interpretable outcomes that can be used to answer a number of fundamental questions about urban heritage. The model can be used to:

- Appraise the heritage significance of an urban area

- Highlight explicit differences in urban value judgments
- Document existing information about the urban heritage
- Handle a quick search and access to the documented urban heritage information
- Enrich the spatial analysis of urban heritage.

This chapter is divided into four parts. The first part introduces the aim and the context of the chapter. The second part presents the concept of the proposed urban appraisal model and its three dimensional evaluation matrix. The third identifies the software used to build the model, and the proposed modes of urban data. The fourth describes and concludes the model's advantages and disadvantages.

8.2 The concepts of the Model

8.2.1 Introduction

The idea of the model is to gather from urban heritage stakeholders information on urban heritage resources, and their interaction with these resources. The model helps the decision makers involved in the study of intervention strategies in urban heritage, to study this information, compare, standardize and disaggregate it and then report the results in the form of tables, maps and charts. The model can thus be accessible to both urban heritage stakeholders as well as decision makers.

The model is structured upon a 3 dimensional evaluation. The first dimension (x) concerns the nature of the urban heritage resources. The second dimension (y) concerns the nature of the urban heritage stakeholders. The third concerns the level of appraisal (z) (Figure 8.1).

The first dimension (x) is disaggregated into eight resources; areas, districts, lots, buildings, gardens and landscapes, roads and parking spaces, units and objects.

The second dimensional (y) is disaggregated into four main groups; conservation officers, consultants, expert public and the non-expert public. Each of these groups comprises a number of sub groups. These include owners, residents, employers and employees, visitors.

The third dimensional (z) consists of three main appraisal levels; the specific level, the comparative level and the contextual level. Each of these levels is divided into different levels of complexity. For instance, the specific level is divided into 3; basic intermediate and advanced.

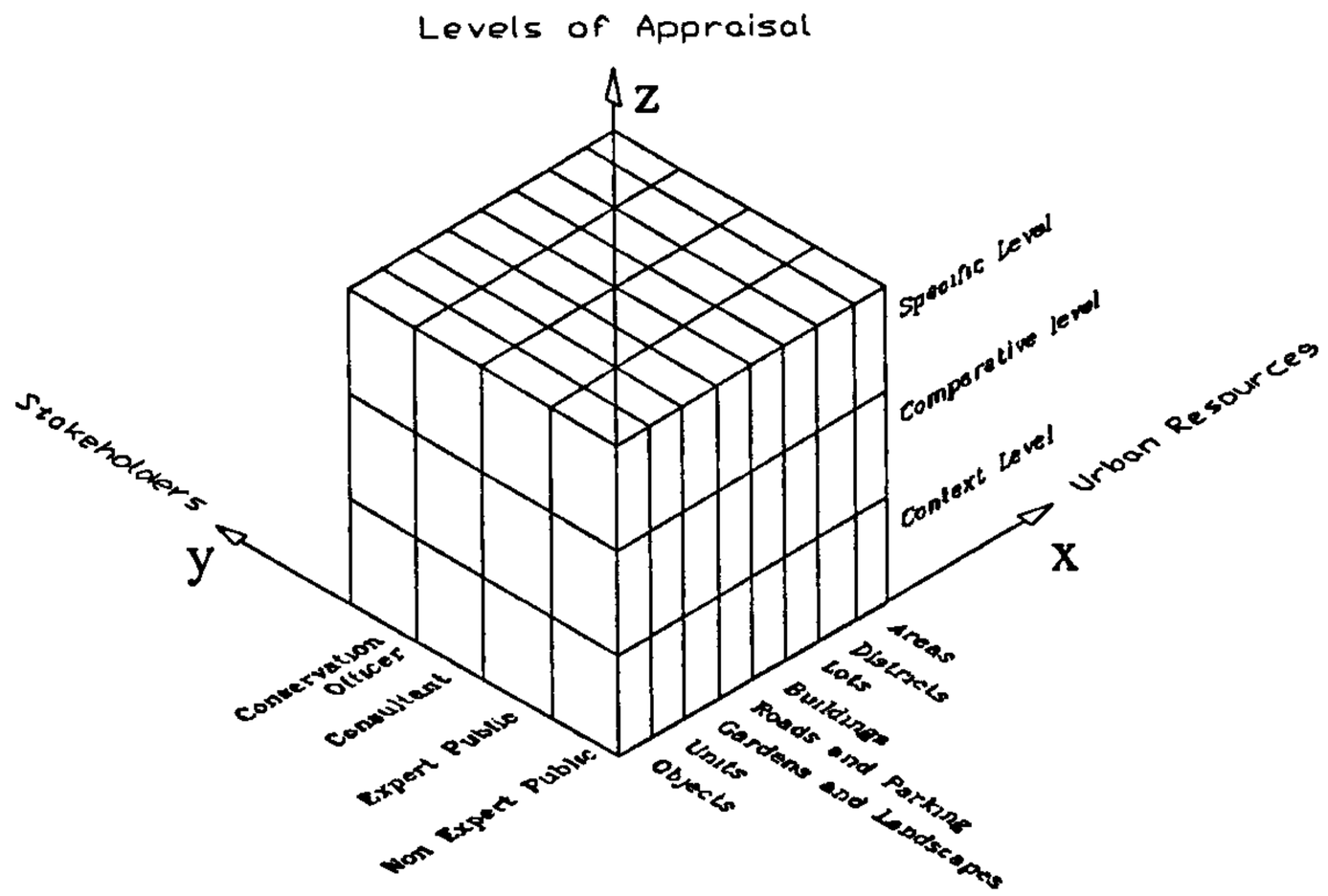


Figure 8.1: 3 dimentional evaluation of urban heritage appraisal

The major advantage of this 3 dimensional evaluation is that judgments about urban significance are no longer limited to specific urban stakeholders and resources, nor to specific appraisal level. The following section explain in more details the principle of each dimension

The model is developed in respect to the principles highlighted from the theoretical and the methodology chapters. The model appraises all the categories of heritage resources mentioned in chapter 3 (revise table 3.1), as it is found in chapter that an urban area might involve all type of heritage resources. The model gives sound to different stakeholders, as it is found in chapter 3 and 4 that different categories of people must be involved in the appraisal process. The model provides different level of appraisal as it is found in chapter 2, 6 and 7 that local authorities vary in their ability to appraise the urban heritage area, so is the case with the stakeholders that vary in their profession, qualification, interest, etc. The model also bring together the tools mentioned in chapter 6, the coming sections of this chapter will explain in more details the concept of the model.

8.2.2 Urban Appraisal Dimensions

8.2.2.1 *Urban Resources Dimension*

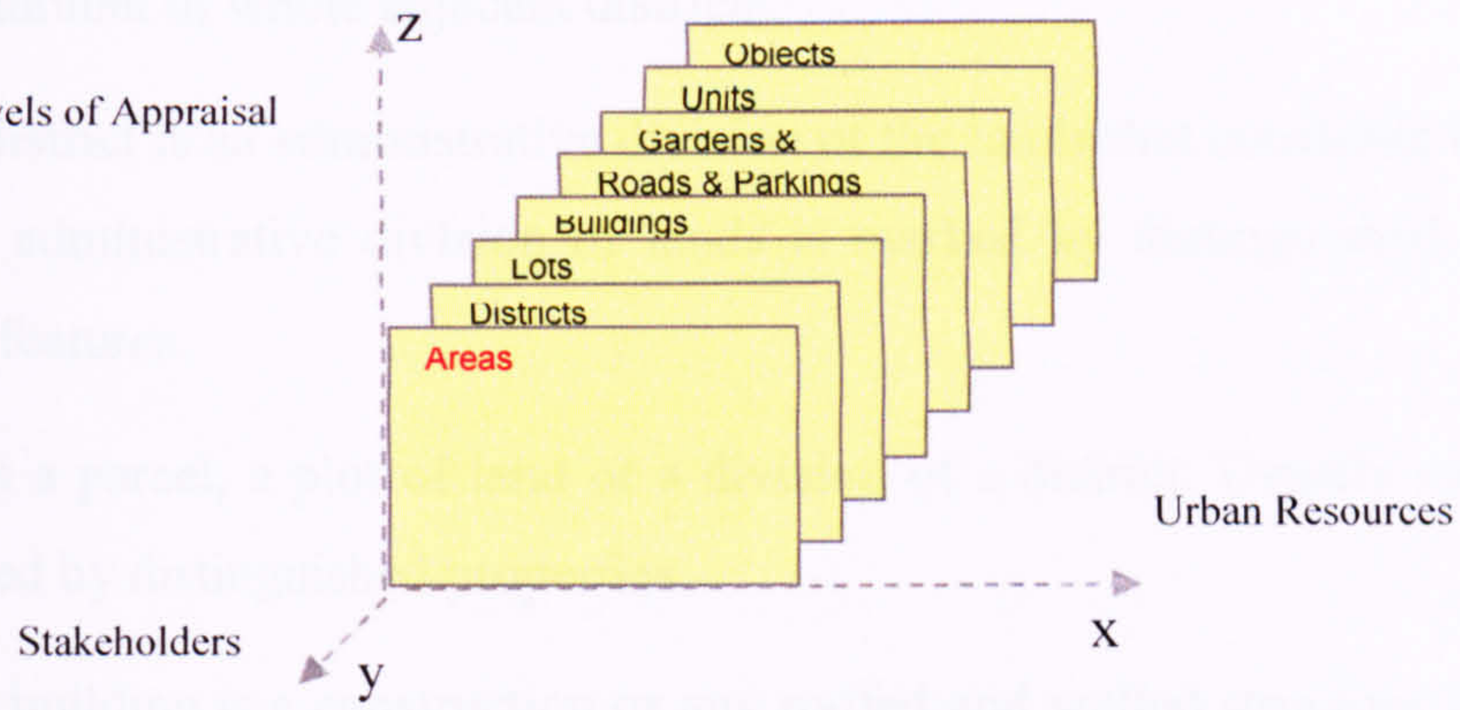


Figure 8.2: Categories of urban heritage resources

Since the meaning of urban heritage is broad enough to include a variety of built resources, the evaluation of the significance of these resources is increasingly considered critical for appropriate urban heritage appraisal (refer to Chapter 3). However not all communities can afford to run a separate evaluation of the resources that constitute its urban areas. Each community needs to choose the appraisal that serves its desires and potential, and at the same time give accurate information about the heritage significance of its urban areas. Given these considerations, this model has disaggregated urban appraisal into eight categories (Figure 8.2). These categories range from the general to the specific in respect of:

- The quality of the urban resources.
- The layers usually considered in urban studies.
- The spatial analysis mentioned in chapter 7.

Any urban area is an agglomeration of different resources. In most urban studies, these resources are represented by a number of layers, such as the countries, cities, areas, districts, lots, buildings, road layers etc. Experience has shown that this representation of resources is valid for urban analysis at both the spatial and the aspatial level. This study has thus relied on such representation of the urban resources to categorise the urban heritage appraisal. The definitions of each of these categories are gathered from the American heritage dictionary as follows:

Areas: Area is a particular region or geographic sector that is marked by distinguished heritage features. Such an area might constitute part of a district, different parts of adjacent districts or a number of whole adjacent districts.

Districts: A district is an administrative division of the lands that constitute the urban area. Usually such administrative division of lands is marked by distinguished geographic or demographic features.

Lots: A lot is a parcel, a plot of land or a division of a district. Usually such division of lands is marked by distinguished properties.

Buildings: A building is a construction or any roofed and walled structure that serves as a primary shelter, or a facility for location of people, animals or things.

Units: A unit is an elementary structure or functional constituent of a whole building. It is that part of the building represented by a flat, shop, workshop, etc.

Roads and parking spaces: A road is any public way for the passage of vehicles, people or animals. It can be a route, way, path, lane, byway, street, avenue, boulevard, highway etc. A parking space is any unroofed space in which to park or store things, vehicles and animals.

Gardens and landscapes: A garden or landscape is any view of natural scenery, any decorative planting or any plot of land for growing fruit, flowers or vegetables. It is also any recreation area and group of elements attached, such as a river, lake, beach, tree or fence, whether real or artificial.

Objects: An object is any smaller material element of a district, lot, building, unit, road or parking space, garden or landscape, such as a rock, fence, minaret, fountain, lamp or road sign, bench etc.

Such disaggregation of urban appraisal has different advantages:

- It minimizes the complexity of urban heritage appraisal by dividing it into separated appraisal actions. Such actions can be brought together for the benefit of the different urban conservation strategies.
- It minimizes bias, by permitting the stakeholders to focus on the urban resources they are able to appraise instead of involving themselves with appraisal of the whole urban area that they might not be qualified to appraise.

- It emphasises, in one way or another, the kind of resources that constitute an urban area and the kind of information that is needed to understand the heritage significance of those areas.
- It makes it possible to spatially represent the data that exist about the urban heritage.
- It makes it possible to relate the data that exist about the urban heritage to the data that exist about the urban resources. It makes the development of any links between the urban heritage appraisal and the urban heritage documentation more flexible.
- It makes it possible to spatially relate the data of the different heritage resources to each other, relying on the capacity of the geographical information techniques.

The pilot study conducted in Tripoli has shown that such disaggregation is very important, as many stakeholders are not sufficiently capable or trained to give information and reflect views about the whole urban area. However they are very efficient at giving information and reflecting views about specific urban resources. Such information, if brought together, can be very significant for identifying the values of the whole urban area

This survey has also shown that some urban resources are awaiting a decision concerning a number of proposed intervention strategies. Such decisions cannot await the appraisal of the whole urban area to taken place, thus a separate appraisal of the various urban resources is considered essential.

The survey has also shown that much information exists about the diverse resources of the urban area, but this information is not used for the benefit of the area conservation and the decision about its intervention strategies. The disaggregation of the urban area appraisal into different resources is a way to show how to bring this information together, for the benefit of the urban area appraisal.

8.2.2.2 *Stakeholders Dimension*

Involvement of the different stakeholders in urban heritage appraisal is becoming more and more important. Emphasis on public participation is increasingly acknowledged as a major goal to be pursued (Refer to Chapters 3 and 4). However urban heritage stakeholders have different professions, knowledge, experiences and relations to urban heritage resources. Many of the stakeholders have also limited time to contribute to urban area appraisal. It is therefore essential to disaggregate the contribution of the stakeholders to urban appraisal

(Figure 8.3). Such disaggregation is a means to minimize the appraisal errors and uncertainties, and to encourage more stakeholders to participate in urban heritage appraisal.

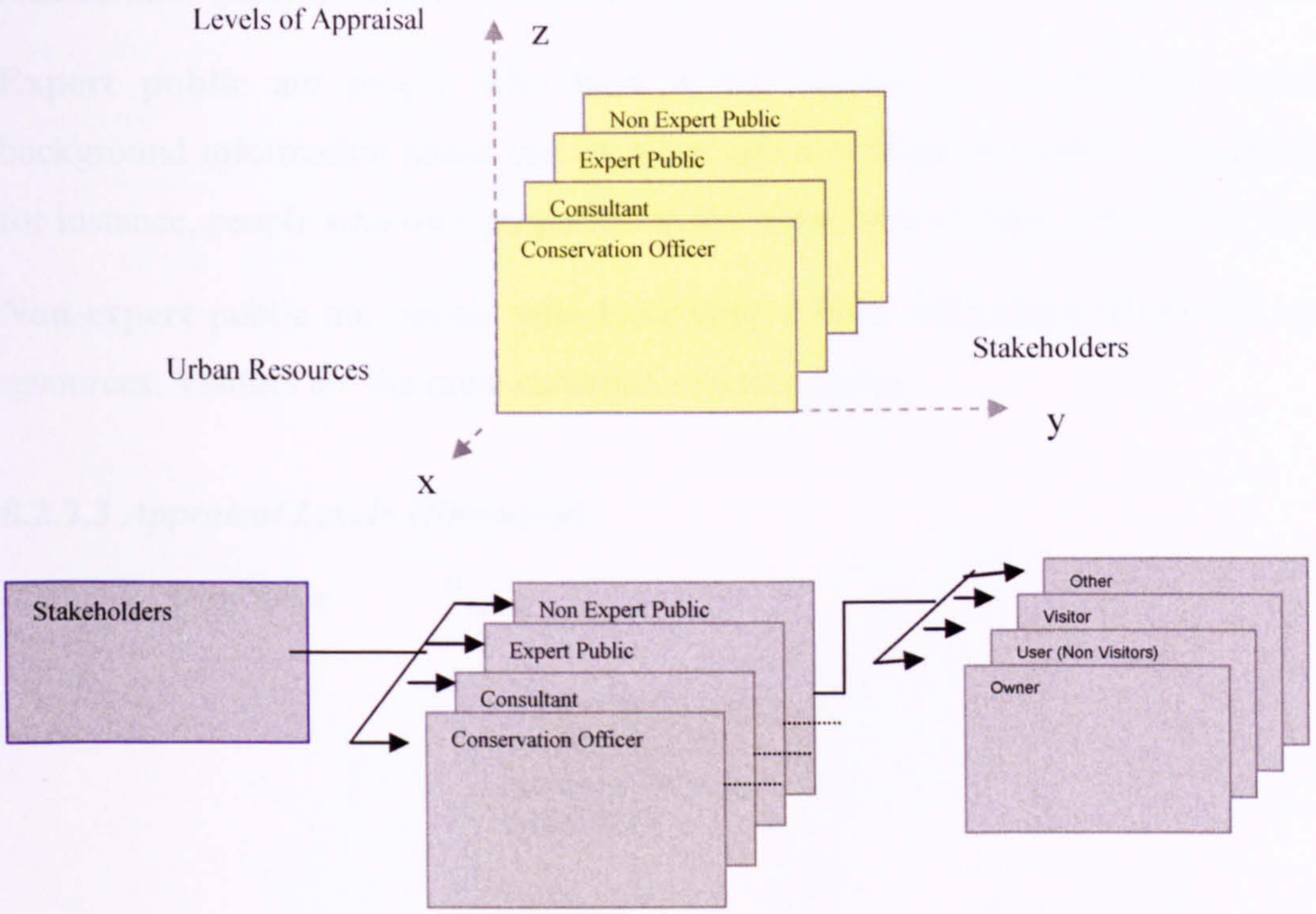


Figure 8.3: Categories of urban heritage stakeholders.

The survey conducted in Tripoli has shown that not all stakeholders provide the same quality of information about the urban heritage resources. The information given by experts is also affected by their professions, experiences, interests and time. For instance the historians contacted in Tripoli were not truly confident and happy giving information on the current economic and the aesthetic values of the city; however they were very specific in giving information on its historic values. This was the case with others, who liked to talk about a specific characteristic or a specific resource rather than talking about the whole urban area and its nature.

Following the pilot study, this model has organized the stakeholders into four main groups: conservation officers, consultants, expert public and the non-expert public

Conservation officers are those whose work is focused on heritage conservation. This group will have much information about urban heritage resources, and can afford the time needed for its appraisal.

Consultants are those who have good expertise in evaluating one or more urban heritage values, and whose participation in urban heritage appraisal is significant. For different reasons such experts cannot be fully involved with the official appraisal of urban area.

Expert public are people who have a fair amount of involvement, knowledge or background information about one or more urban heritage resources. This group includes for instance, people who own properties in the urban area or those who live or work in it.

Non-expert public are people who have only a little information about the area and its resources. Visitors are the main candidates in this group.

8.2.2.3 *Appraisal Levels Dimension*

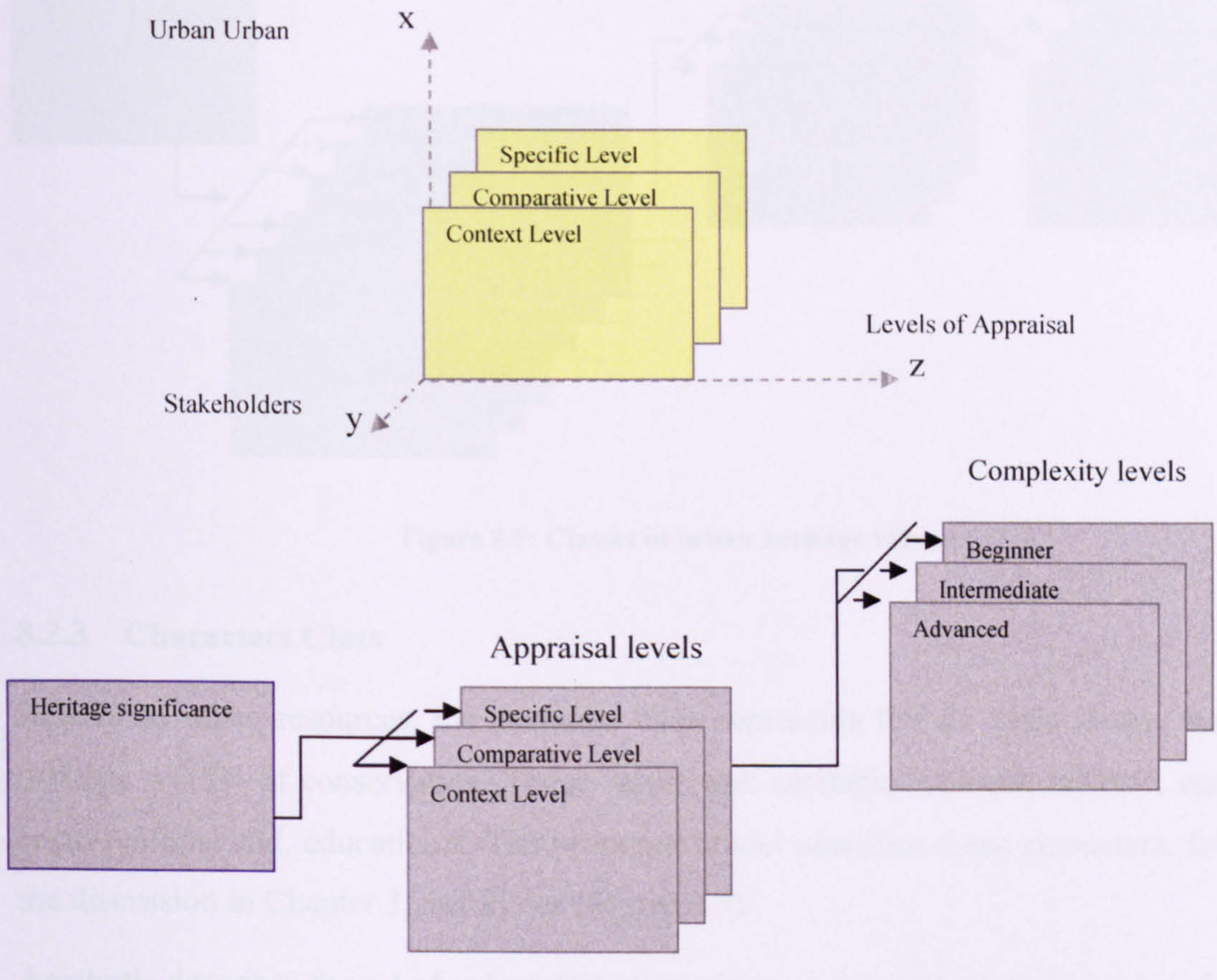


Figure 8.4: Categories of urban heritage appraisal

This model has addresses different dissaggregations to minimize the difficulties, bias and uncertainty of urban heritage appraisal. However that is not enough; other problems might affect the appraisal, such as the focus of the appraisal and the level of complexity. With regard to these factors, this model has disaggregated the appraisal of the urban heritage significance into different levels of complexity. The proposed appraisal levels are: specific

level, comparative level and context level. The proposed complexity levels are: beginner, intermediate and advanced (Figure 8.4)

The appraisal levels are built upon the theoretical criteria formulated by this study from the theoretical review (refer to Chapter 4). According to these theoretical criteria, heritage value is broken down into a hierarchy of interrelated elements that have been grouped into four classes; significance class, characters class, variables class and sub-variables class. (Figure 8.3).

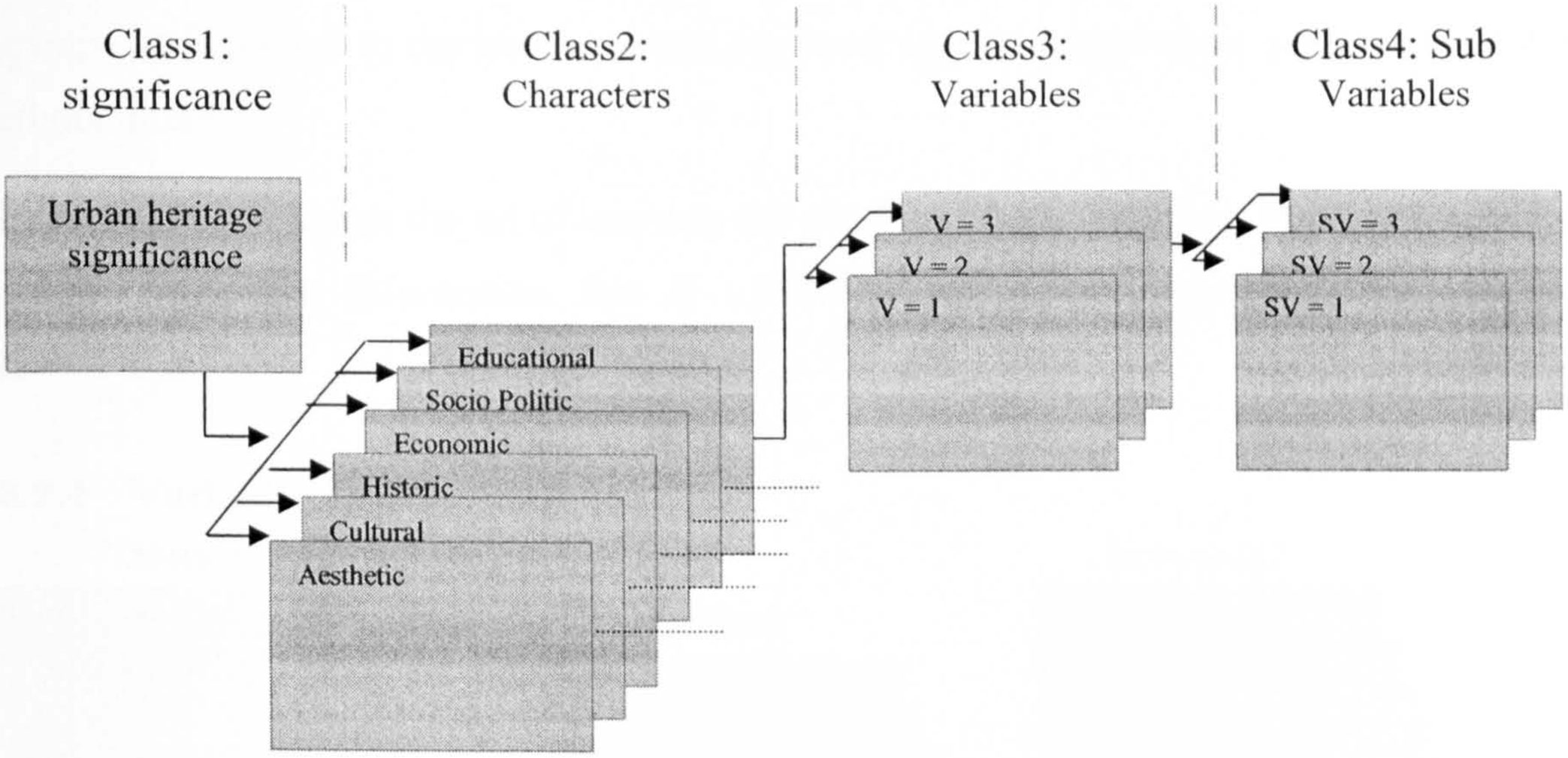


Figure 8.5: Classes of urban heritage value

8.2.3 Characters Class

Related to urban resources, the character class represents the six main values that make heritage worthy of conservation. These values are: aesthetic, cultural, historic, economic, socio-political and, educational. The proposed model identifies these characters, following the discussion in Chapter 3, as follows (Figure 8.5):

Aesthetic describes the set of values that gives pleasure to people in their contemplation of urban heritage. It is related to the resources that represent a pleasing form, context, meaning, function, construction or an expression of will power.

Cultural describes the set of values that gives rise to issues of identity. This is related to resources that represent the community's beliefs, customs, shared dreams and learned ways of making a life that are inherited or transformed in one way or another.

Historic describes the set of archaeological and documentary values. It is related to resources that offer true evidence, stories and records of general history and the past.

Economic describes the set of economic benefits. It is related to the resources that represent direct and indirect use values, and which people are willing to pay for; to conserve them for future use, future generations or prestige reasons.

Socio-Political describes the set of values that can be used to legitimate social and political dominance, or to justify and celebrate forms of power and privilege given to different groups. It is related to the resources that represent significant political, social, gender and ethnic interests.

Educational describes the set of learning and teaching values. It is related to resources that contain important information that is useful for the public, academic and scientific knowledge.

8.2.4 Variables Class

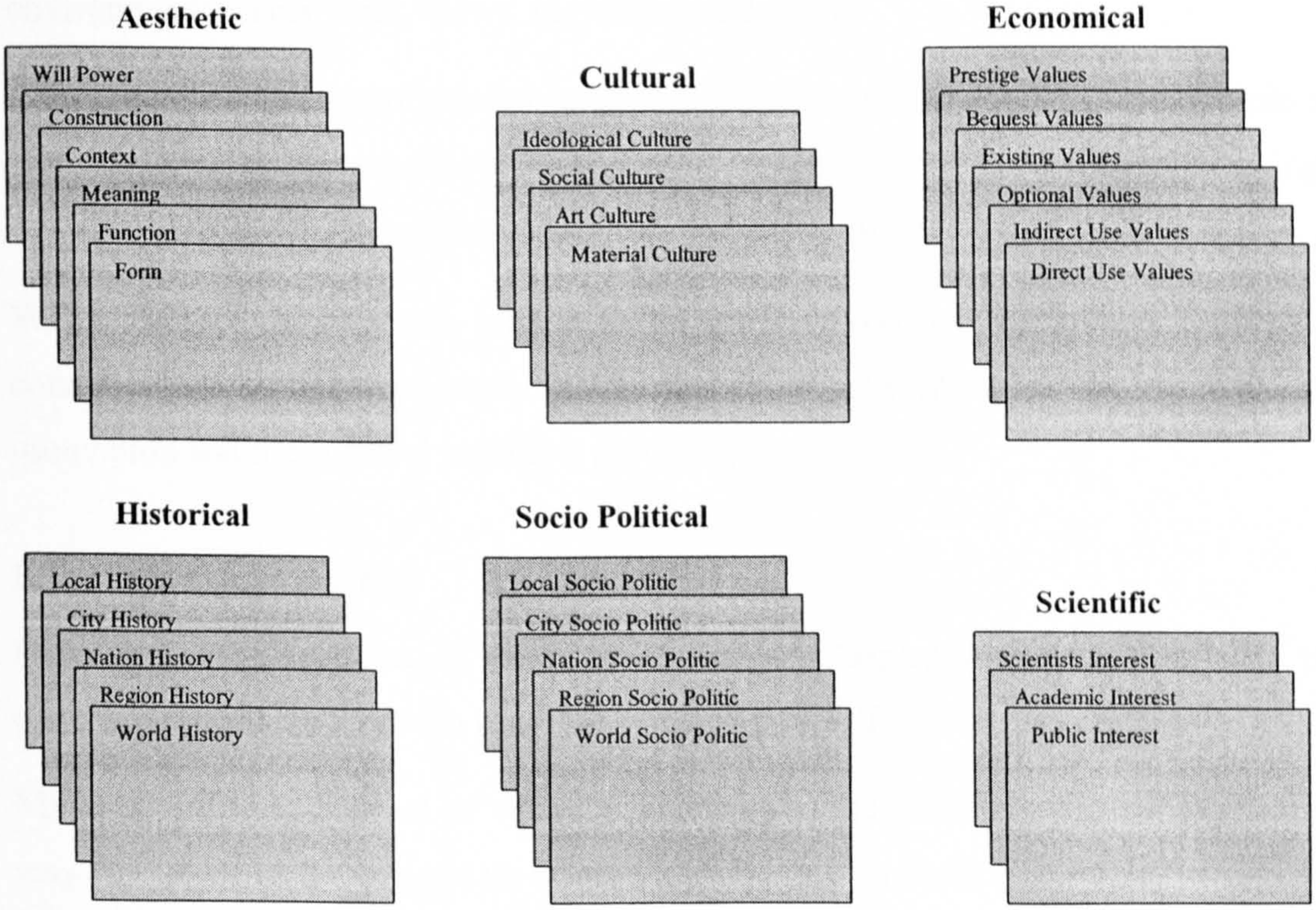


Figure 8.6: Classes of heritage variables

The third class concerns the variables that constitute each of the six characters listed above. This model has identified each set of variables as shown in Figure 8.6.

8.2.4.1 *Aesthetic Variables*

Following the discussion in the second section of Chapter 4 of this thesis, the aesthetic character class is divided into six classes of variables. These are:

Form: This set of values is related to the urban resources that please people in their contemplation of the resource's shape, volume, grid, proportions, ratios, colours, articulation etc.

Function: This set of values is related to the urban resources that please people in their consideration of the resource's utility, practicality, planning, services, needs, comfort etc.

Meaning: This set of values is related to the urban resources that please people in their contemplation of the resource's style and fashion, and are associated with their own religion, beliefs, history, truth and customs.

Context: This set of values is related to the urban resources that please people in their contemplation of the resource's context, including the resource's site, surroundings, environment; plants, trees, views, movement and sound.

Construction: This set of values is related to the urban resources that please people in their contemplation of the resource's construction, design, creativity, detailing, technology, life cycle, production, craftsmanship or educational expressions.

Will: This set of values is related to the urban resources that please people in their contemplation of the resource's vastness, legislation, politics, power, courage, novelty, motivation and the spiritual aspects it provides.

8.2.4.2 *Cultural Variables*

Following the discussion of the third section of Chapter 4 of this thesis, the cultural character class is divided into four classes of variables. These classes are:

Material culture: This set of values is allocated to the urban resources that represent the way the people of the area obtain or produce materials (including technologies and food). It is allocated to those resources that show the way those people exchange goods and services, and the way they sustain the natural environment.

Ideology Culture: This set of values is related to the urban resources that represent the way the people of the area think, value, believe, act and hold ideals. This involves the ways

of making a living, of being healthy or sick, happy and sad, of acting right or wrong, being good or bad.

Art Culture: This set of values is related to the urban resources that represent the material arts, non-material arts and the artistic expressions that characterise the people of the area. This covers their paintings, pottery, sculptures, textiles, clothing, cookery, music, dance, and drama, patterns of dress, body adornments and ceremonial costumes.

Social Culture: This set pertains to the urban resources that represent the people's forms of social organization, involving their:

- Social bonds (kinship and marriage)
- Work duties and economic position (household)
- Political position
- Important factors in family, work, and political relations including age and gender, (behaviour and roles associated with men and women).

8.2.4.3 *Historic Variables*

Following the discussion of the fourth section of Chapter 4 of this thesis, the historical character class is divided into five classes of variables. These classes are:

World History: This set of values corresponds to the historical, archaeological and documentary urban resources that offer true evidence, stories and records of the world's history and its past.

Regional History: This set of values corresponds to the historical, archaeological and documentary urban resources that offer true evidence, stories and records of the region's history and its past.

National History: This set of values corresponds to the historical, archaeological and documentary urban resources that offer true evidence, stories and records of the nation's history and its past.

City History: This set of values correspond to the historical, archaeological and documentary urban resources that offer true evidence, stories and records of the city's or state's) history and its past

Local History: This set of values correspond to the historical, archaeological and documentary urban resources that offer true evidence, stories and records of the community's history and its past.

8.2.4.4 *Economic Variables*

Following the discussion of the fifth section of Chapter 4 of this thesis, the economical character class is divided into six classes of variables. These classes are:

Direct Use Values: This set is related to the urban resources that have a significant economic benefit and for which consumers are willing to pay money or time for its consumption. This includes indicators such as a property's rental price, or entry fees paid by visitors to historic sites.

Indirect Use Values: This set is related to the urban resources for which a group of people (who search for locational choices of economic actors) are willing to pay for the resource's conservation, even though they do not directly use the resources in activities as functions of production. Those people are willing to pay to increase the attractiveness of the area for certain economic activities other than those in tourism.

Option Values: This set is related to the urban resources that a group of people are willing to pay for, to have use of them in the future. This value is like the (imaginary) satisfaction someone experiences from having the opportunity to use or enjoy an urban resource.

Existence Values: This set is related to the urban resources that a group of people are willing to pay for their conservation, even though they may not consume the resources directly themselves. This can also be considered as amounting to the value contained in the enjoyment of the mere existence of the resources; the enjoyment is not because of any actual use of them.

Bequest Values: This set is related to the urban resources for which a group of people are willing to pay, to bequeath them or some of their elements to future generations.

8.2.4.5 *Socio-Politic Variables*

Following the discussion in the sixth section of Chapter 4 of this thesis, the socio-political character class is divided into five classes of variables. These classes are:

World socio-politic: This set of values is related to the urban resources that can be used to legitimate social and political dominance, to justify and celebrate international forms of power and privilege given to different groups within the world (by means of constructing, elaborating, controlling and reproducing social classes, genders, ethnic groups etc).

Regional socio-politic: This set of values is related to the urban resources that can be used to legitimate social and political dominance, to justify and celebrate international forms of power and privilege given to different groups within the region (by means of constructing, elaborating, controlling and reproducing social classes, genders, ethnic groups etc).

National socio-politic: This set of values is related to the urban resources that can be used to legitimate social and political dominance, to justify and celebrate international forms of power and privilege given to different groups within the nation (by mean of constructing, elaborating, controlling and reproducing social classes, genders, ethnic groups etc).

City socio-politic: This set of values is related to the urban resources that can be used to legitimate social and political dominance, to justify and celebrate international forms of power and privilege given to different groups within the city (by means of constructing, elaborating, controlling and reproducing social classes, genders, ethnic groups etc).

Local socio-politic: This set of values is related to the urban resources that can be used to legitimate social and political dominance, to justify and celebrate international forms of power and privilege given to different groups within the community (by means of constructing, elaborating, controlling and reproducing social classes, genders, ethnic groups etc).

8.2.4.6 *Educational Variables*

Following the discussion of the seventh section in Chapter 4 of this thesis, the historic character class is divided into three classes of variables. These classes are:

Public Interest: This set of values is related to urban resources that contribute to public knowledge.

Academic Interest: This set of values is related to urban resources that contribute to academic knowledge and research.

Science Interest: This set of values is related to resources that contain important information of interest to scientists.

8.2.5 Sub Variables Class

The model considers this class to shed light on the elements that constitute each of the variables listed above. These elements are diverse, but this model has tried to minimize them as far as possible. This model has given no definition to these elements. The idea is to give the stakeholders opportunity to understand them in any way they want, and to list their attributes and the way they found them in the area. Figure 8.7, and

Figure 8.8 list the elements of this class that are referred to as sub variables.

Form

- Shape
- Volume/Surface
- Structure
- Pattern/Harmony
- Number/ Quantity
- Axes
- Grids
- Colours
- Ratio
- Proportion
- Unity/Articulation
- Plurality/Complexity
- Disjunction
- Impartiality
- Contrast/ Opposition

Context

- Site/Surroundings
- Nature
- Landscape
- Movement/ Communication
- Ground/Sky
- Plants/Trees
- Light/Sun
- View
- Sound
- Ornament/ Decoration
- Privacy
- Feeling/Love
- Age/Past
- Nostagia/Memories

Function

- Use/Utility
- Practicality/Pragmetic:
- Needs/Requirements
- Ability/Efficiency
- Effects
- Satisfaction/Pleasure
- Comfort/Convenience
- Costs/Economics
- Services
- Ventilation/Energy Saving
- Human Behaviour
- Human Psychology
- Ethics/Principles
- Aims of Erection
- Planning

Will

- Ambition
- Politics
- Legislation
- Power/Energy
- Vastness/Grandeur
- Spirit/Enthusiasm
- Attitude/Mood
- Utopia/Optimism
- Humour / Courage
- Decision/Freedom
- Modern/Future
- Originality/ Novelty
- Shockingness/ Sublime

Meaning

- Resemblance/Imitation
- Difference
- Association
- Classification/category
- Doctrines/Essence
- Sincerity/Honesty
- Fashion/Styles
- History/Period
- Customs/Beliefs/ Myths
- Religion/Philosophy
- Signs/Symbols

Construction

- Materials/Substance
- Process/Method
- Adaptability
- Technic/Production
- Craftsmenship/Art
- Corrosion/Demolition
- Detailing/Joints
- Design/Creativity
- Manufactured/Module
- Education/Teaching
- Experience
- Maintenance/ Life Cycle

Figure 8.7: Aesthetic sub variables

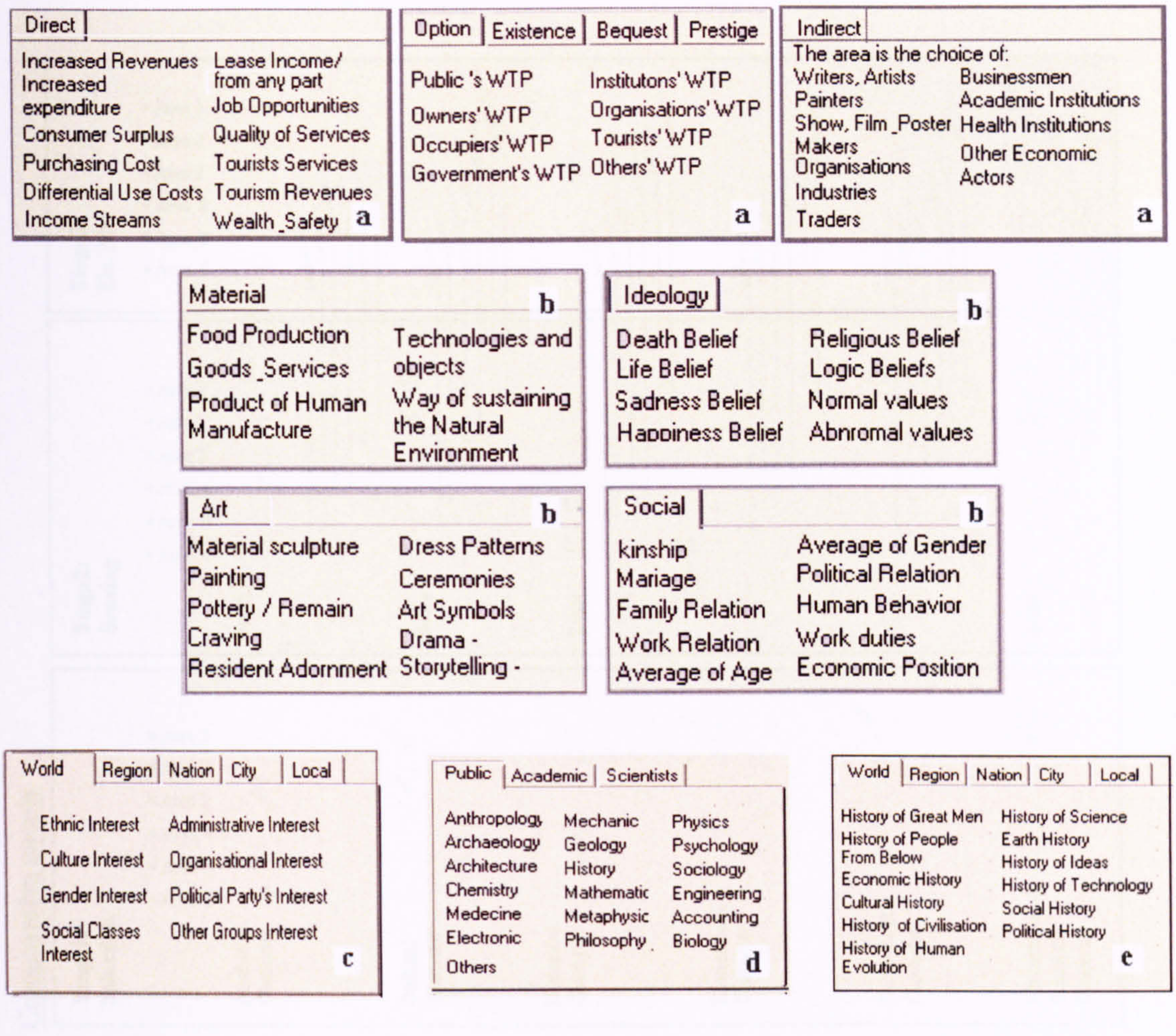


Figure 8.8: Economic sub variables (a), cultural sub variables (b), socio-political sub variables (c), educational sub variables (d) and historical sub variables (e).

8.2.6 Urban Appraisal Levels, Modes & Concepts

The candidate, as mentioned earlier can choose one of three groups of appraisal panels for assessing the heritage significance of an urban area and its resources. These levels are: specific panels, comparative panels and context panels.

Specific panels. These panels require the candidate to provide information on the evaluation of the urban resource without getting directly involved with the assessment of the urban resources that surround it, and without getting directly involved with other resources. (Figure 8.9)

Comparative Panels. These panels require the candidate to give information on the evaluation of the urban resource in comparison to its alternatives. (Figure 8.10)

Context Panels: These panels charge the candidate to describe the evaluation of the urban resource in relation to other urban resources that constitute or surround it. Brown (2000-2002 (See Figure 8.11)

Specific Panels (Basic Level)

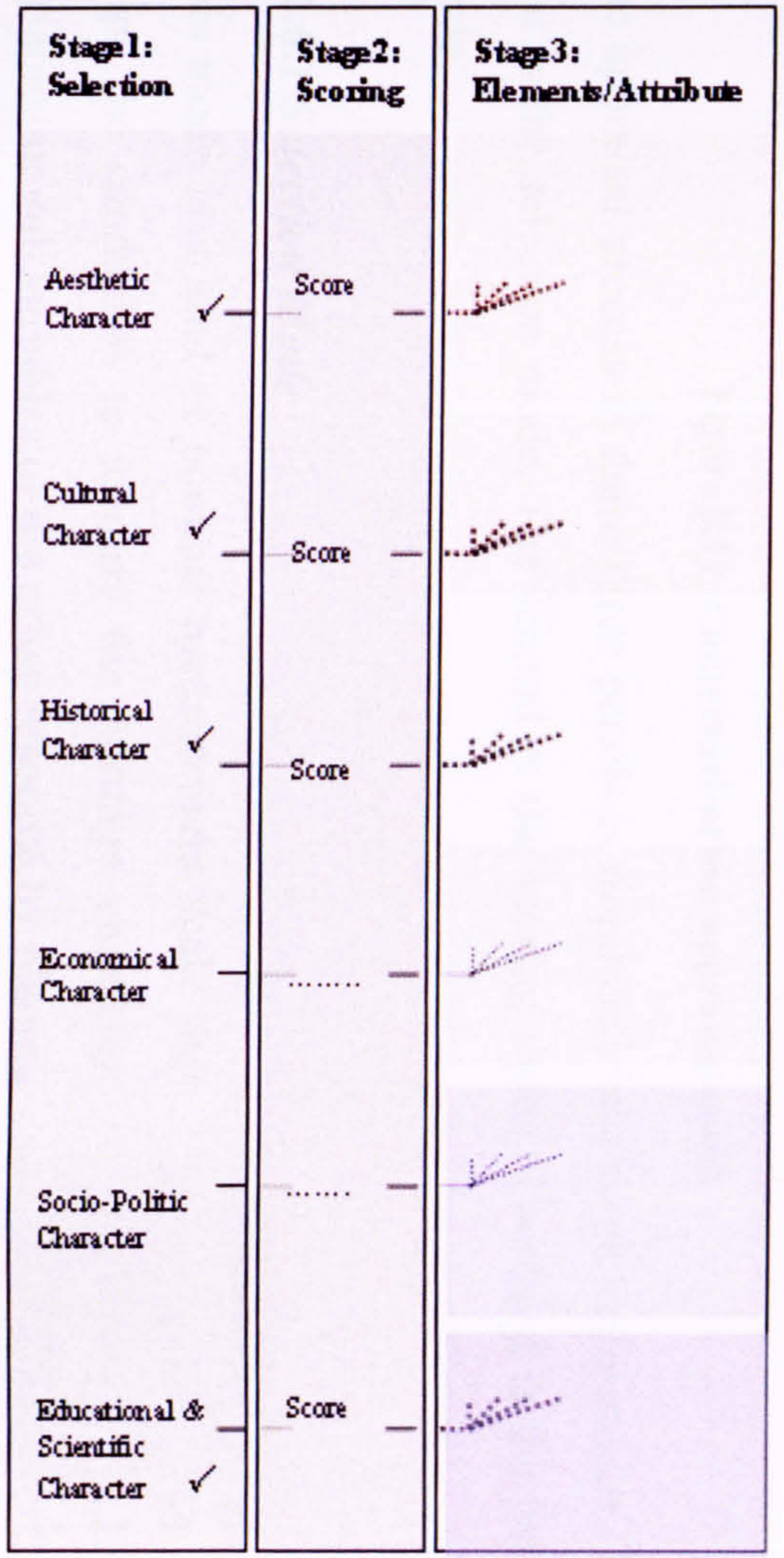


Figure 8.9: Specific urban appraisal panel

Comparative panels

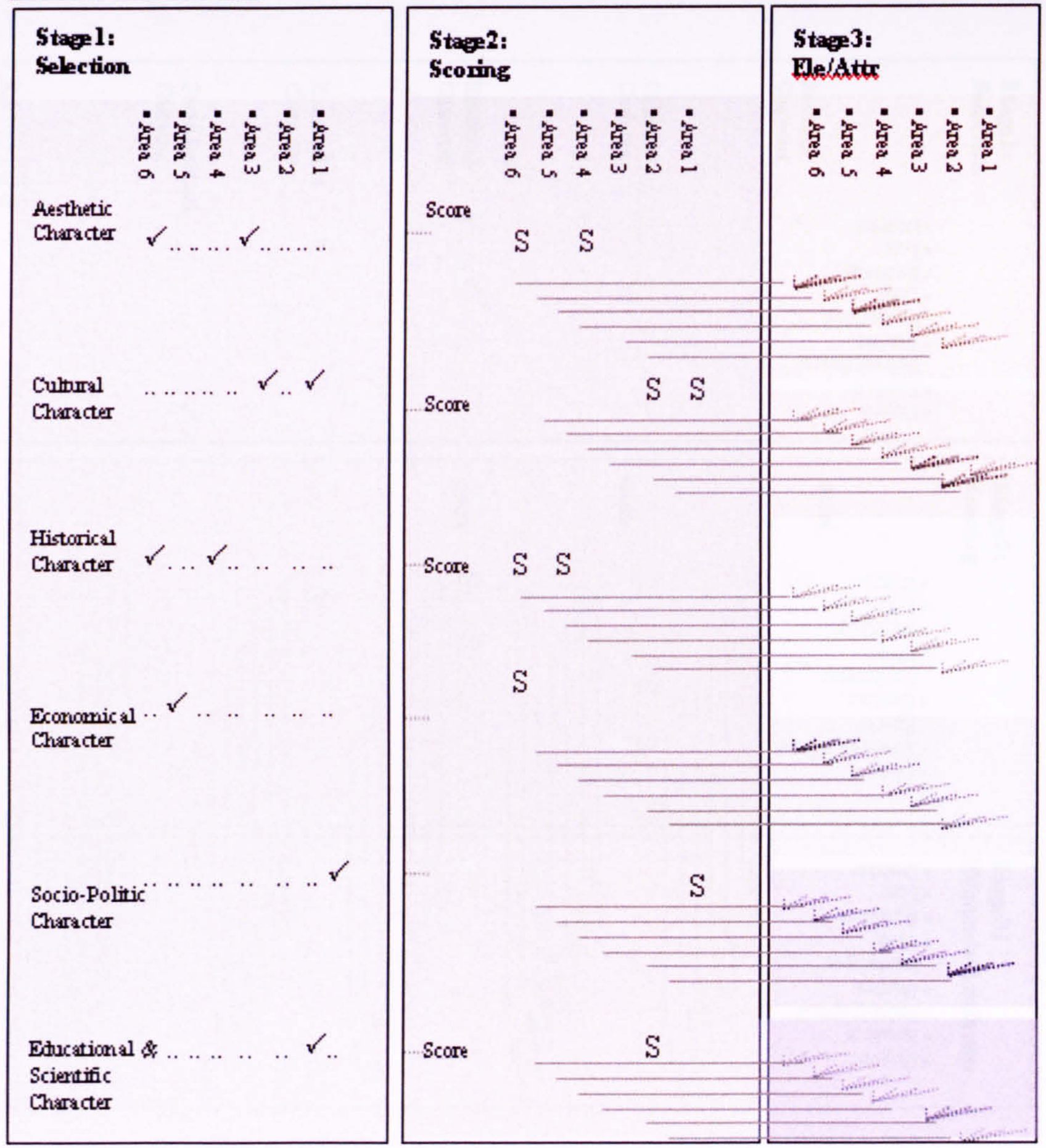


Figure 8.10: Comparative urban appraisal panel

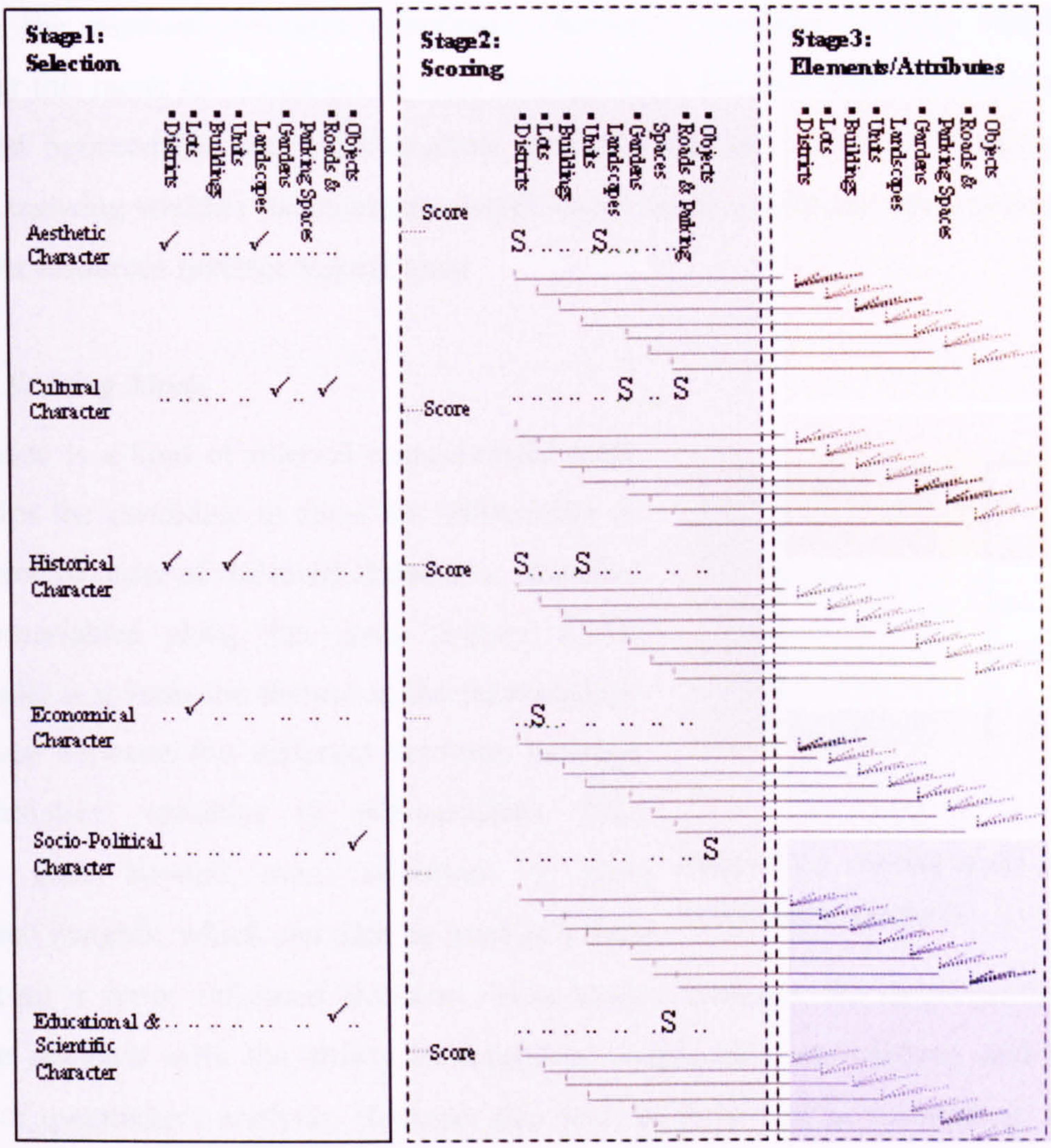


Figure 8.11: Contextual urban appraisal panel

The appraisal process in these three panels is organised into three main modes. The first is the selection mode. The second is the scoring mode. The third is the listing mode.

8.2.6.1 *Selection Mode*

This mode is a kind of nominal measurement scale that helps the candidates to identify the heritage character, variables or sub variables of the urban resource by placing them in the selection category without any order or structure (Figure 8.12). This mode is the fastest and the

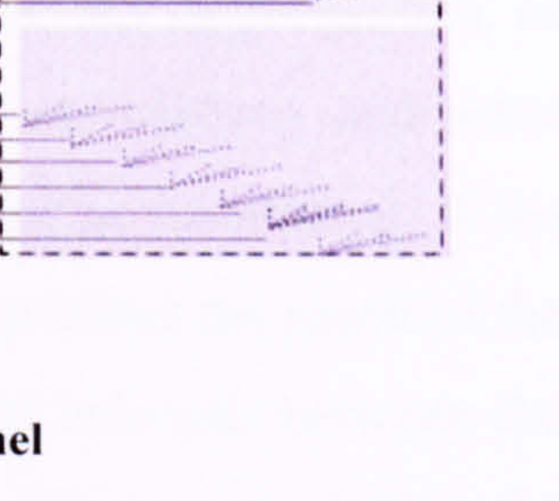


Figure 8.12: Selection mode (the case of heritage characters).

easiest to handle conceptually. It provides information on the perceived ease of reading the assessed resource's heritage character, variables or sub variables. However this mode has a number of other limitations. It does not show the differences that exist between the selected characters, variables and sub variables. It lacks any way of knowing whether the candidate might have wished to add any other comments about the resources heritage significance.

8.2.6.2 *Scoring Mode*

This mode is a kind of interval measurement scale that helps the candidate to show the differences in the degree of order of the rated characters, variables or sub-variables along the scale (Figure 8.13). Potentially it reveals the texture in the relationships that exist between the different resource heritage characteristics, variables or sub-variables. This texture goes beyond mere selection; it gives important insights, which can then be used as a basis for taking a more informed decision. This mode combines the opportunities of flexible response with the ability to determine frequencies, correlations and other forms of quantitative analysis. However this scoring mode can be misleading, if the candidate attempts to overstate or understate his/her true bid to affect the result of the assessment. This scoring mode lacks the assumption of equal intervals between the scored values, variables or sub-variables. It lacks any way of knowing whether the candidate might have wished to add some other comments about the heritage significance.

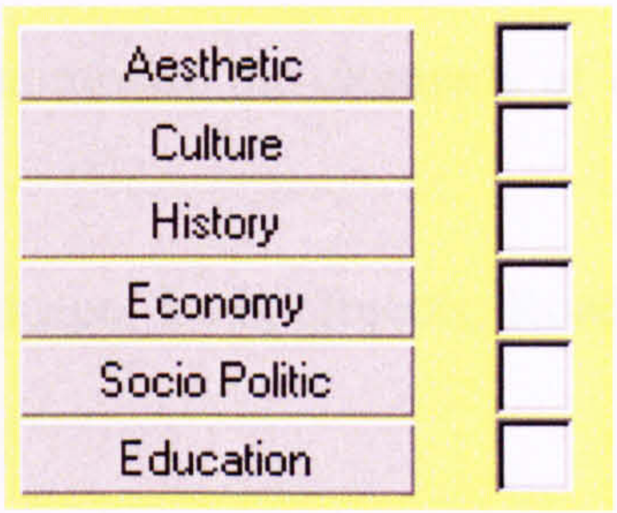


Figure 8.13: Scoring mode (the case of heritage characters).

8.2.6.3 *Elements and Attributes Mode*

This mode is a kind of qualitative identification and measurement of the resource's significance. This mode enables the candidate to specify the resource's significance by providing information on the elements and the attributes that give it that significance (Figure 8.14). This mode is also a

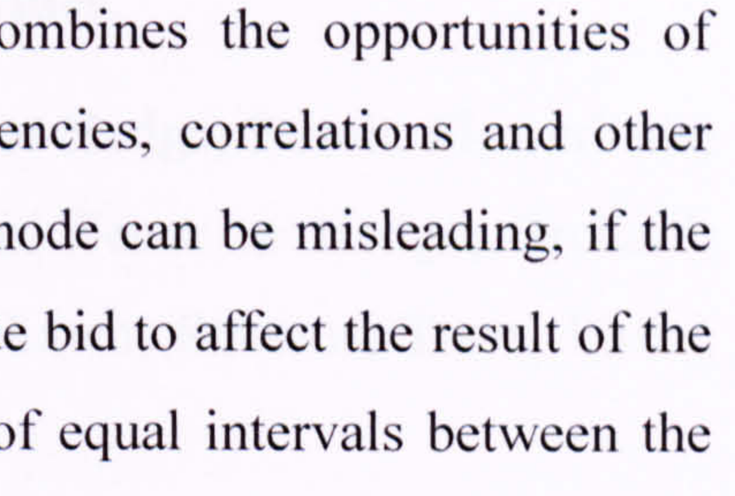


Figure 8.14: Element & attributes mode (the case of aesthetic variables).

means of adding view and comments to these attributes. The main roles of this mode are:

- To trace meaning to the information given by the selection and the scoring mode.
- To test the validity of the information, given by the selection and the scoring mode.
- To shed light on the specificity of the appraised urban resources at local, national or regional level.

These modes are supported by a numbers of lists that nominate the elements of each urban resource.

Area Elements: Buildings; Districts; Gardens & Landscape; Lots; Objects; Roads & Parking; Units, Users; Activities; Archaeological sites.

District Elements: Buildings; Gardens & Landscape; Lots; Objects; Roads & Parking; Units, Users; Activities; Archaeological sites

Building Elements: External Spaces; Facades; Finishing; Internal Spaces; Openings; Ornaments; Plan; Roof; Storeys; Structure; Users; Activities.

Gardens and Landscape Elements: Artificial Fence or Hedge; Beach; Flowerbeds; Field; Forest; Garden; Irrigation; Canal; Lake; Natural Fence or Hedge; Orchard; Park; Pond; River; Rocks; Sea; Shrub Area; Smooth Lawn; Streams; Trees, Users; Activities.

Roads & Parking Elements: Advertisements; Animal-ways; Barrows; Bicycle-Ways; Bridges; Bus stops; Car parks; Crossings; Fly-overs; Highways; Lamp-posts; Letter-boxes; Litter-bins; Motor-Ways; Overpasses; Parking meters; Pedestrian-ways; Railways; Road Signs; Roller-Ways; Roundabouts; Shop Windows; Signposts; Telephone Boxes; Traffic; Traffic lights; Trams; Underground Stations; Underpasses; Vans; Vehicle-Ways; Zebra Crossings; Users; Activities.

Unit Elements: Internal Spaces; Ceilings; Floors; Walls; Structural Elements; Facades; Furniture; Openings; Activities; Users.

Objects: Archaeological Remains, Structural Elements; Architectural Elements; Ornamental Elements; Gardens and Landscape Elements ...etc.

Despite being qualitative, most of the information given by this mode are tabular and can thus be quantitively analysed. They can be classified into groups, and the elements of each group can be counted..

8.2.6.4 *Modes Disaggregation*

This model has designed the selection and the scoring modes to focus on three possible disaggregated periods of resource significance (Figure 8.15). The first period is the past;. The second is the current situation, and the third is the potential future.

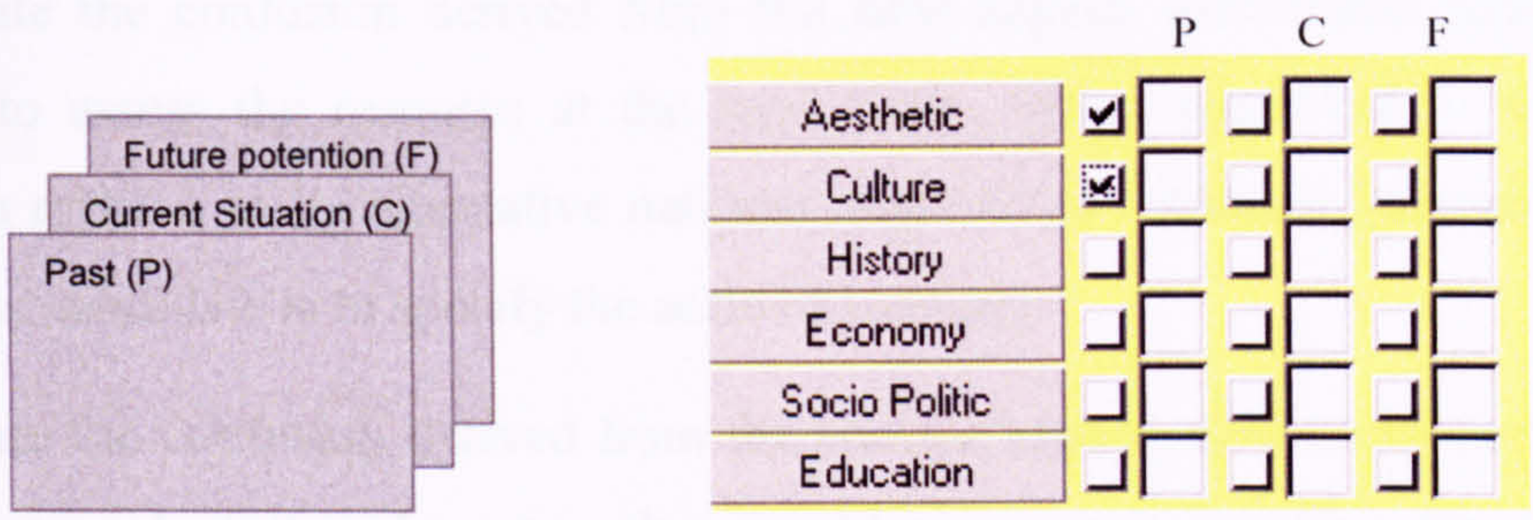


Figure 8.15: Appraisal periods for urban heritage

The selection and the scoring modes designed for conservation officers and consultants are designed to deal with the three periods of the urban resources' significance. While the modes designed for the expert public focus on the past and current periods, those designed for the non-expert public are centred on just the current period (i.e. the present). Such disaggregation by period is considered appropriate because Tripoli's appraisal pilots have shown that most candidates confuse the past values of urban resources with their current values. They also confuse potential future values with the current ones. Such confusion seriously affects the assessment of urban resources. The best way to minimise such confusion is to disaggregate the urban appraisal into the three proposed periods.

The attribute modes do not follow the proposed disaggregation by period. These modes just focus on the current situation.

8.2.6.5 *Scoring Concept*

Tripoli's pilot study has shown that candidates face different problems when they are asked to score the heritage character, variables and sub-variables of an urban resource.

Most respondents overestimate or underestimate these scores. Apart from the validity of their knowledge, this difficulty mainly related to a number of aspects:

- The assessment of the urban resource at different scales. Some candidates give the requested scores at the local scale, while the others consider it at the national, regional or the international scale.
- The complexity of mentally relating together the scores of the resource's values, variables and sub-variables.

To eliminate the confusion derived from the **first aspect,** this model required the candidate to assess the resource at the local scale, unless requested to assess the resource in relation to its alternative national, regional or international resources (In this case the candidate is to specify the scale of scoring).

To eliminate the confusion derived from the **second aspect,** this model required the candidates to select the character, the variables and sub-variables that give the resource its heritage significance. It then required the candidate to assign scores to the selected ones. Such selection and scoring is conducted on a separated basis, involving the candidate:

- First, to score the heritage significance of the urban resource at the requested level.
- Second, to select the characters that give this resource its heritage significance. To give the score 10 to the most significant characters, then to score the other characteristics of the resource with reference to the most significant one/s. Here the candidate is scoring the urban resource's characteristics in respect to the differences that dominate them, and not in relation to the score given earlier to its heritage significance.
- Third, to access the form attached to each heritage characteristic that has been selected. To identify the variables that give this character its significance, to give the score 10 to the most significant one/s, then to score the other resource variables in reference to the most significant ones. Here the candidates are scoring the resource's heritage variables in respect to the differences that dominate them. The candidate is not asked to score these variables in relation to

the scores he/she has given earlier to the resource's character, nor in relation to the scores to be assigned to the other classes of the resource heritage variables.

- Fourth, to access the form attached to each selected variable. To identify the sub variables that give this variable its significance, to give the score 10 to the most significant one/s, then to score the other resource's sub-variables in reference to the most significant one/s. Here the candidates are scoring the heritage sub variables of the resource in respect to the differences that dominate them. The candidate is not asked to score these sub-variables in relation to the scores given earlier to the resource's variables, nor in relation to the scores to be assigned to the other classes of the resource's heritage sub-variables.

The Correction Criteria

This study is then charged to correct all the scores that are not compatible with the others. To correct these scores and to identify their contribution to the resource's significance this study is involved:

- First, to standardise the scores of the resource's characters given by each candidate, using the following standardisation method (refer to Voogd, 1983):

Standardised score = Raw score / ∑ Raw scores (Voogd, 1983)

$C_{SXa} = C_{Xa} / \sum C_{X(a---z)}$

Where:

C_{SXa} is the standardised score of the character a of the resource x.

C_{Xa} is the raw score given by the candidate to the character a of the resource x.

$\sum C_{X(a---z)}$ is the sum of raw scores given by the candidate to all the characters of the resource x

This study aimed to use this specific standardisation method because it takes into consideration the sum of all the characters' scores of the resource. This sum is critical, as it represents the heritage significance of the resource that is identified by this study as a figure of all the resource's characters.

One small adjustment is made to this method to prevent the undefined result that is derived when the value 0 is given by the candidate to the characters of the

resource. According to this adjustment, the standardised equation becomes as follows:

Standardised score = Raw score / ∑ (Raw scores)

$C_{SXa} = C_{Xa}/\sum C_{X(a—z)}$

- Second, multiply each of these standardised scores with the significance score for the same resource, based on the fact that the significance of the resource derives essentially from the sum of its heritage characters.

$C_{SXa} \longrightarrow 1$

$C_{CXa} \longrightarrow S_X$

$\rightarrow C_{CXa} = S_{Xa} * C_{SXa}$

Where:

C_{CXa} is the corrected score of the character a of the resource x.

C_{SXa} is the standardised score of the character a of the resource x.

S_{Xa} is the score of the resource's significance.

Replacing C_{SXa} by its true value, the equation that can be used to correct the raw score of the resource's character appears as follows:

$C_{CXa} = S_{Xa} * C_{SXa}$

$C_{SXa} = C_{Xa}/\sum C_{X(a—z)}$

$\rightarrow$ **$C_{CXa} = S_{Xa} * C_{Xa}/\sum C_{X(a—z)}$**

- Third, standardise the scores of the resource's heritage variables given by each candidate using the standardisation method mentioned earlier. Then multiply each of these scores with the corrected score of the resource character to which it belongs, based on the fact that the significance of the resource character derives essentially from the sum of its heritage variables,

$V_{SXa} = V_{Xa}/\sum V_{X(a—z)}$

Where:

V_{SXa} is the standardised score of the variable a of the resource x.

V_{Xa} is the score given by the candidate to the variable a of the resource x.

$\Sigma V_{X(a---z)}$ is the sum of scores given by the candidate to all the variables that belong to the same character of resource x.

$V_{SXa} \longrightarrow 1$

$V_{CXa} \longrightarrow C_{CXa}$

$\longrightarrow V_{CXa} = C_{CXa} * V_{SXa}$

Where:

V_{CXa} is the corrected score of the variable a of resource x.

V_{SXa} is the standardised score of the variable a of resource x.

C_{CXa} is the corrected score of the character a of resource x.

Replacing V_{SXa} by its true value, the equation that can be used to correct the raw score of the resource variable appears as follows:

$V_{CXa} = C_{CXa} * V_{SXa}$

$V_{SXa} = V_{Xa}/\Sigma V_{X(a---z)}$

$\rightarrow$ **$V_{CXa} = C_{CXa} * V_{Xa}/\Sigma V_{X(a---z)}$**

- Fourth, standardise the scores of the resource's heritage sub-variables given by each candidate, using the standardisation method mentioned earlier. Then multiply each of these scores with the standardised scores of the resource variable to which it belongs, based on the fact that the significance of the resource variable derives essentially from the sum of its heritage sub-variables.

$SV_{SXa} = SV_{Xa}/\Sigma SV_{X(a---z)}$

Where:

SV_{SXa} is the standardised score of the sub-variable a of resource x.

SV_{Xa} is the score given by the candidate to the sub-variable a of resource x.

$\Sigma SV_{X(a---z)}$ is the sum of scores given by the candidate to all the sub-variables that belong to the same variable of resource x.

$SV_{SXa} \longrightarrow 1$

$SV_{CXa} \longrightarrow V_{CXa}$

$\longrightarrow SV_{CXa} = V_{CXa} * SV_{SXa}$

Where:

SV_{CXa} is the corrected score of the sub-variable a of resource x.

SV_{SXa} is the the standardised score of the sub-variable a of resource x.

V_{CXa} is the corrected score of the variable a of resource x.

Replacing SV_{SXa} by its true value, the equation that can be used to correct the raw score of the resource sub-variable appears as follows:

$$SV_{CXa} = V_{CXa} * SV_{SXa}$$

$$SV_{SXa} = SV_{Xa} / \Sigma SV_{X(a---z)}$$

$$\rightarrow \boxed{SV_{CXa} = V_{CXa} * SV_{Xa} / \Sigma SV_{X(a---z)}}$$

The Summation Criteria

The role of the summation criteria is to calculate the average score given by all the candidates to the resource's heritage character, variables and sub-variables. The average of each resource's heritage character is calculated as shown in the equation below:

$$AvgC_{CXa} = ? \ [C_{CXa(1)} + C_{CXa(2)} + C_{CXa(n)}]/n$$

Where

C_{CXa} is the corrected score given by a candidate to the character (a) of a resource x

$AvgC_{CXa}$ is the average of the corrected scores of the character (a) of resource x

n is the number of candidates assigned to score the resource's characters.

The average of each resource's heritage variable is calculated as shown in the equation below:

$$Avg(V_{CXa}) = ? \ [V_{CXa(1)} + V_{CXa(2)} + V_{CXa(n)}]/n$$

Where

V_{CXa} is the corrected score given by a candidate to the variable (a) of a resource x

$Avg(VC_{CXa})$ is the average of the corrected scores of the variable (a) of resource x

n is the number of candidates assigned to score the category of variable to which the variable (a) belongs.

The average of each resource's heritage sub-variable is calculated as shown in the equation below:

$$Avg(SV_{CXa}) = ?\ [SV_{CXa(1)} + SV_{CXa(2)} + SV_{CXa(n)}]/n$$

Where

SV_{CXa} is the corrected score given by a candidate to the sub-variable (a) of a resource x

$Avg(SVC_{CXa})$ is the average of the corrected scores of the sub variable (a) of resource x

n is the number of candidates assigned to score the category of sub-variable to which sub-variable (a) belongs.

The Weighting Criteria

Since heritage is seen in the eyes of its beholders, it is not sufficient to calculate the total score of its significance nor the total score of its values, variables and sub variables. It is also critical to weight these scores in order to consider them valid. To weight these scores this model involves the candidates in rating the characters of the urban resource from 1 to 10, in order of importance to them (The higher the value, the higher the rate). The model has then multiplied the average of rate of each character, variables and sub-variable, with the average of their corrected scores as shown in the equations below. This model gathered these equation from the weighted summation methods.

The average weight of each heritage character by candidates is calculated as shown in the equation below:

$$Avg(WC_a) = ?\ [WC_{a(1)} + WC_{a(2))} + WC_{a(n)}]/n$$

$Avg(WC_a)$ is the average weight of the heritage character (a) by candidates

$WC_{a(1)}$ is the weight of the heritage character (a) by a candidate

n is the number of candidates assigning a score for the character's interest.

The weight of each resource's character is calculated using the equation below:

$$C_{VXa} = Avg(C_{CXa}) * Avg(WC_a)$$

Where

C_{VXa} is the final score of the character (a) of the resource x.

The weight of each resource's variables is calculated following the equation below:

$$V_{VXa} = Avg(V_{CXa}) * Avg(WC_a)$$

Where

V_{VXa} is the final score of the variable (a) that belongs to the character (a) of the resource x.

The weight of each resource's sub-variables is calculated following the equation below:

$$SV_{VXa} = Avg(SV_{CXa}) * Avg(WC_a)$$

Where

SV_{VXa} is the final score of the sub-variable (a) that belongs to the character and the variable (a) of the resource x.

8.3 Proposed Software & the Proposed Data Modes.

8.3.1 Introduction

Two main software programs are used to build the model; Microsoft Access and ArcView. For more information about the selection of these two software please refer to chapter seven.

Microsoft Access is used as a relational database management system (DBMS) that facilitates the storage and retrieval of the surveyed urban heritage information. It incorporates the following features:

- A full-featured procedural programming language.
- A simplified procedural macro language.
- Various wizards and builders.
- Queries for organizing data.
- A rapid application development environment complete with visual forms for interacting with the data on screen, and report development tools.

These features are used to build the following:

- Forms that provide a user-oriented interface to the data in a database application, and which specify in detail the appearance and behaviour of the information required from the candidates. The major significance of these forms is that they exert a certain amount of support or control over the candidates' answers.
- Control boxes (such as combo boxes, list boxes, check boxes, radio buttons, etc.) that improve the functionality and attractiveness of the forms. This helps the model to provide lists of options from which the candidate is to select a single choice for the question posed to him/her. Not only does this save typing, it adds another means of enforcing referential integrity since the candidate can only pick from the alternatives available in the control boxes.
- Forms that link urban heritage appraisal to the documentation that exists about urban heritage, relying on the capability of this software to provide direct access to the urban heritage data that exist in GIS files, CAD files, WORD files, EXCEL files, BMP files, 3DS files, PDF files etc.

ArcGIS (replaced ArcView from Esri) is used to give a spatial dimension to urban heritage appraisal. This is a mean of helping the candidates to recognise the resource from his location and surroundings. It is also a mean to help the decision makers to spatially relate all the diverse urban resources being appraised.

The combination of these programs intendes to handle the quality of the data and the analysis needed to appraise the urban heritage. The following sections describe the modes of data that make the work of the two programs effective and fruitful.

8.3.2 Data Modes

This study has organised the urban heritage data into two modes. The first is the spatial mode; the second is the aspatial mode. The spatial mode presents the spatial data of the urban in three forms, points, lines and polygons. The aspatial mode presents the aspatial data in two forms, text and tables.

8.3.2.1 *Spatial Data Modes*

The spatial data are presented in three forms. These forms are polygons, lines and points. When resources are represented by a point, it is possible to study their location and distance in relation to others. When they are represented as polygons, it is possible to study their boundaries and areas in relation to others. It is also possible to study the way they overlap, by means of calculating the boundary and area of the overlapped zone. When these resources are represented by lines, it is possible to study their length, direction and network in relation to others. It is also possible to study the way they intersect. The forms that belong to the spatial data of the same urban resource are organised in one layer. The others are organised in a number of separated layers. The total group of layers proposed by this study to represent the spatial data of urban heritage numbers eleven:

The layer of the first group shows the locations and boundaries of the countries (Figure 8.16a). The others show respectively the locations and the boundaries of the cities or villages, areas, districts, lots and lands, buildings, gardens and landscape, roads and parking spaces, objects and units (Figure 8.16).

The main layer of the first group represents the countries by polygons. Each polygon represents the location and the boundaries of a country. The main layer of the second

group is supposed to represent the cities and the villages by polygons; however, because of the limited resources of this academic research, only the city where the case study is located is represented by a polygon in this layer. Another new layer is developed to represent the other city and villages as points. This is the case with the main layer of the third group, where the area under study is represented as polygons while another layer represents other urban areas as points. The main layer of the third group represents the districts by polygons. The two main layers of the fifth group represent respectively the lands and the lots by polygons. (A land is the group of adjacent lots that look like one entity). The main layer of the sixth group represents the buildings of the urban area by polygons. Here it is supposed that the buildings do not overlap (regular buildings). In the cases where the buildings that constitute the area do overlap (irregular buildings), it is supposed to develop different layers to represent them. Many studies refer spatially to these kinds of buildings as if they are one entity, or as if they are adjacent buildings and not overlapping ones. In either case the spatial analysis of these buildings is not precise. The correct boundaries of these buildings are not perfectly presented, and the information gathered about them is not correctly located. The idea of this study is to dissect the information attached to such buildings into different layers. The first layer represents the boundary of their first floor, the second layer represents the boundaries of their second floor and so on. This is the case with the layer of the ninth group that concerns the units (Figure 8.16,l). The main layer of this group shows the locations and boundaries of the regular units as polygons. This means that the design of the units does not change from one floor of the building to the others. In the cases where the units that constitute the buildings are not vertically typical (irregular units), it is supposed to develop different layers to represent them. The idea of this study is to dissect the information attached to such units into different layers.

The first layer represents the boundary of the units located on the first floors. The second layer represents the boundary of the units located on the second floors, and so on. The main layer of the seventh group represents gardens, the landscape of the area by polygons. The main layer of the eighth group represents the roads and parking spaces by polygons. However another layer is developed to represent the network of the roads as vectors (Figure 8.16).

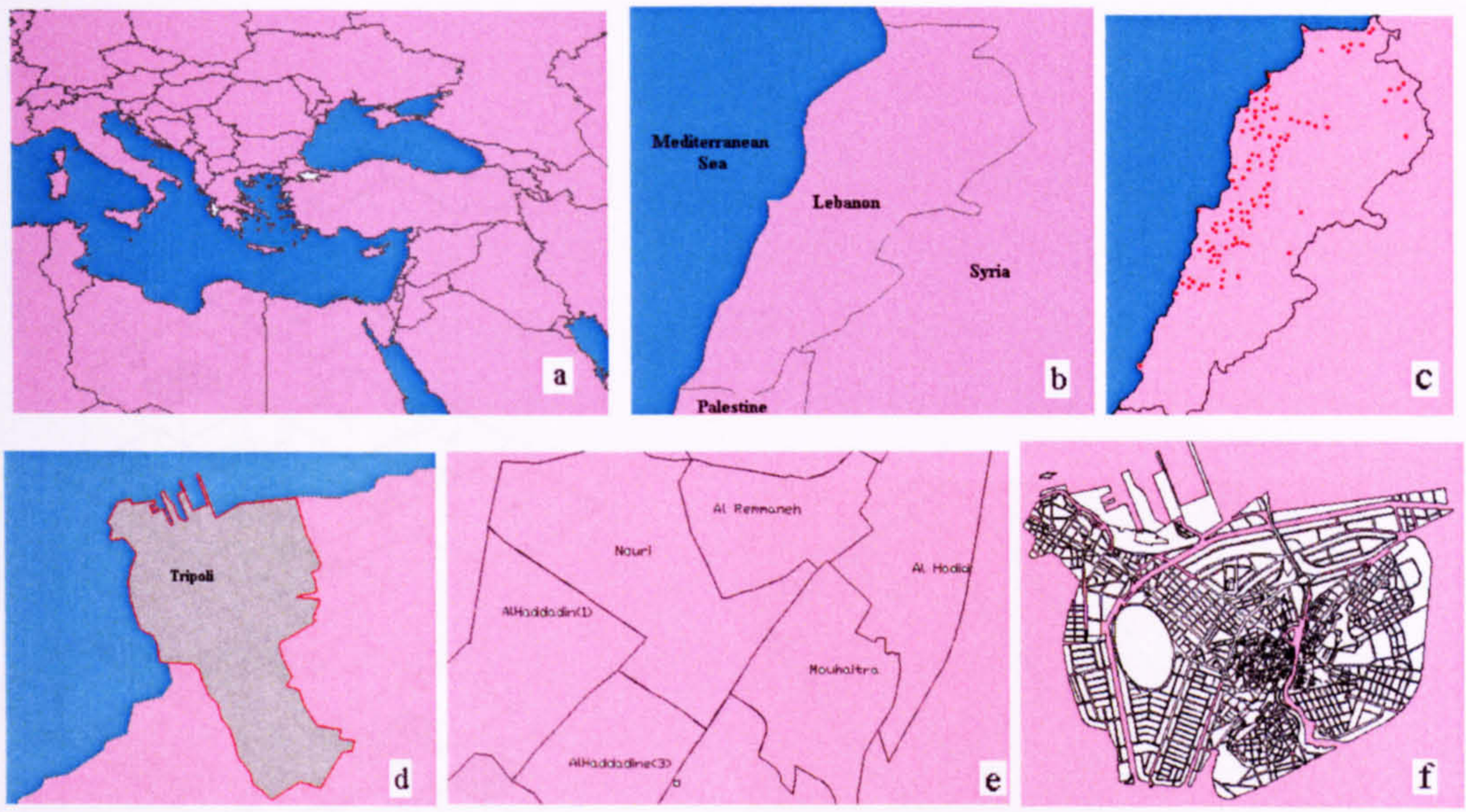
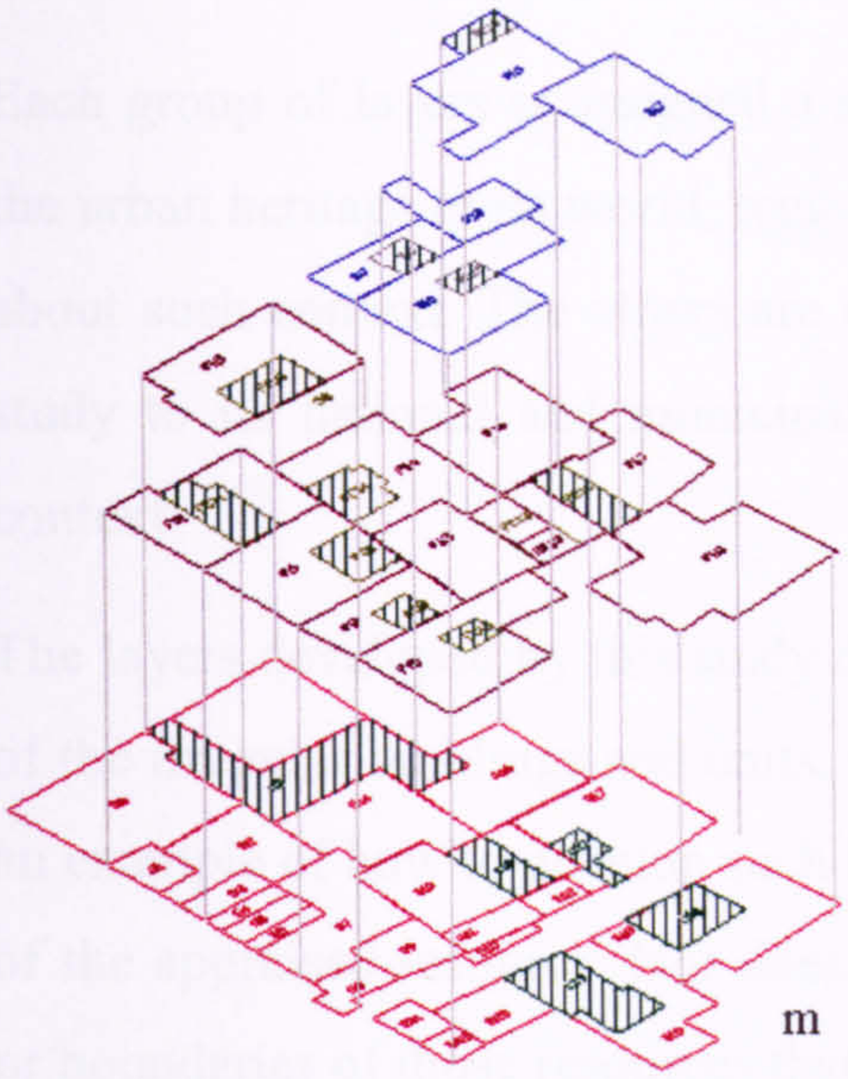


Figure 8.16: Urban heritage resources' layers developed by this study.

The case of the Tripoli, Lebanon.



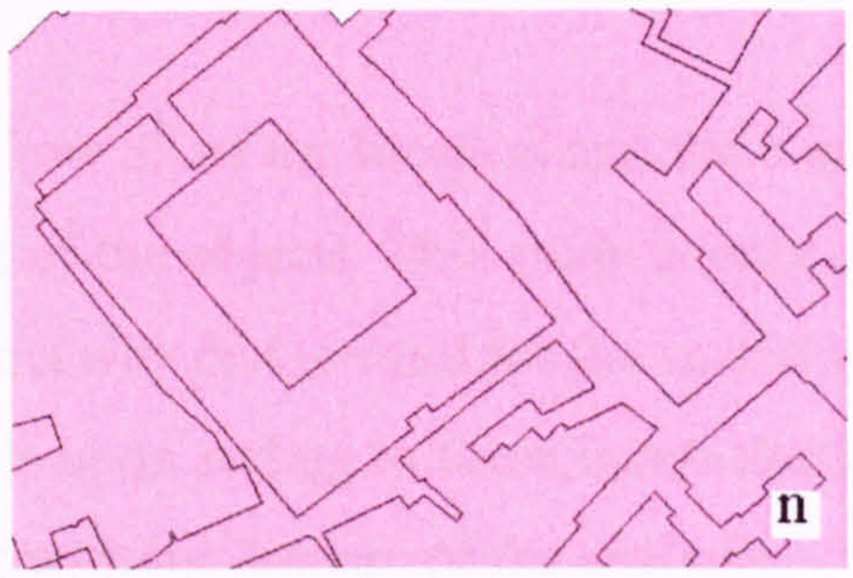


Figure 8.16 (Continue):[Countries' layer, polygons (a) _ zoom to Lebanon, countries layer (b) _ cities & villages' layer, _ point (c) _ Tripoli city's layer, polygon (d) _ districts' layer, polygons (e)_ lands' layers, polygons (f) _ lots' layer, polygons (g) _ regular buildings' layer, polygons (h) _ gardens & landscapes' layer, polygon (I) _ roads & parkings' layer, polygons (j) _ roads & parkings' layer, lines (k) _ units, polygons (l) _ irregular buildings, polygons (m) _ facades, lines (n)|.

The layers of the tenth groups are diverse, and arranged into different sub-groups. The first sub-group concerns the elements of the building, the others concern respectively the elements of units, roads/parking spaces, gardens and landscapes. Such elements involve:

Landmarks objects such as statues, minarets, fountains etc.

Building elements. Such elements involve the building's facades, roofs, courtyards, terraces, openings. These elements are represented in different forms and layers. For instance, courtyards are represented as polygons in the courtyards layer; road furniture such as spotlights are represented as points in the road furnitures layer. Gardens and landscape elements include trees, stream networks, furniture etc. Each of these elements is represented in separate layers and in the appropriate form. For instance trees are represented as points in the trees layer, streams are represented as lines in the water network layer, etc.

The Role of Each Group of Layers

Each group of layers is assigned a specific target. The first group is intended to link the urban heritage to its world, regional and national context, and to the data that exist about such context. The others are respectively to link the urban heritage area under study to its national and municipal context, and to the data that exist about such context.

The layers developed by this study do not show all of the location and the boundaries of the irregular buildings and units, nor that of the objects. This study is only offering an example of how to develop such layers in a way that is valid for the spatial analysis of the appraised resource. Nor does it insists upon setting in these layers the location or boundaries of those resources that are out with the domain of the analysis.

8.3.2.2 *Aspatial Data Modes*

The aspatial data of the urban heritage are presented by this study in two categories. The first concerns the data gathered by the proposed appraisal techniques; the second concerns the data gathered from existing records.

The data gathered from the proposed appraisal technique is arranged in eight groups of tables. The first group concern the candidates personal details, the second groups group concerns the area resources. The others concern respectively districts, lots, buildings, gardens/landscapes, roads/parking spaces, units and resource objects. Each of these groups contains three main sub-groups of tables. The first are related to the resource's heritage significance, and character data. The second are related to the resource's heritage variables. The third are related to the resource's sub variables. The fourth are related to the resource's elements and attributes. All these tables include a key field that links the tables of the same resources to the others. This field is also to link this aspatial data to its spatial context.

The second data set gathered from the existing records is arranged in 10 groups. The first group concerns the basic information needed to identify the urban heritage resources. This group is divided into seven tables. The first table concerns the area's resources. The others respectively concern the districts, lots, buildings, gardens/landscapes, roads/parking spaces, units and resource objects. Each of these tables contains information about the resource's numbers including its ID number,

names, founders, address, historical period, styles, uses etc. The second group concerns the drawn data that exist about the urban resources. The other groups concern respectively the maps, databases, documents, presentation, media, pictures, virtual and augmented reality records that exist about the resources. Each is organised by category of the urban resource, and the ID of this resource.

8.3.2.3 *Instruction and Help Modes*

The model proposed by this study provides the instructions, the definitions and the list of choices that help the candidate to properly enter the requested data and to minimise the kind of bias mentioned in chapter 6 as far as possible.

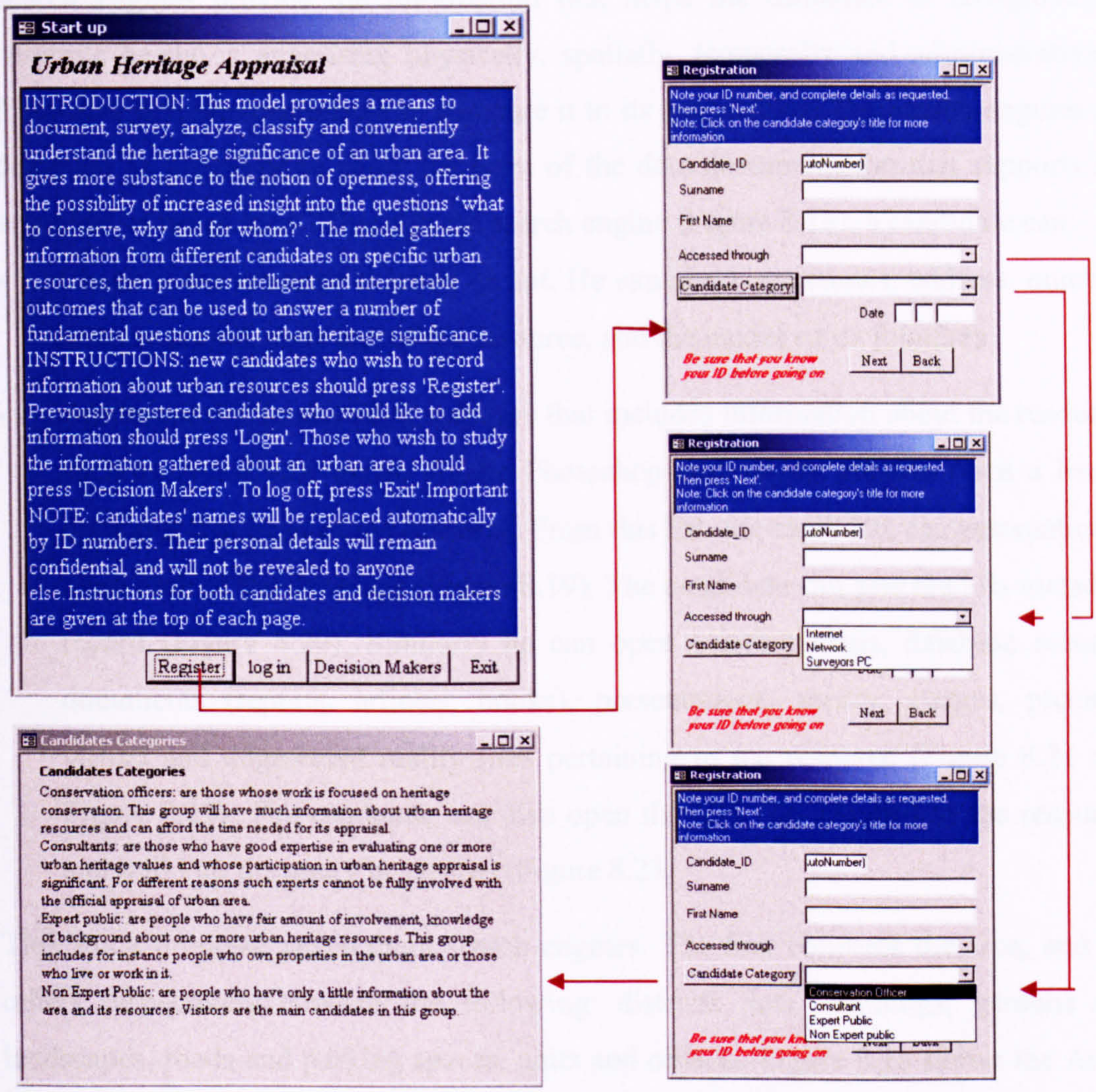


Figure 8.17: Start up and Registration form's instructions.

This model also provide a thesaurus that defines the meaning of the diverse categories proposed by this study, such as the categories of heritage characters, variables and sub variables, categories of urban resources and categories of stakeholders (Figure 8.17). The proposed thesaurus and lists have been designed for this model, to increase the accuracy of the information provided by the candidate.

8.3.2.4 *Data Search Modes*

Chapter seven has indicated that data documentation and access are critical in the urban heritage appraisal process. This study has therefore supported the urban appraisal model it proposes with a set of search engines that guide both the candidates and the decision makers to the data that exist about the urban heritage resources. The search engines provide the information that helps the candidate to recognise the resource he/she is appraising physically, spatially, temporally and administratively. They also help the candidates to compare it to its alternatives. The search engines are designed as prototype to show the form of the data documentation that supports the appraisal of urban area. Through the search engine (Figure 8.18), a candidate can:

- Check if the resource is listed or not. He can check the names, address, number, historic period, style etc. of the resource, and the names of its founders.
- Automatically access other software that includes information about the resource, such as AutoCAD, excel, Adobe Photoshop and others. He can open a list of drawings that exist of the resource. From this list, the candidate can automatically open each of the drawings (Figure 8.19). The candidate can also read its metadata record (Figure 8.20). Similarly he can open existing maps, database records, documents (reports, articles, books), presentations, media, images, pictures, virtual and augmented reality files pertaining to the resource (Figure 8.21 and Figure 8.22). The candidate can also open the GIS file attached to the resource, and build up the query he desires (Figure 8.23).

This study proposes seven main search engines. The first concerns the area, and the others respectively concern the following: districts, lots, buildings, gardens and landscapes, roads and parking spaces, units and objects. Figure 8.18 shows the Areas Search Engine. This search engine includes a number of fields, with attached buttons. These buttons enable the candidate to get some background to the information mentioned in each field.

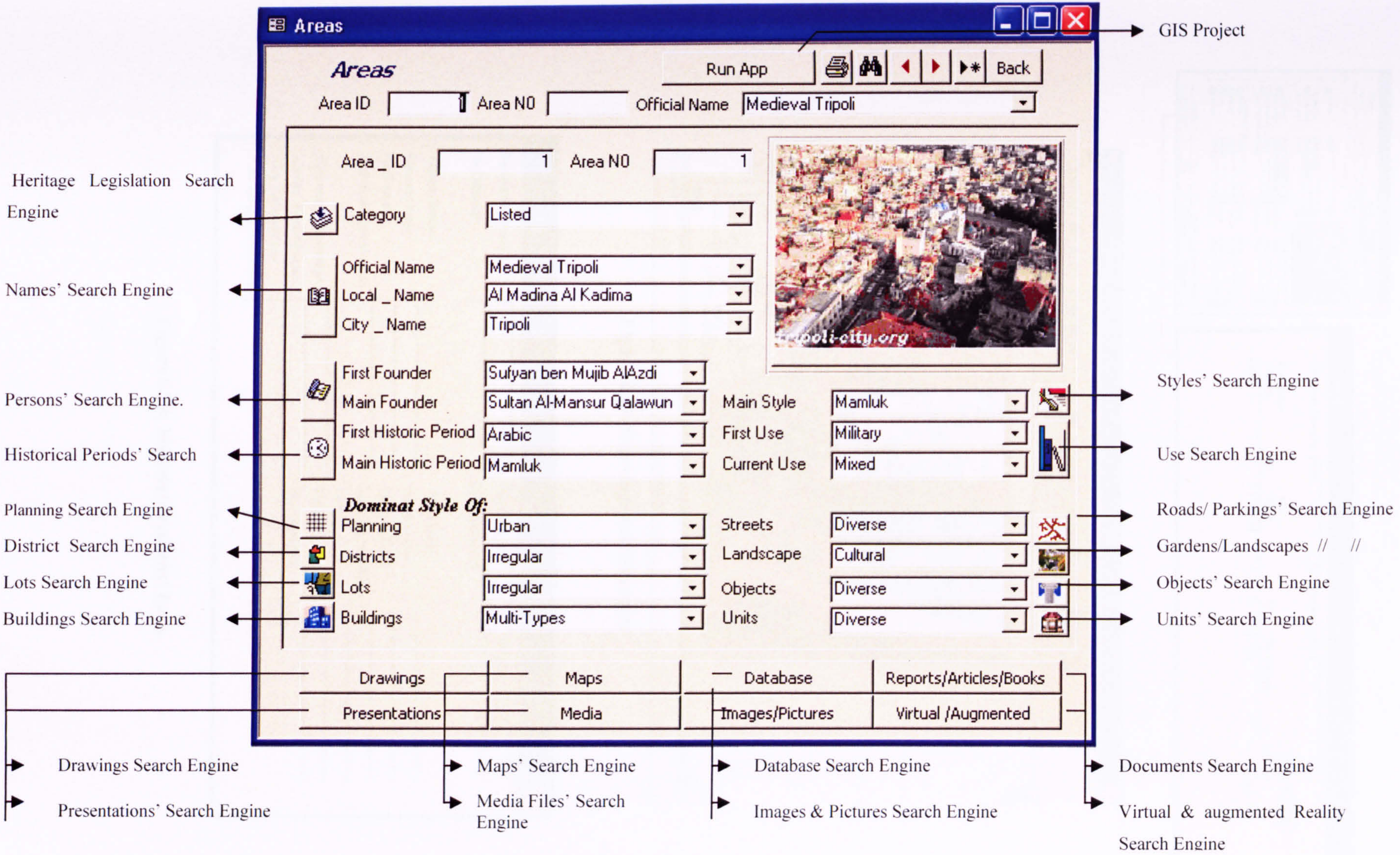


Figure 8.18: Area search engine (The case of Medieval Tripoli)

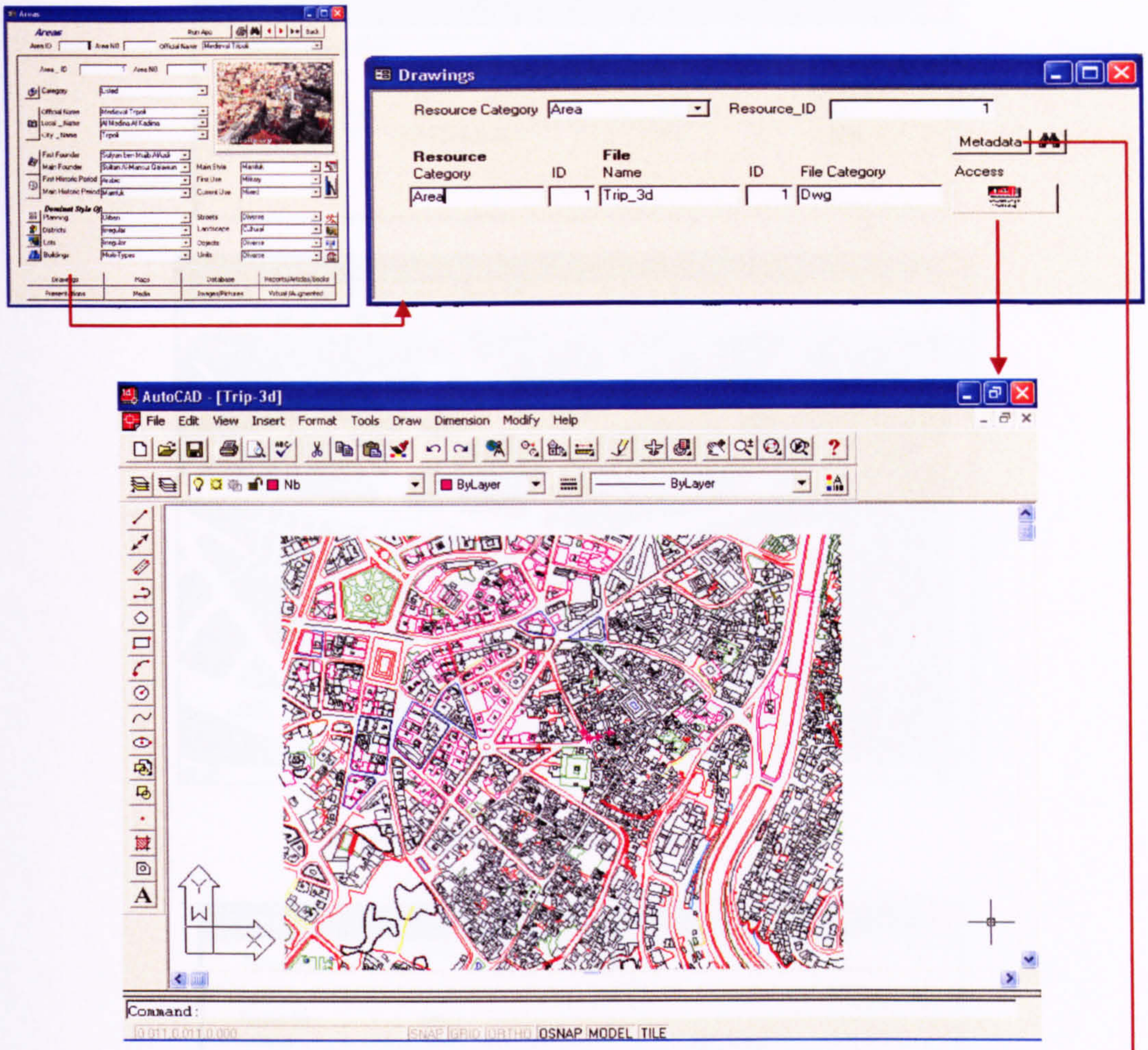


Figure 8.19: Drawings search engine

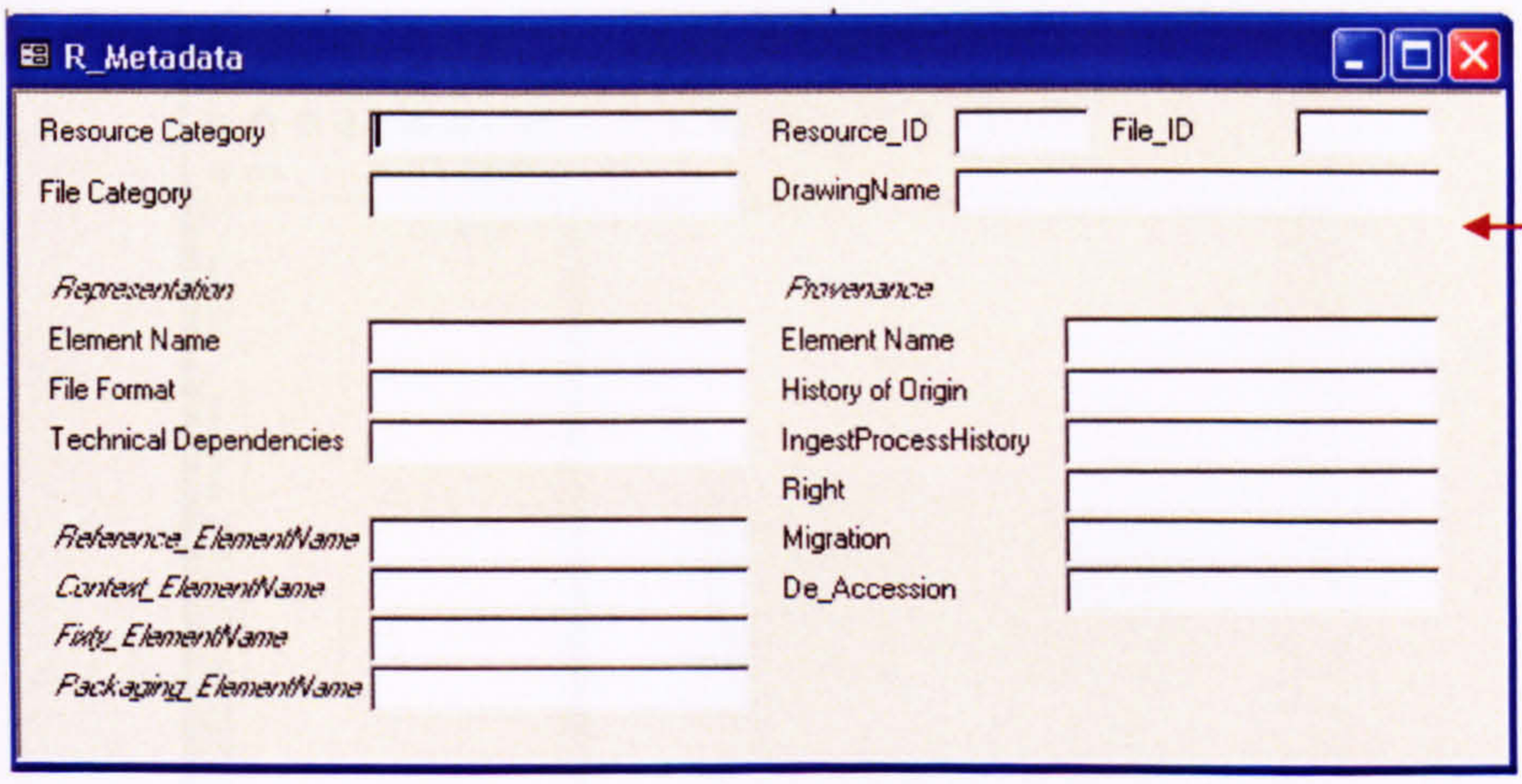


Figure 8.20: Metadata records' form

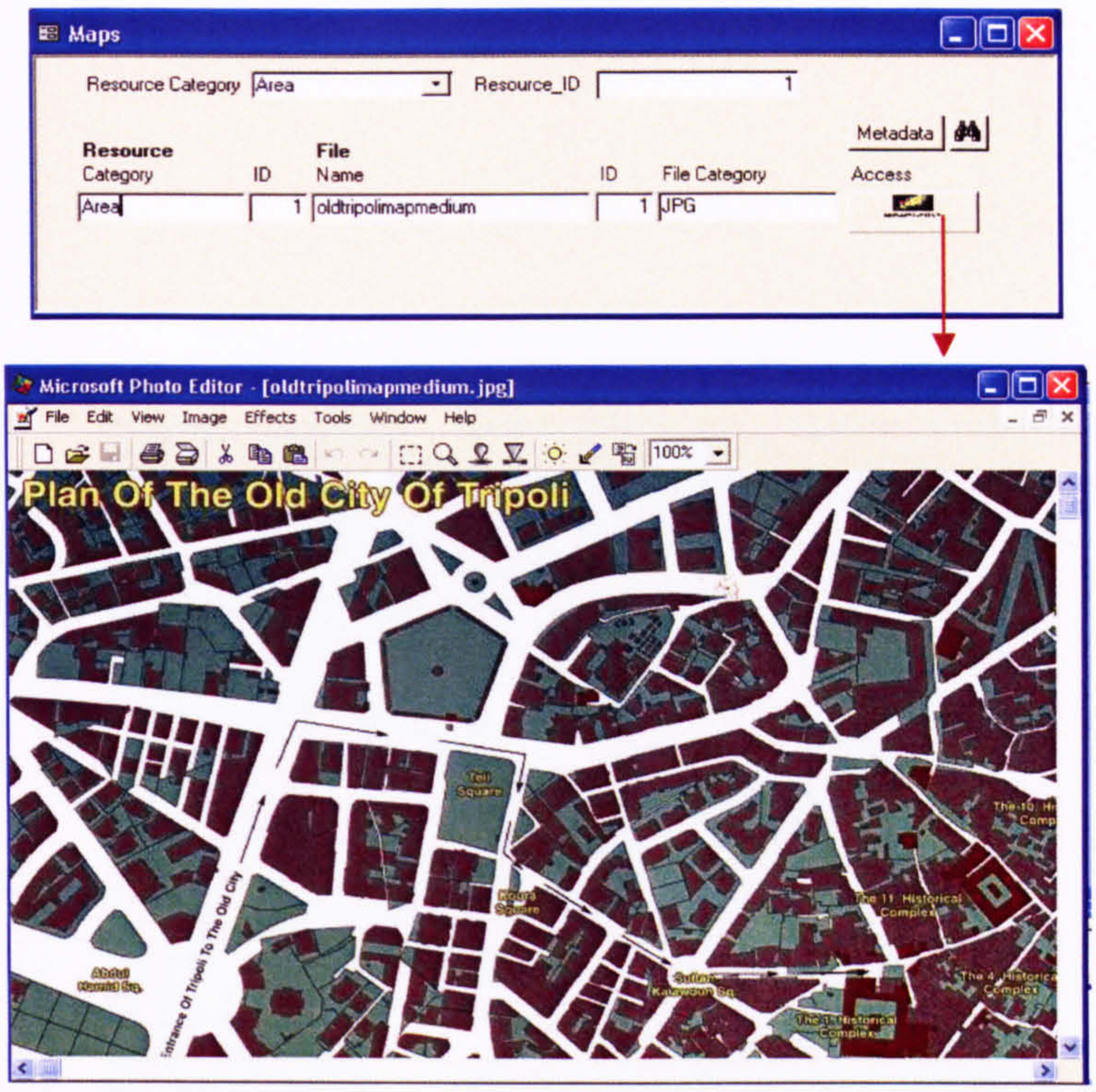


Figure 8.21: Maps' (image) search engine

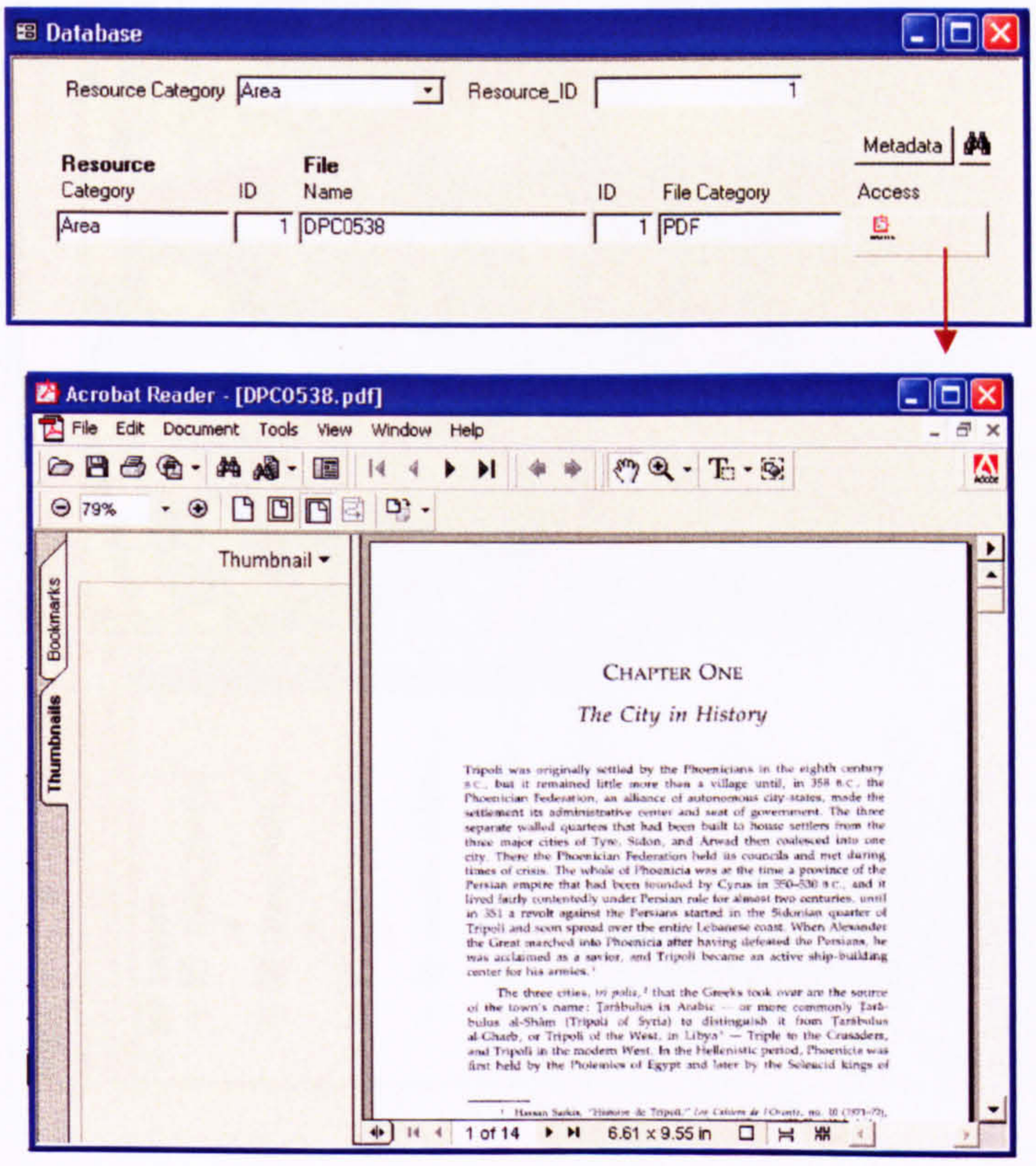


Figure 8.22: Documents search engine

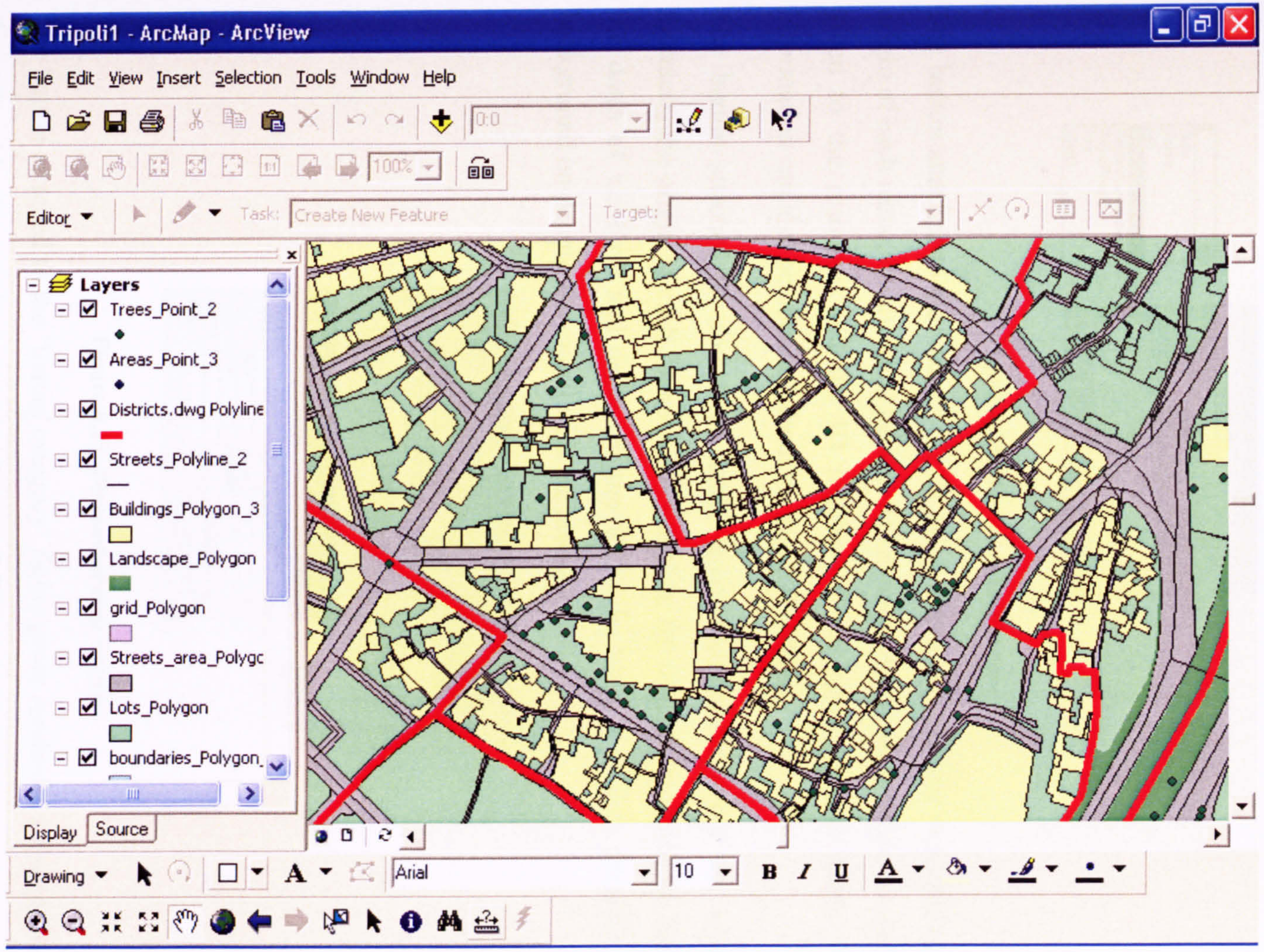


Figure 8.23: GIS file attached to areas' search engine,

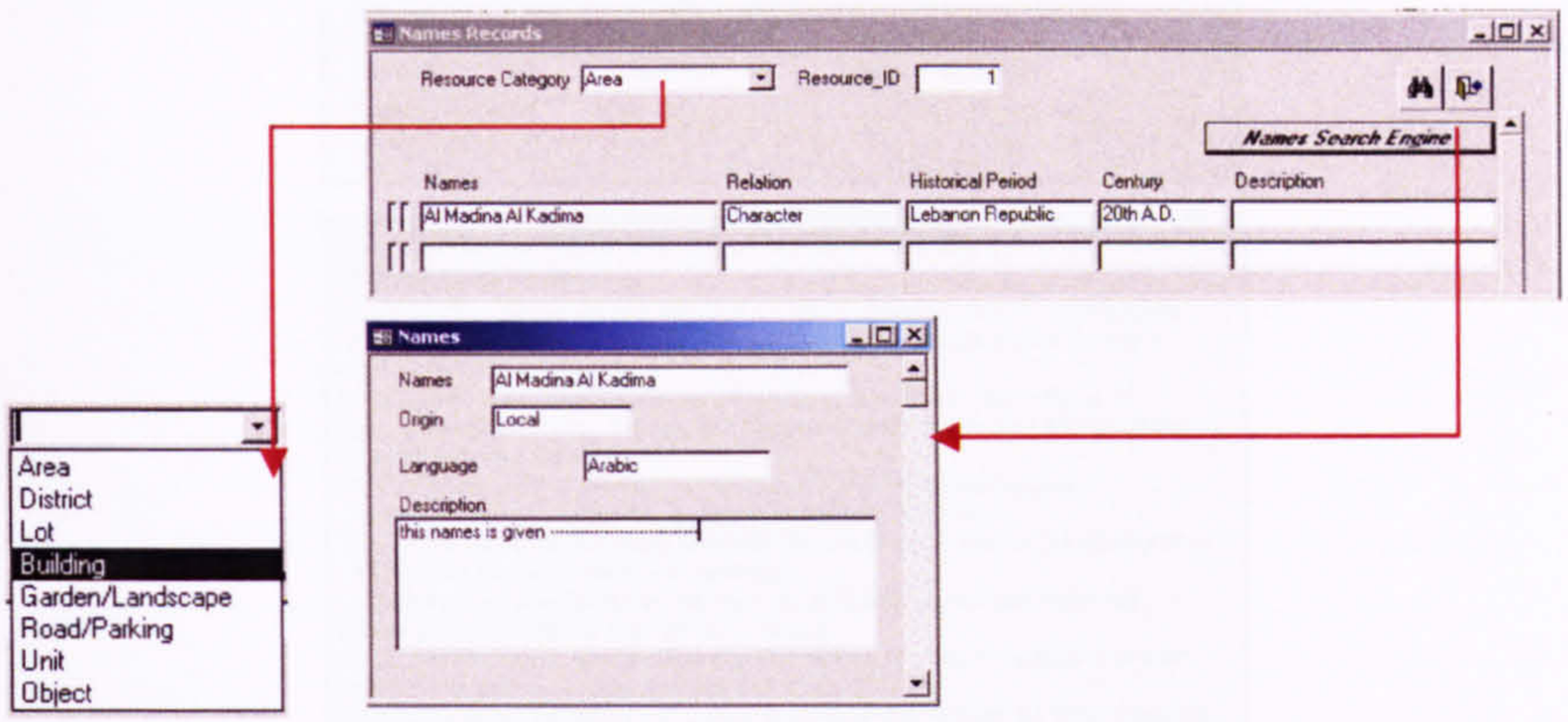


Figure 8.24: Names' search engine

The button attached to the 'name's fields gives information on the resource's names, origin of each name, its historical period, its language, the century when the name was given to the resource, and the ID number of the name (Figure 8.24). Further information can also be obtained about the name if desired.

The button attached to 'founders' fields, gives background about the resource's founders, the origin of each founder, his position, the century to which he belonged, the dates of his birth and death (Figure 8.25). In here, it is also possible to get background on people associated with the resources.

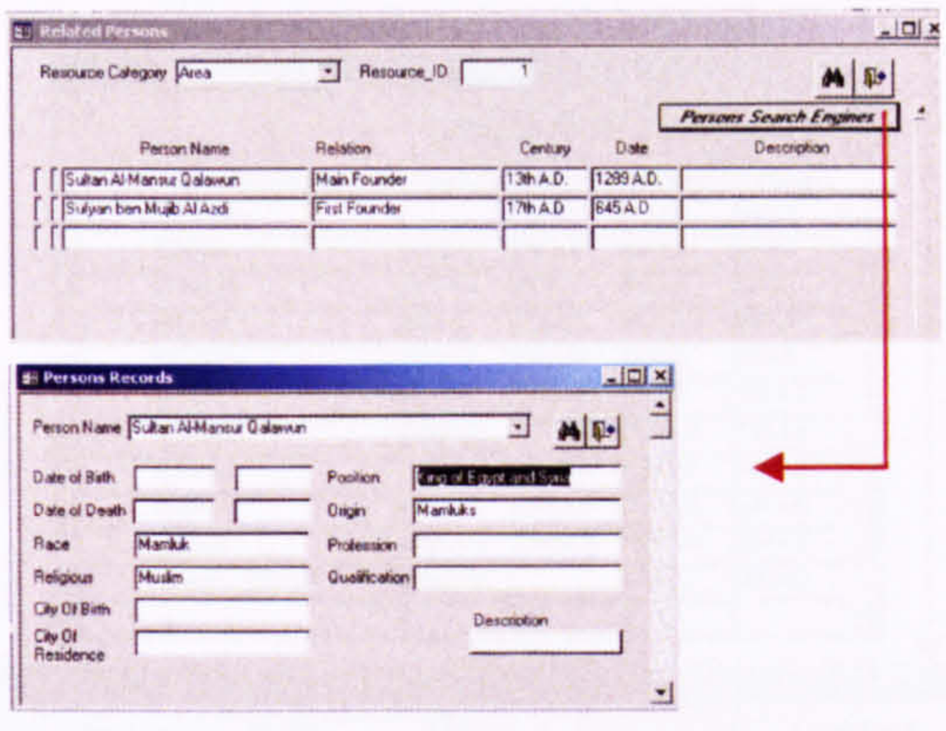


Figure 8.25: Persons' search engine

The button attached to the 'listing category' fields gives candidate information about the national heritage listing programs (Figure 8.26).

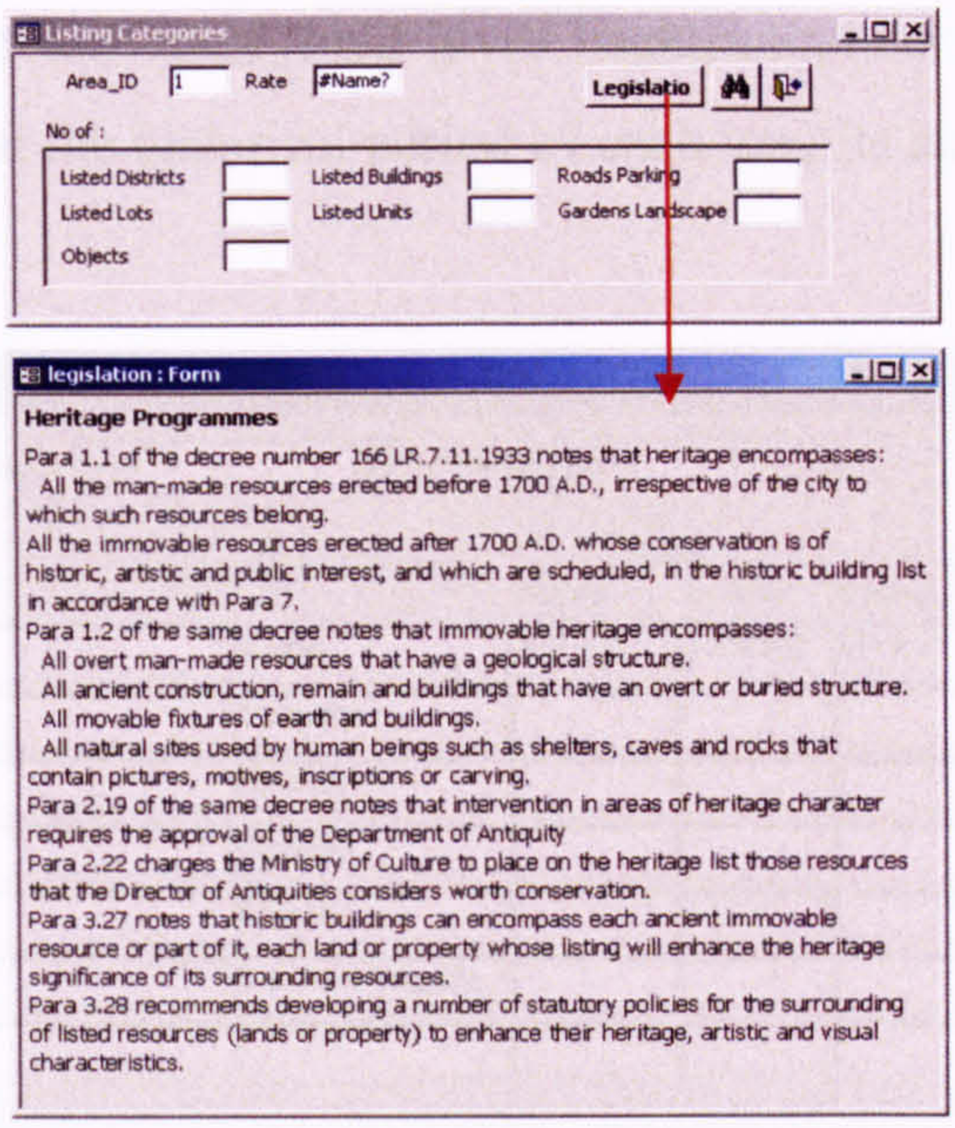


Figure 8.26: Heritge listing search engine

The button attached to 'historical periods' fields give background about the changes that occurred to the resource during different historical periods. It also gives background concerning each period, such as its start and end dates, and centuries (Figure 8.27).

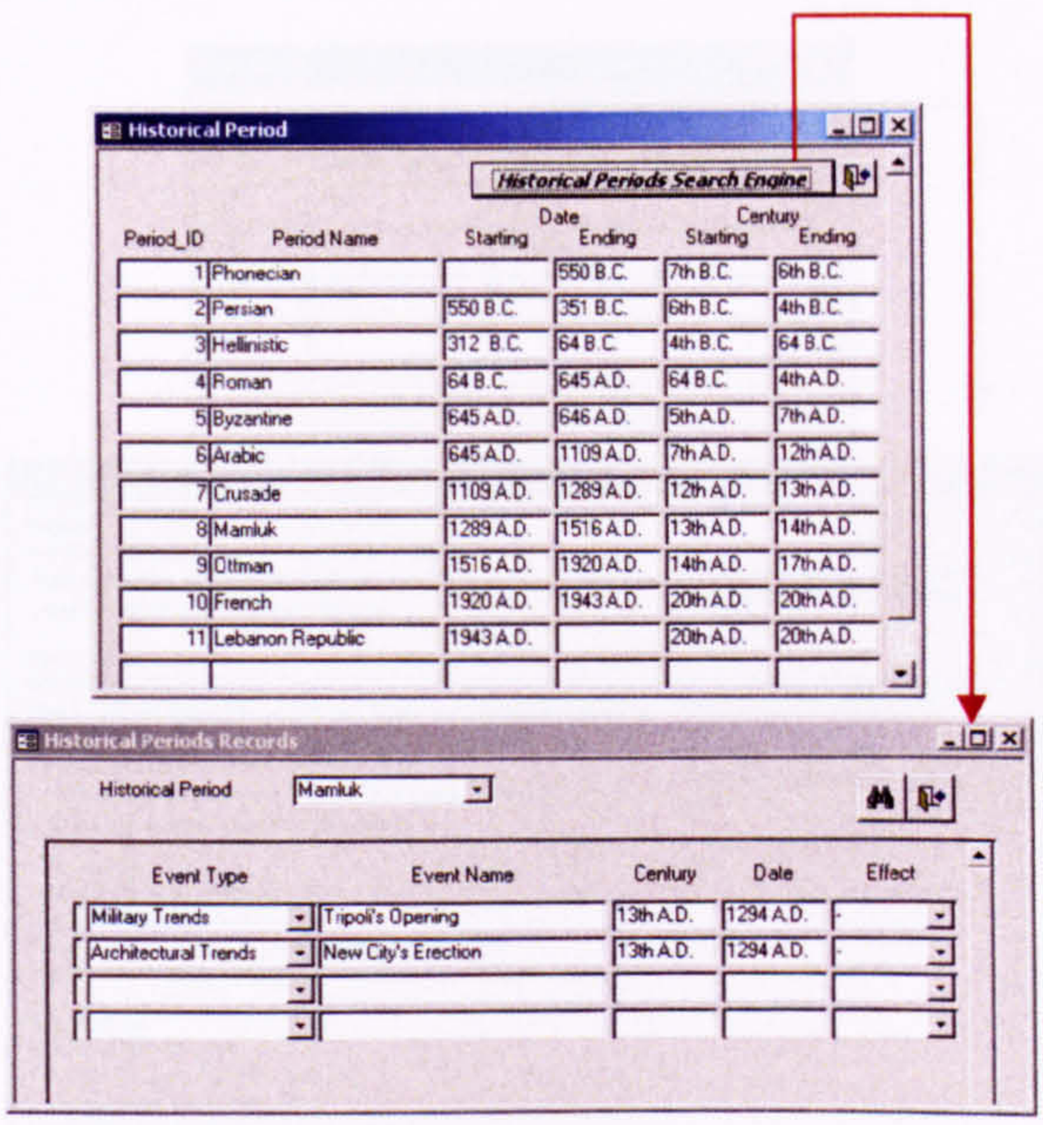


Figure 8.27: Historical periods search engine

The button attached to the 'uses' field gives background on the resource's uses. It gives information about the historical period of each use; its starting and ending dates (Figure 8.28).

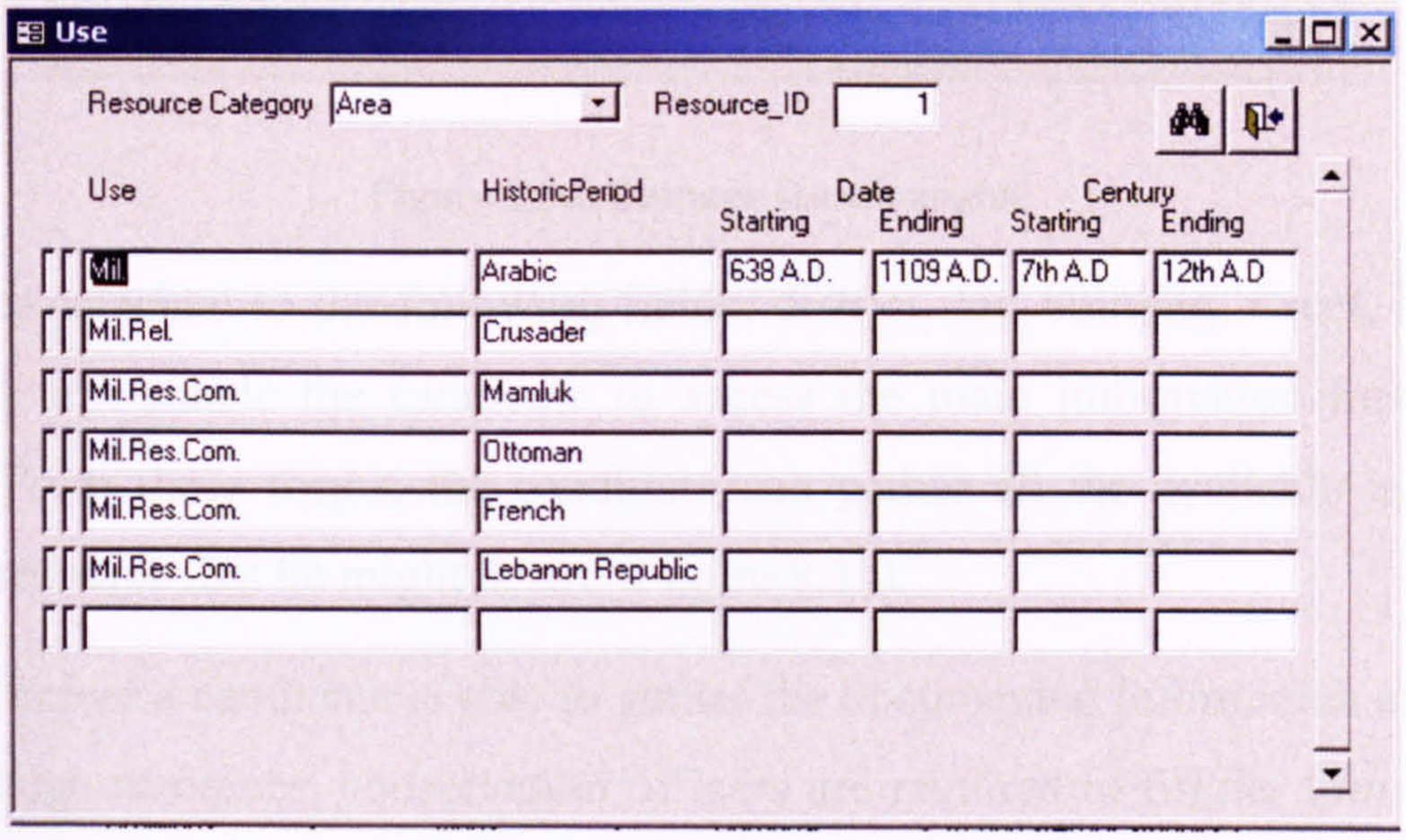


Figure 8.28: Use search engine

The button attached to 'planning' field gives background about the planning styles of the resource, and the period of each style (Figure 8.29).The button attached to 'styles' field, gives background about the resource's style. The button attached to 'Damage' field, gives background about the Damage's Type. (Figure 8.30)

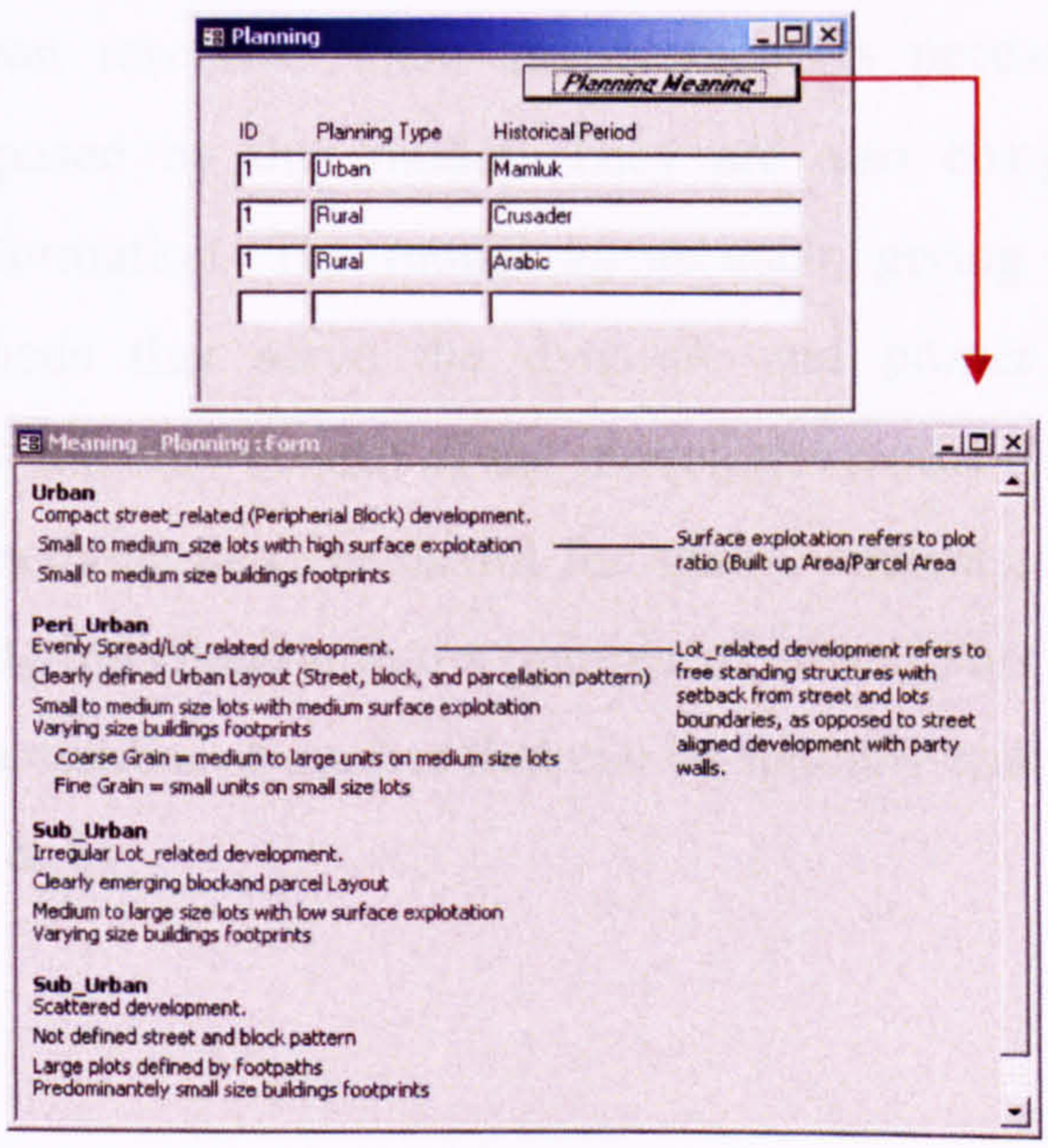


Figure 8.29: Planning search engine

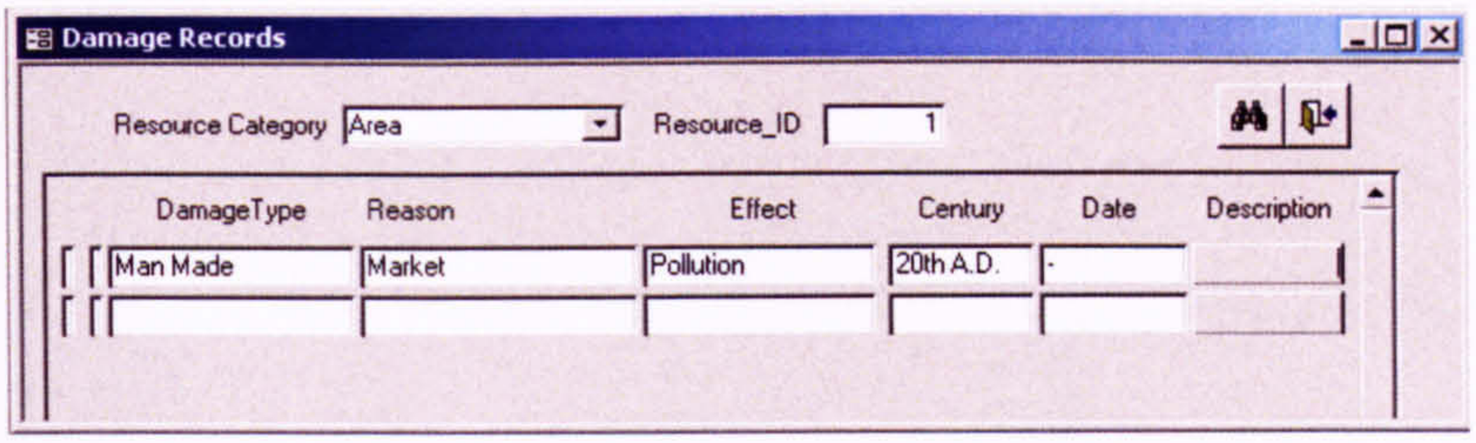


Figure 8.30: Damage search engine

The buttons attached to the following fields: district, lot, building, street, landscape, object and unit enable the candidate to access the main information form of each resource. From these forms, the candidate can gather all the available information about the resource that he might desire (Figure 8.31).

However, before a candidate is able to gather the documented information about these urban heritage resources, conservation officers are required to fill the forms with the appropriate information. This model has provided for the case of Lebanon the lists of attributes that come under each field (Figure 8.32). So conservation officers are to select from the proposed list the attributes of Tripoli. The attributes placed in the lists were selected from different sources and using different tools (survey, observation, historical reading and focus groups).

The conservation officers need to provide digital copies of the documentation that exist about the urban resource. Their involvement is necessary to arrange the information, as proposed by this model. They are also charged to describe the metadata of this information. The model is, as such, giving examples about the documentation methods that serve the dynamic and proper appraisal of urban resources. That is not the only benefit of the model; the model also offers ideas about the documentation methods that are useful for spatial analysis. The model proposes the transfer of existing information into a number of tables. This procedure will make it easier to consider a number of queries that can be spatially analysed and represented (refer to Chapter 6,7 & 8)

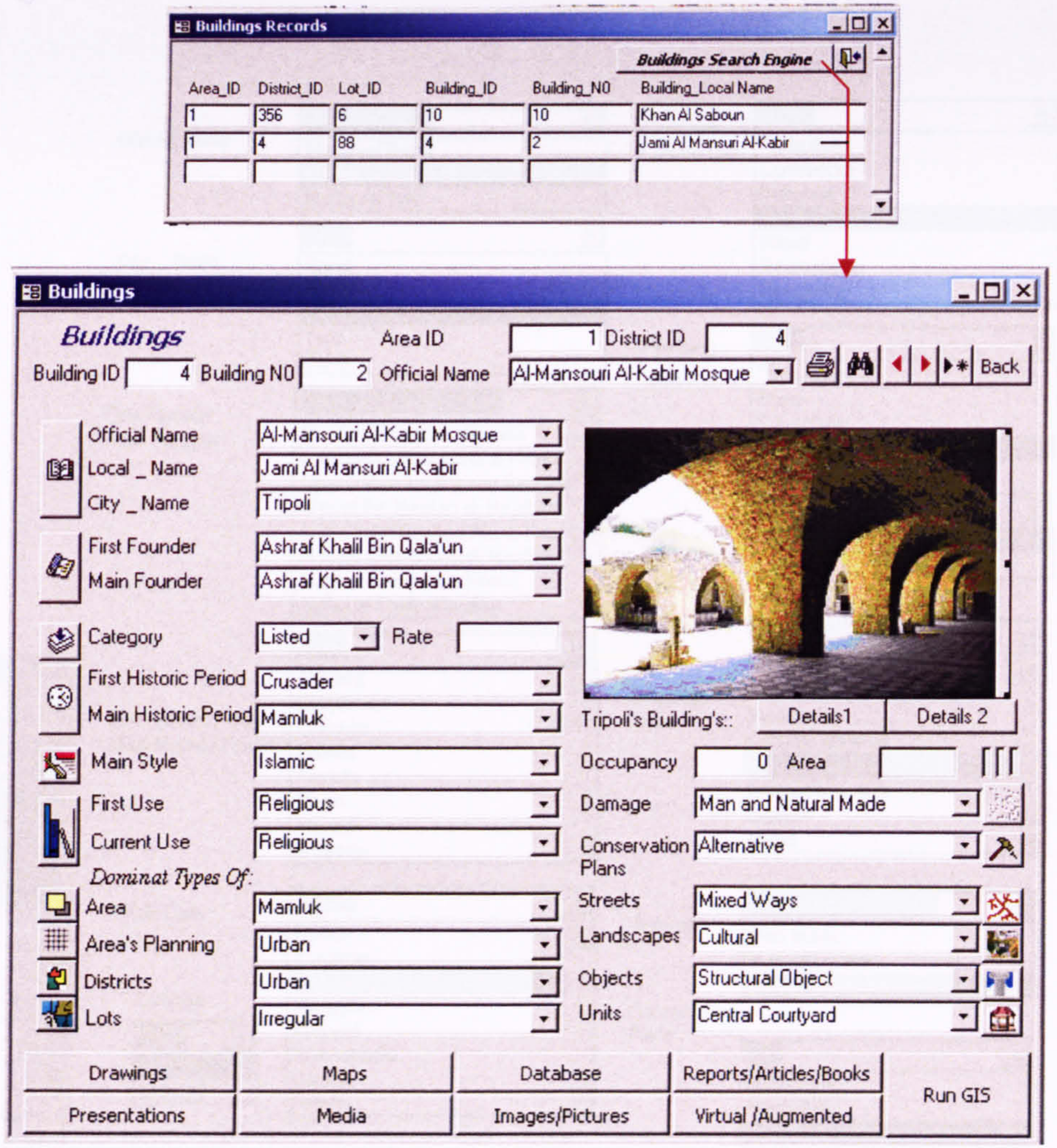


Figure 8.31: Buildings search engine (The case of Medieval Tripoli)

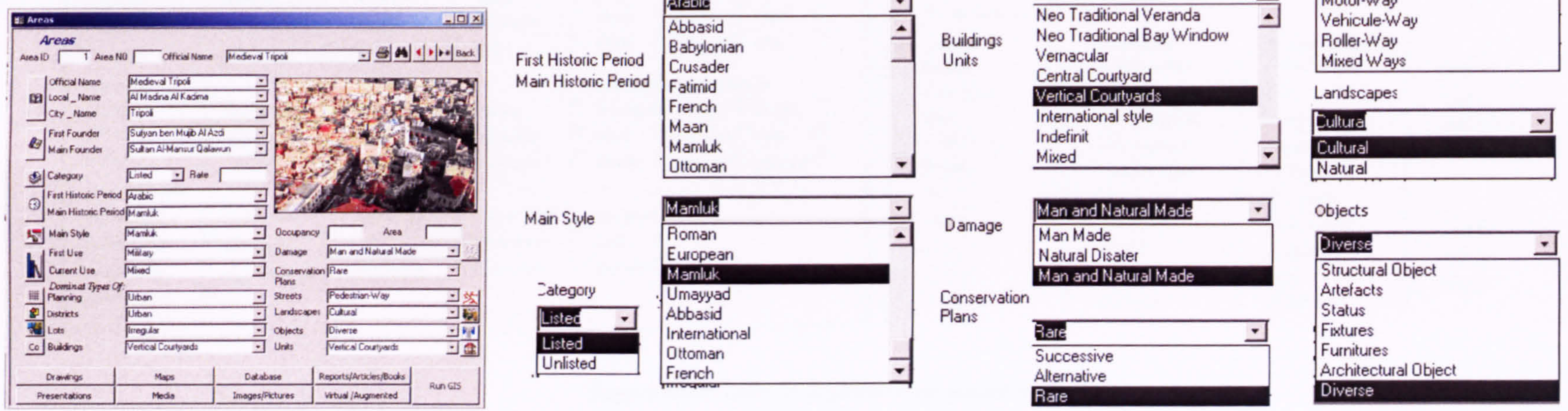


Figure 8.32: List of attributes proposed for Tripoli

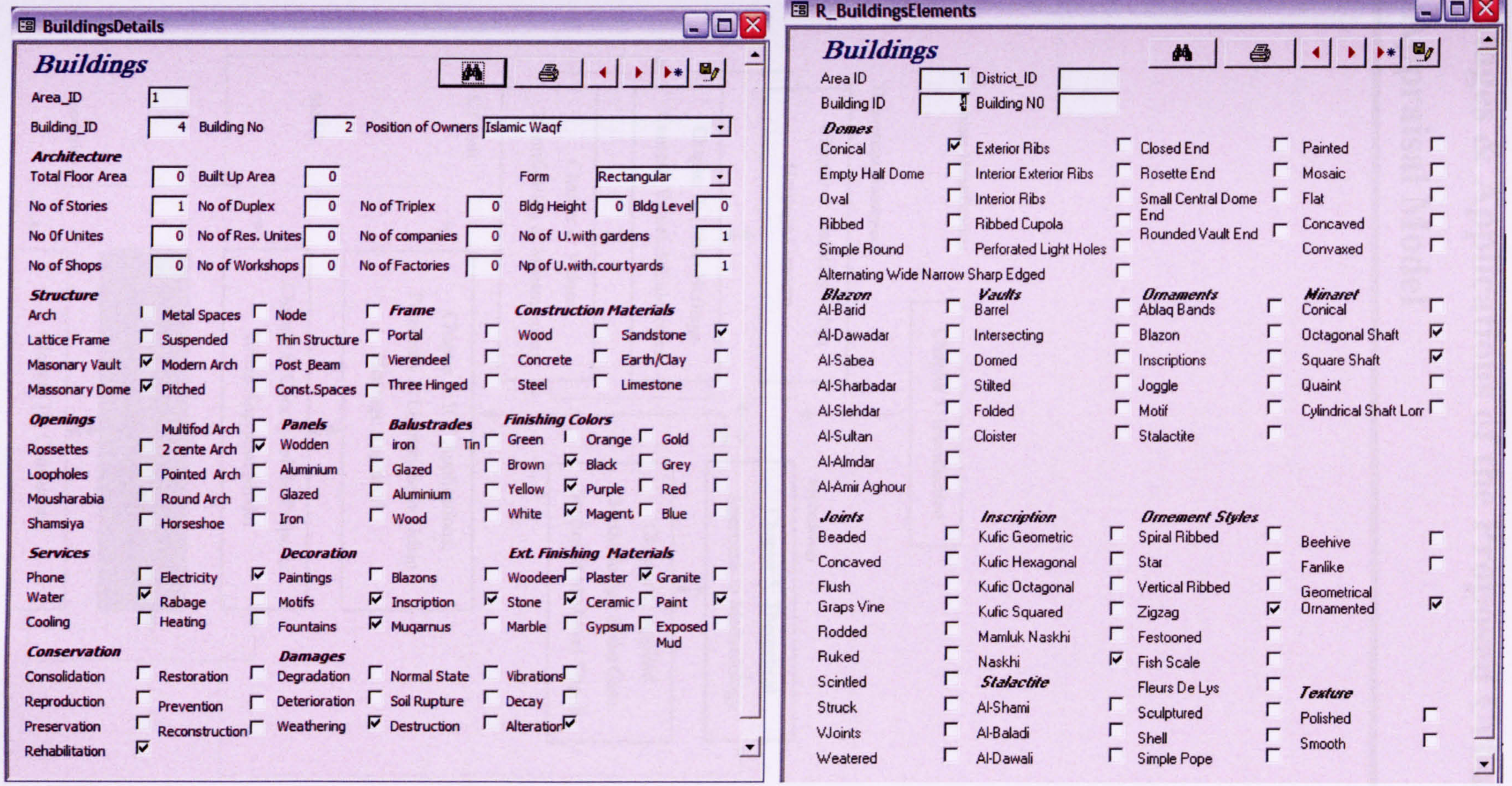
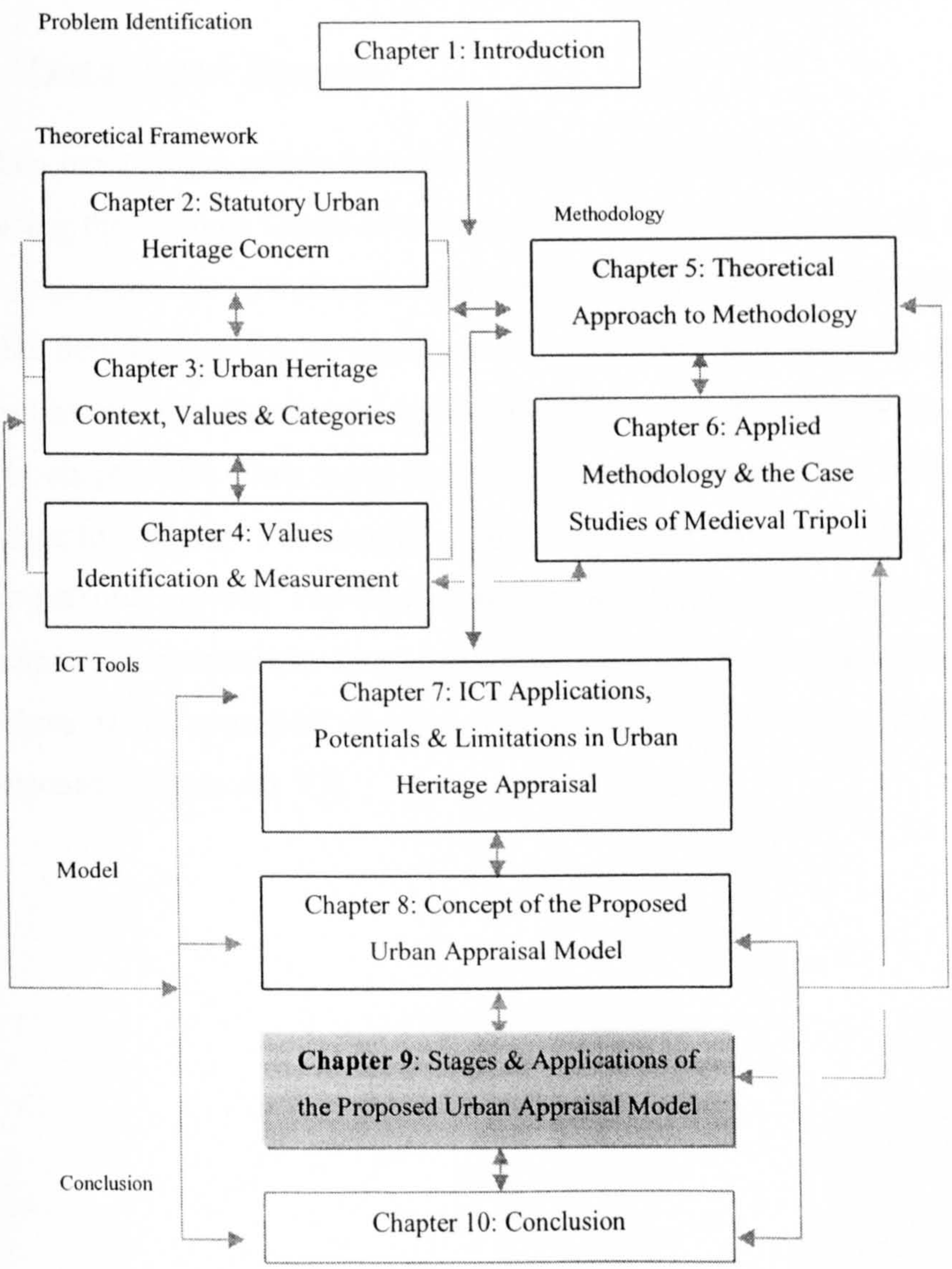


Figure 8.33: Lists of attributes proposed for Tripoli

Stages & Applications of the Proposed Urban Appraisal Model



9. Stages & Applications of the Urban Appraisal Model

9.1 Introduction

This chapter explains and tests the different stages of the urban appraisal model proposed by this study. The first section of this chapter concerns the data input stages requested from the candidates. The second section is related to the data analysis stages. The third section focuses on the data output stages requested from the decision makers. The chapter sheds lights on the concept that made up each stage in relation to the principles mentioned in the methodology. It also tests the validity of each stage by applying it for the appraisal of the case studies. This chapter then ends by describing the advantages and disadvantages of the model.

9.2 Data Input Stages

The data input stages gather from the candidate the information that is needed for properly appraising the heritage values of urban heritage area and its resources. Figure 9.1 describes these stages, and shows that each candidate accesses the model individually, so the personal bias that derives from the surveyor's personality, cultural orientation, social status, political philosophy and life experiences can be avoided (for more information about personal bias, refer to chapter six). Data input is divided into four stages. The first stage is to allow the candidate to register. The second stage is to gather data from the candidate concerning his/her personal records. The third stage is to gather data from the candidate concerning the appraised resource records. The fourth stage is to gather from the candidate data related to the values of the appraised resource. For a better understanding of the model refer to the CD attached to appendix VII.

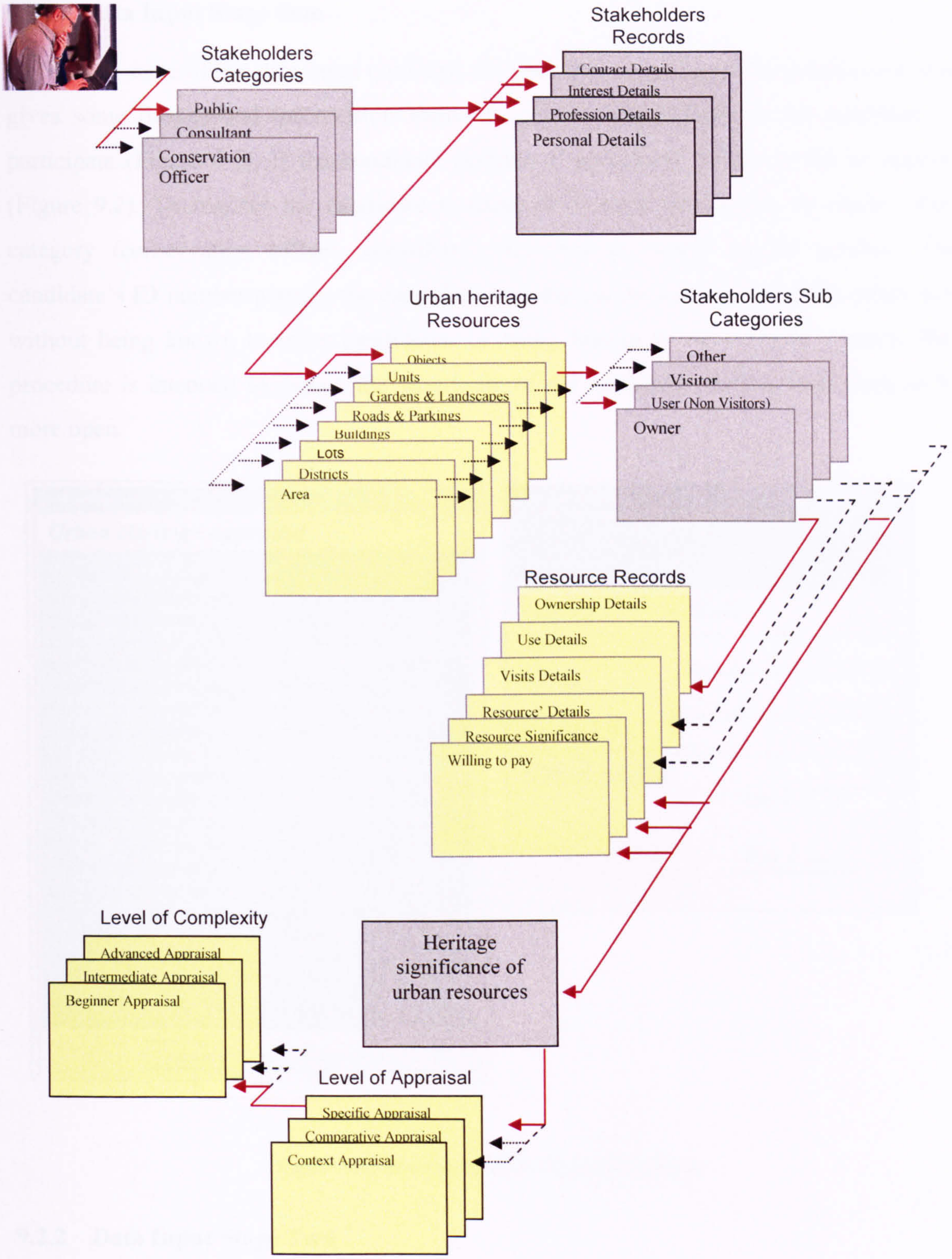


Figure 9.1: Data input stages

9.2.1 Data Input Stage One

At the first stage of the data input typology, the candidate should read the introduction that gives some background information about the model, and encourages the candidate to participate (Figure 9.2). If the candidate decides to participate, he/she is led to register (Figure 9.2). To register the candidate is required to enter their name, to choose their category (conservation officer, consultant, etc) and to collect an ID number. The candidate's ID number permits the candidate to complete the assessment of the urban area without being known to other candidates, or being known to the decision makers. This procedure is intended to reduce the sensitivity of the candidates, and to help them to be more open.

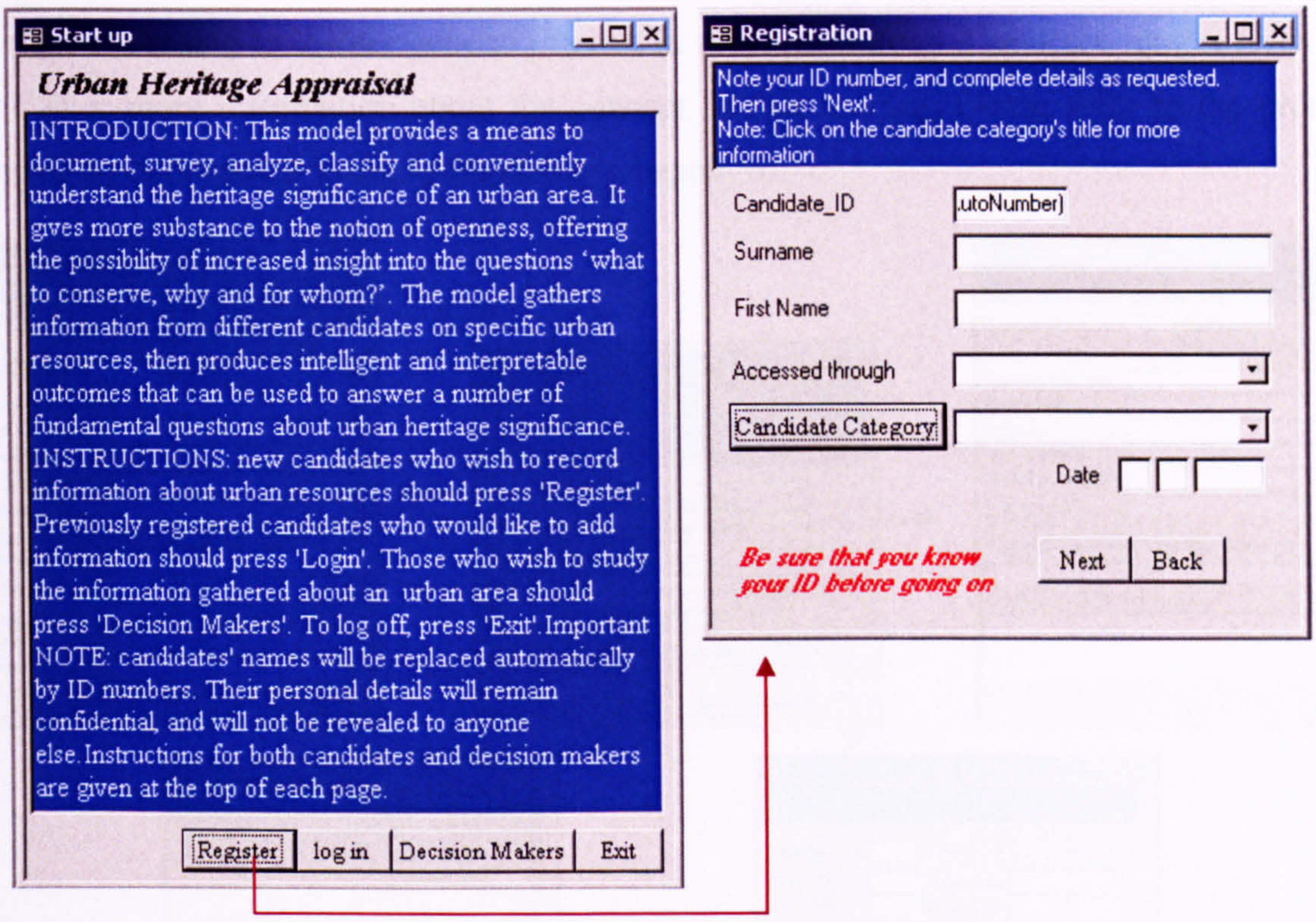


Figure 9.2: Start up form & Registration form

9.2.2 Data Input Stage Two

After registration, the candidate will access the stage '**Candidates Details**' (Figure 9.3). This stage is to test the democratisation of the appraisal process and to test the quality of experts involved. In this stage the candidate is expected to enter personal, professional, interest and contact details in forms designed for this purpose. This information increases insight into the question of who is involved in the appraisal of urban heritage, and whether

those involved in such appraisal represent the diversity of urban stakeholders. (It is worth noting here that the candidate is to select a single choice for the question posed, from the list of choices provided by the model):

The ***personal form*** involves questions about the candidate's marital status, title, age, religion, social class, nationality, place of birth and place of residence.

The ***profession form*** includes questions about experience, certificates, professions, positions, the name of the department where he/she works, and the tasks and responsibilities allocated to him/her.

The ***interest form*** offers a list of the six main heritage values (aesthetic, cultural, historic, economic, socio politic and educational), and asks the candidate to assign a score to these values according to his/her general interest in urban resources. The score ranges from 1 to 10. (For more information about the concept of this scoring, please refer to the promise rating tools proposed in the Methodology chapter, 6).

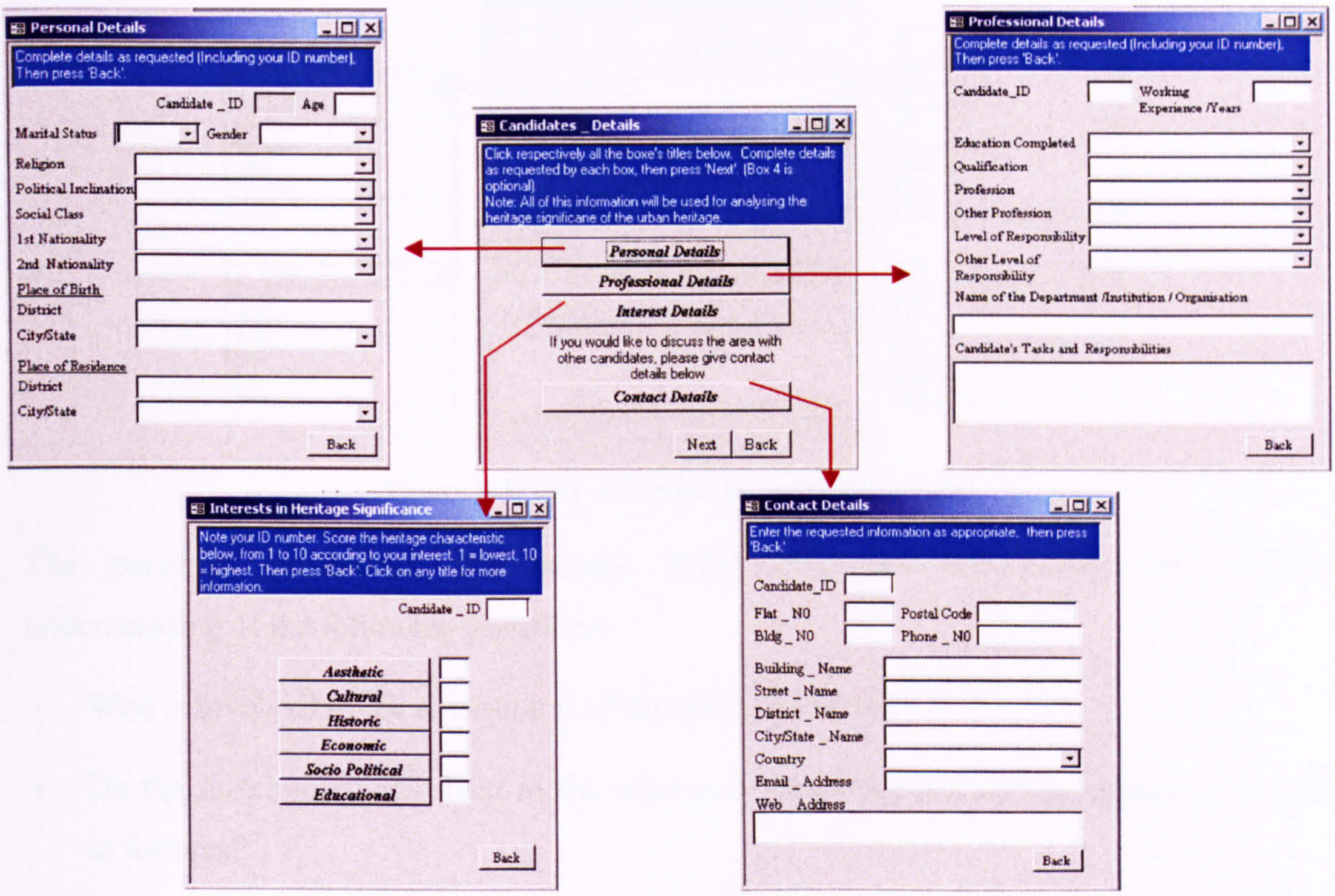


Figure 9.3: Forms for candidate's details

All the information requested by these forms is critical for the urban appraisal process, apart from the information requested by the ***contact form***. The contact form is optional, and the candidate is free to enter the information requested by it. Generally, those candidates

who would like to discuss the heritage significance of the urban resource with another candidate are required to enter the information requested by this form.

In this personal stage, all the fields of requested information are supported by lists of choices from which the candidate can select his/her answers. (Figure 9.4)

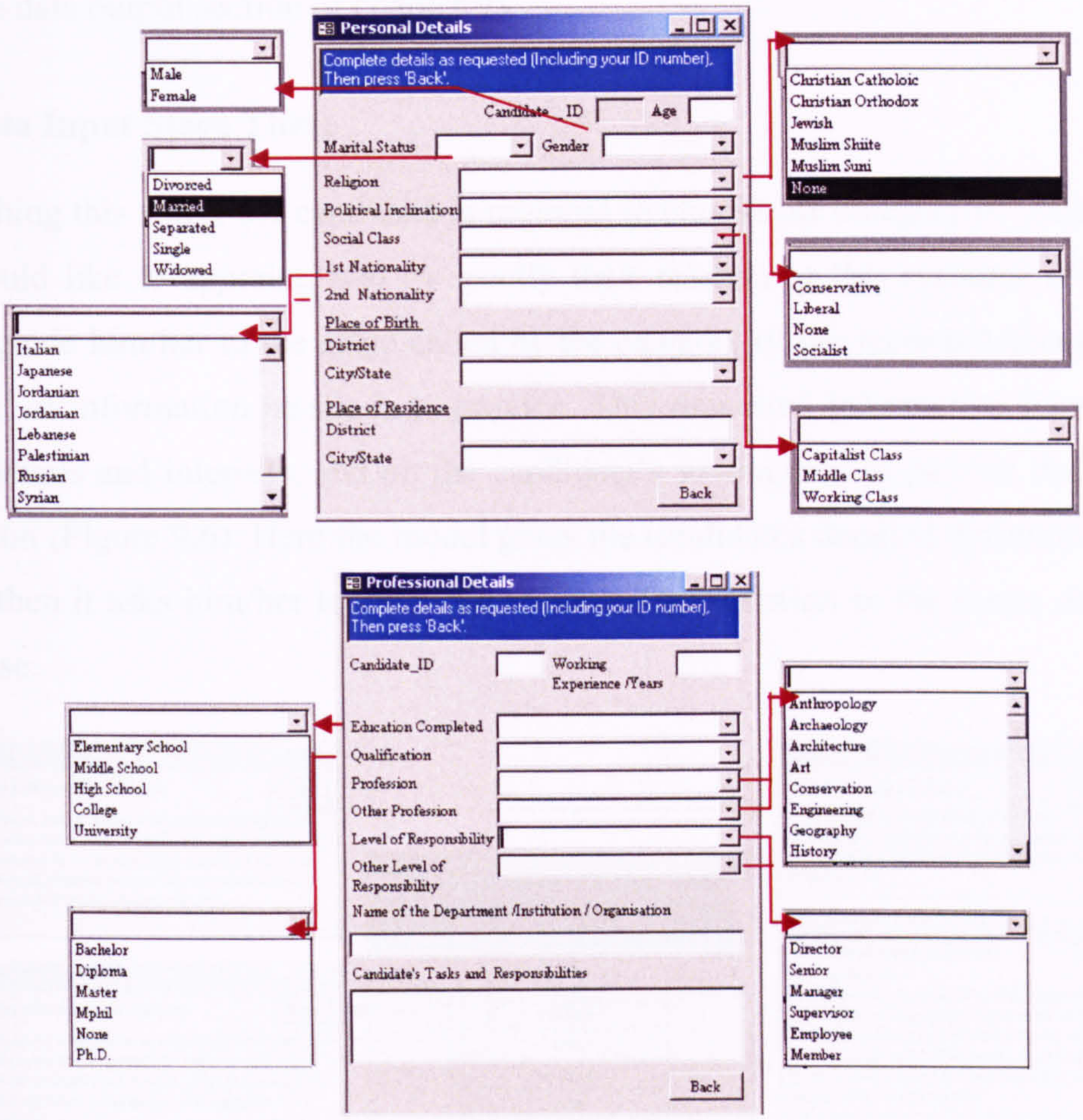


Figure 9.4: List of choices for personal details

The personal, profession and interest information are accumulated to increase understanding of the following questions:

- Who is involved in the assessment of the urban resource?
- Do the stakeholders involved in the assessment represent the various groups of people in the area?
- What are the professions, experiences and interests of the people involved in urban resource assessment?
- How does the quality of stakeholders involved in the assessment process influence its result?

- What is the validity of the result? Is it democratic?

Data gathered from this stage can also have many other uses. It can be used to study the qualification, profession, origin or political identity of the candidates interested with specific resource (x) or with specific value (y) (for further information about such analysis refer to the data output section of chapter 9).

9.2.3 Data Input Stage Three

After reaching this stage, the candidate is required to choose the category of urban resource he/she would like to appraise, and to specify their relation to this resource (Figure 9.5). This will guide him/her to the stage called by the category of the records **'Areas'** and then to the kind of information he/she is to provide. This requested information focuses on the resource details and interests, and on the candidate's willingness to pay for the resource's conservation (Figure 9.6). Here the model gives the candidates detailed definitions for each resource, then it asks him/her to enter the requested information in the forms designed for this purpose.

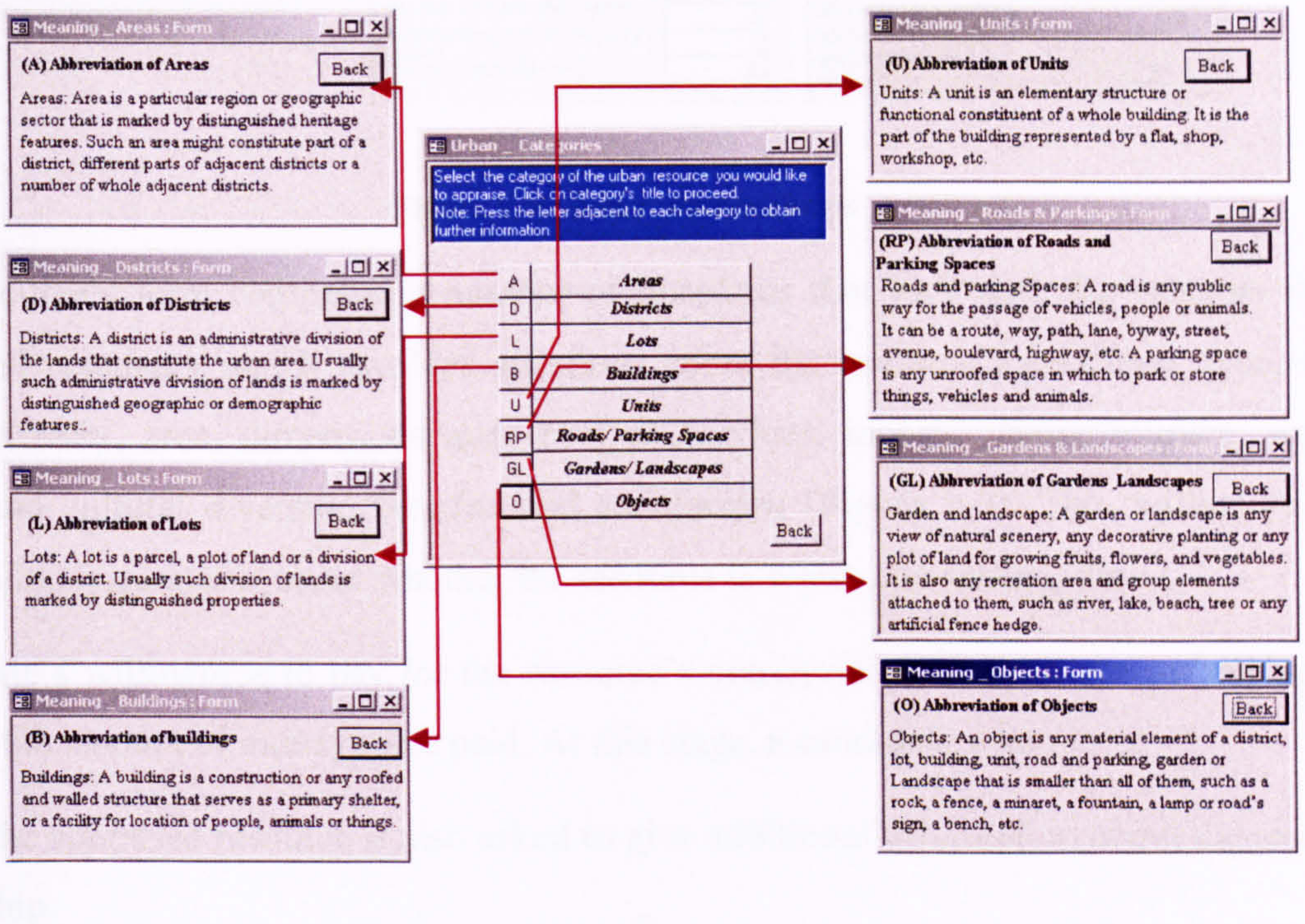


Figure 9.5: Categories of urban heritage resources

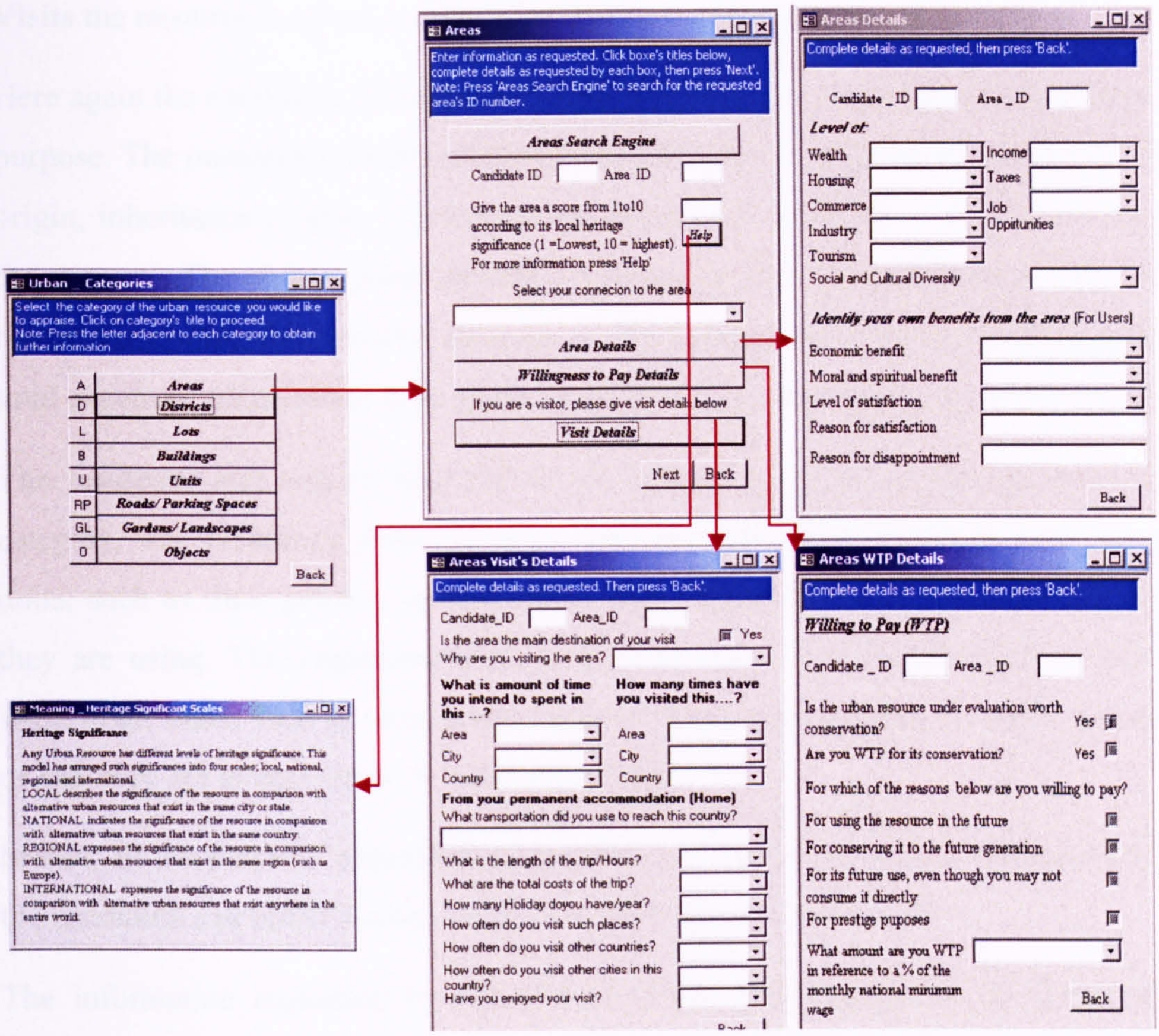


Figure 9.6: Areas' details forms

The resource's form comprises a number of questions that vary with the category of the appraised resources, and it involves questions about the resource's condition, type, style, shape, density, area, dimensions and level of services, income, taxes, tourism, wealth, social and cultural diversity, benefits and satisfaction (Figure 9.7). The 'willing to pay' form includes questions about whether the resource is worth conserving, the

Candidate's willingness to pay for the resource's conservation, the reasons for paying and finally, the amount of money to be paid. At this stage, a candidate who:

Owns the appraised resource is also asked to give additional information about the resource ownership.

Uses the resource as his/her residence is asked to offer more detailed information about the resource residency.

Works in the resource is asked to provide information on the resource use.

Visits the resource is asked to supply information about his/her visits.

Here again the candidate is required to enter this information in the forms designed for this purpose. The ***ownership form*** comprises questions about the number of owners, ownership origin, inheritance origins, ownership period and the candidate's willingness to exchange the resource. The ***visitors form*** includes information about the candidate's main destination, reason for visiting the resource, amount of time spent, kind of transportation, length of trip, total expenses, value of the time spent, recreational experience and the level of satisfaction.

The residency and employment forms are limited to resources that go under the unit's category. The ***residency form*** involves questions about the members who are using the units, such as their gender, marital status, age, education, careers and the number of cars they are using. The ***employment form*** includes questions concerning the members who work in the units, such as their gender, marital status, age, education, career and the number of cars they are using (Figure 9.7 and Figure 9.8).

In this, all the fields of requested information are supported by lists of choices from which the candidate can select his/her answer (Figure 9.9 and Figure 9.10).

The information requested by these forms is designed based on the planning and the economic methods (Travel Cost – WTP). The study attempted in here to gather from each candidate as possible information as it can, depending on his/her relation to this resource. Despite the deficiency of the travel cost methods, it still offers significant information for the urban appraisal process.

The information requested by this stage is built based on the hierarchy tools mentioned in chapter 6. This stage has two targets:

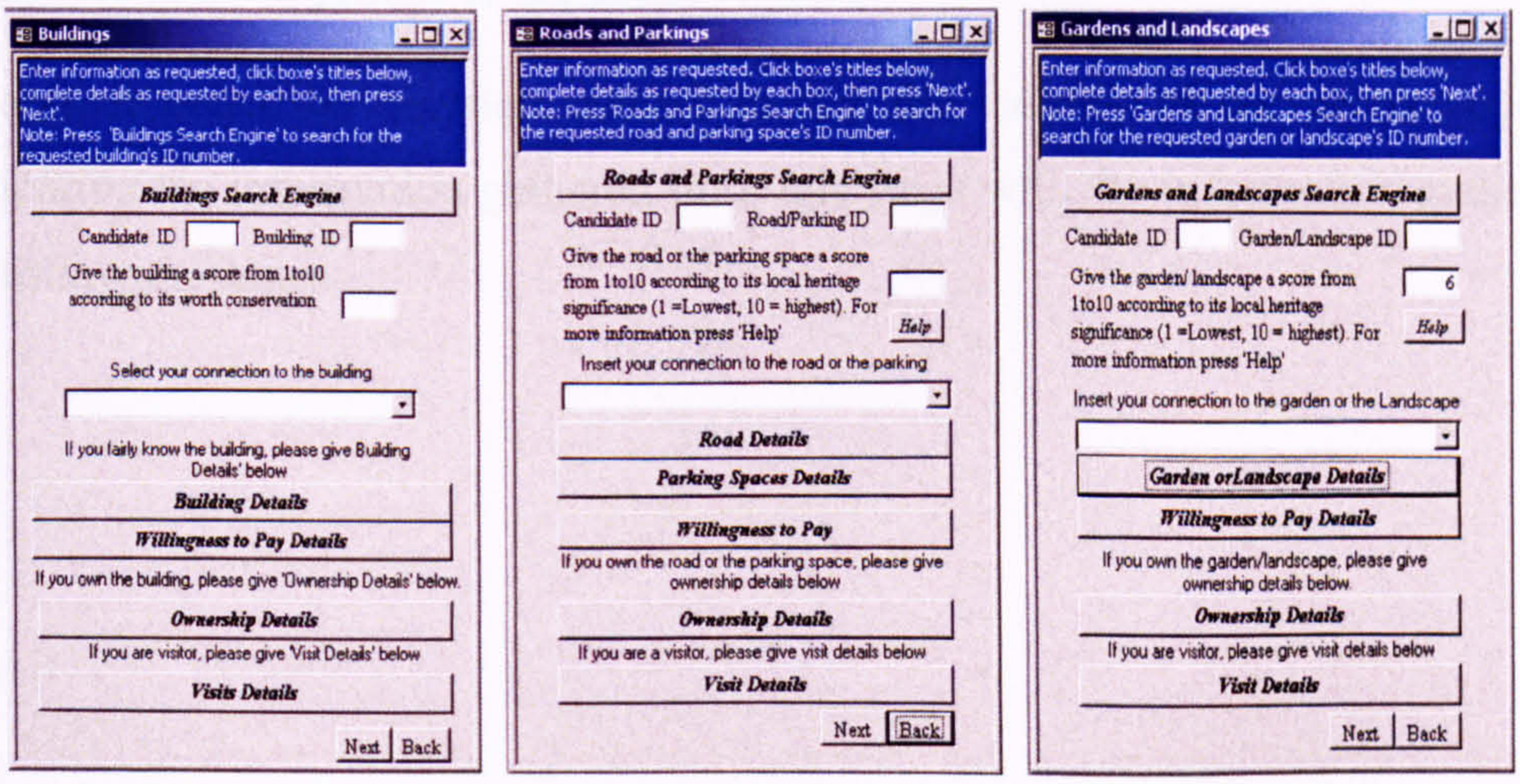


Figure 9.7: Buildings, Roads/ Parking and Gardens/Landscapes details forms.

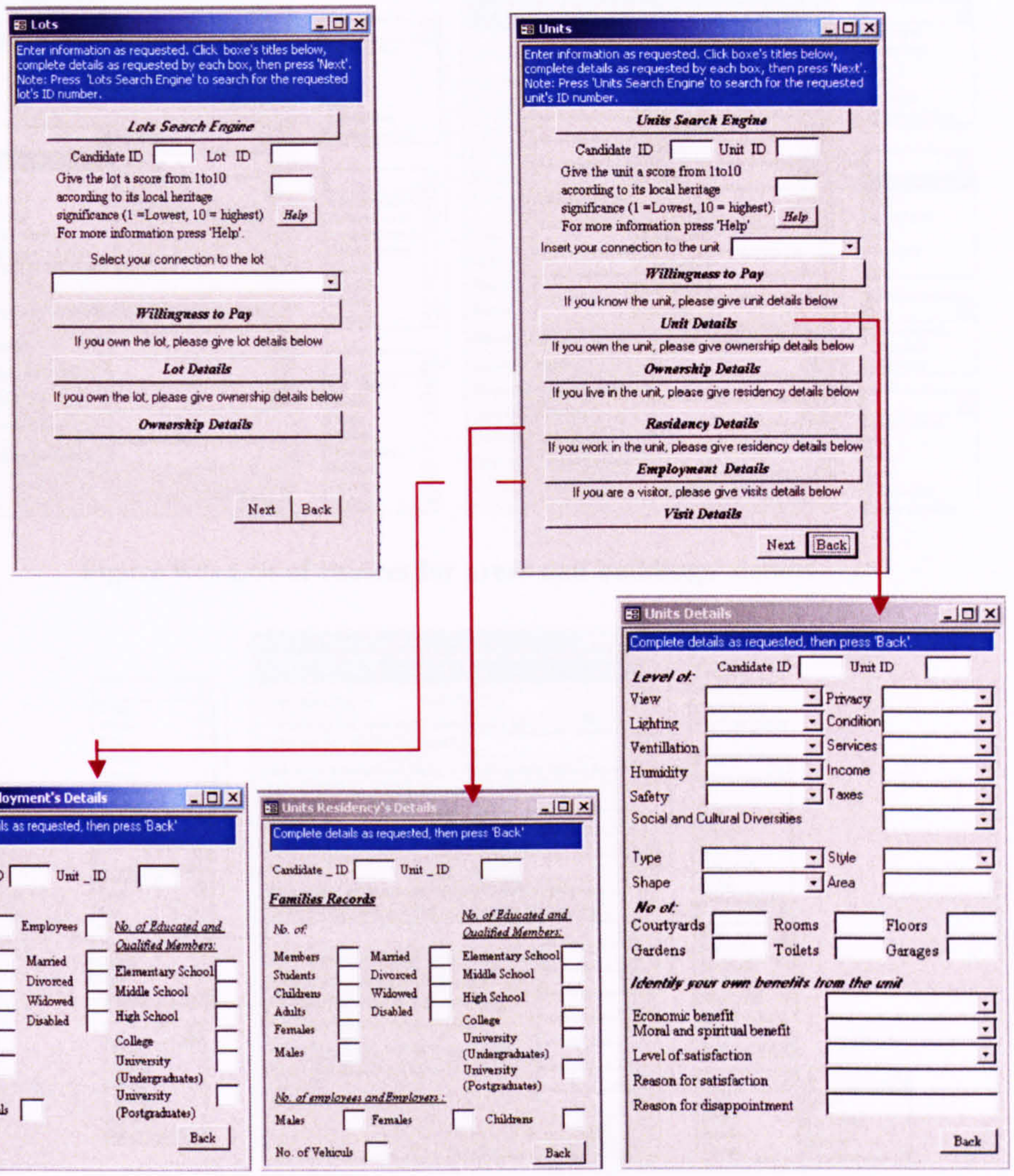


Figure 9.8: Lots and Units' details forms and sub forms for employers and residents

- First, it helps the candidate to concentrate on the general quality of the resource before assessing its heritage significance. It helps the candidate to think through conflicts or vagueness in his appraisal of the urban resource.

- Second, it helps the decision makers to test the validity of the urban appraisal by comparing the information gathered from this stage with the information gathered from the following stages.

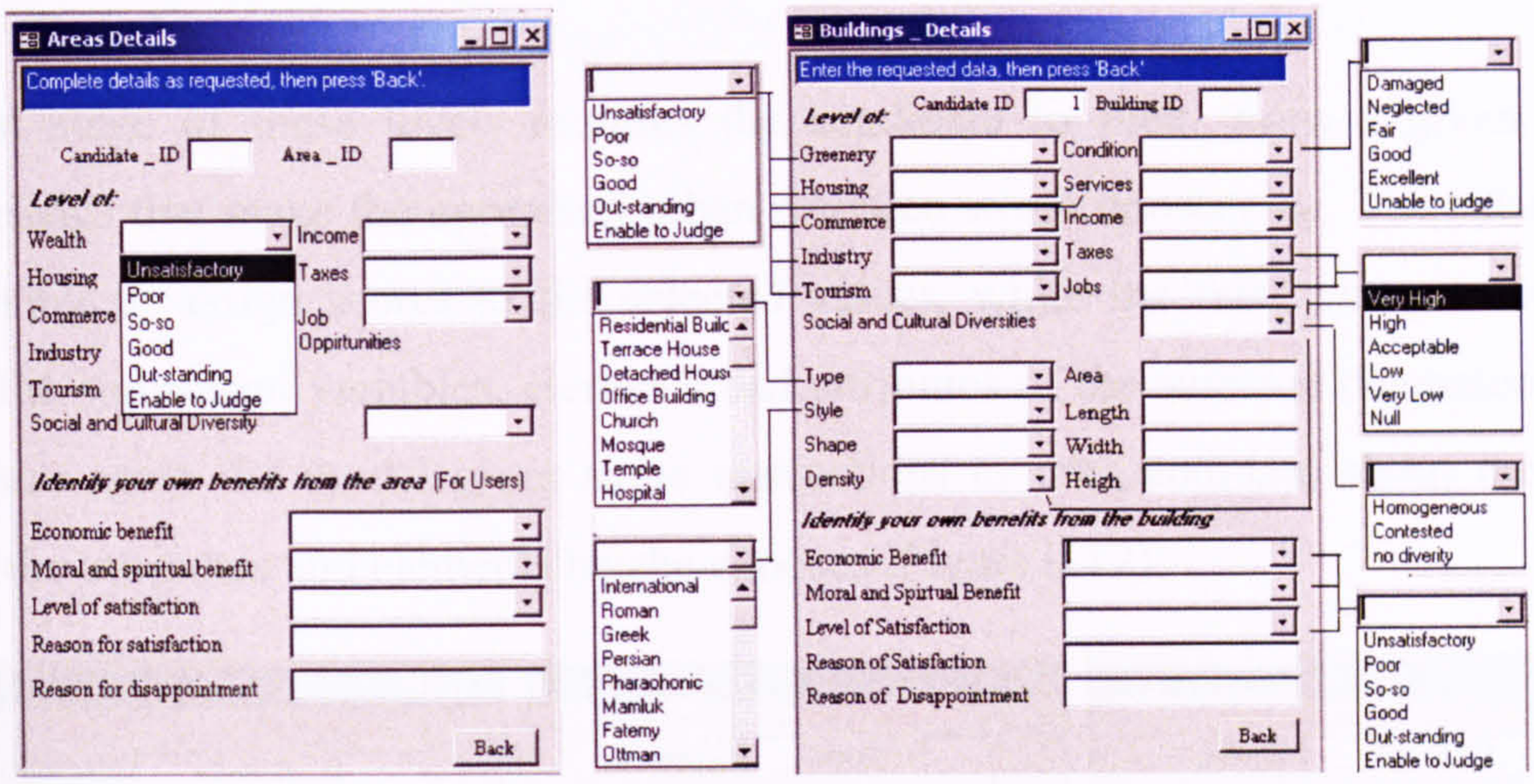


Figure 9.9: List of choices for areas and buildings' details

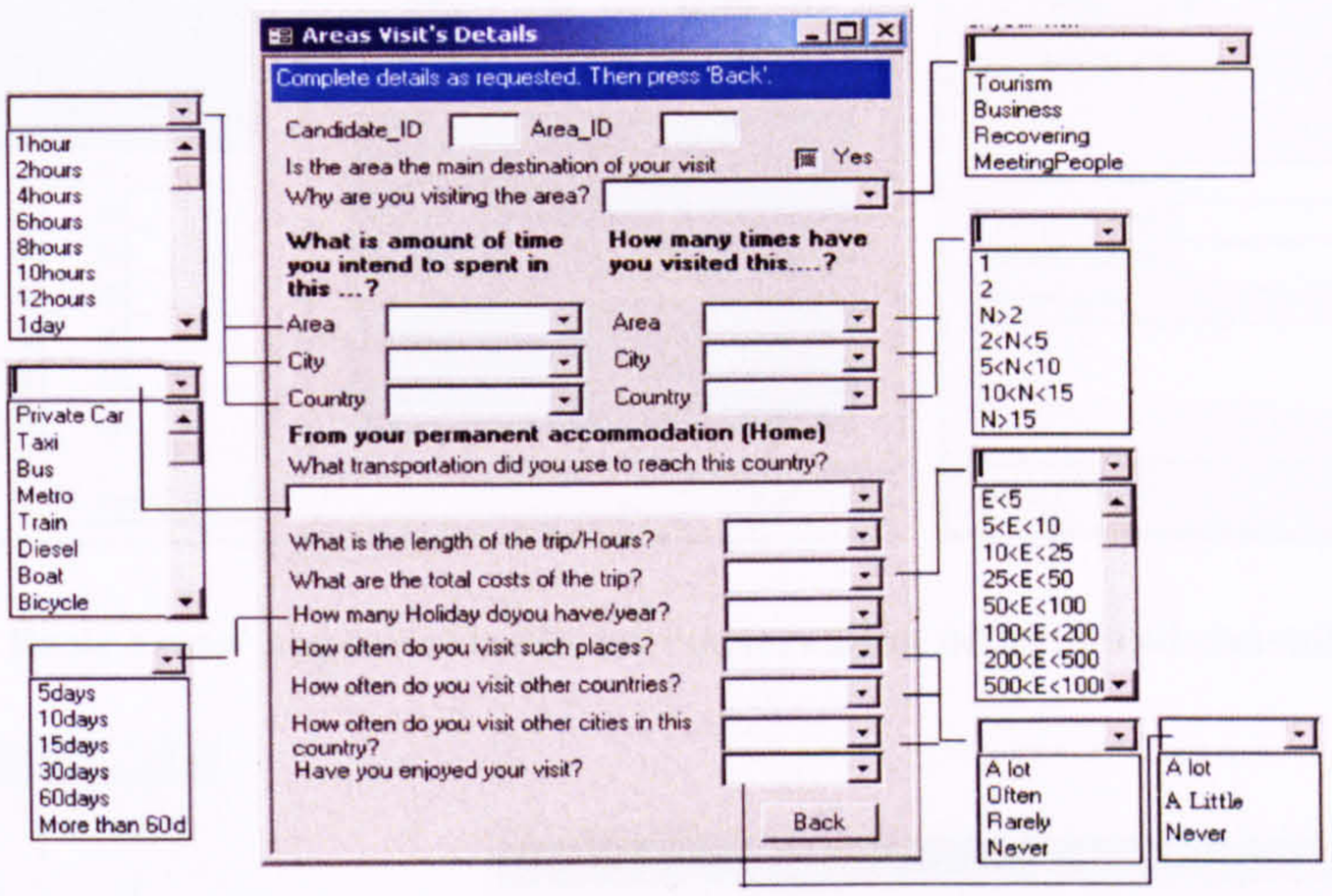


Figure 9.10: List of choices for areas visits' details

9.2.4 Data Input Stage Four

Once this stage is completed, the candidate must move to the assessment of the resource's significance. Here the candidate is to choose the appraisal and the complexity level he is going to apply for assessing the heritage significance of the resource. These levels are built based on the hierarchy tools, SP, and Rating contingent tools proposed in the Methodology chapter, 6. The candidate, as mentioned earlier can choose one of three groups of appraisal panels for assessing the heritage significance of an urban area and its resources. These levels are: specific panels, comparative panels and context panels.

9.2.4.1 *Specific Panels*

The specific panel is divided into three groups of complexity levels; basic levels, intermediate levels and advanced levels.

9.2.4.1.1 Basic Levels

The first stage of these levels requires the candidate to pick, from a given list, the characteristics that make the appraised urban resource worth conserving. The second stage asks him/her to assign scores to the selected values, while the third charges him/her to identify the significant variables, elements and attributes of the selected characters (Figure 9.11). Here again the model gives some instructions to the candidate about methods of entering the attributes and elements he/she chooses (Figure 9.12).

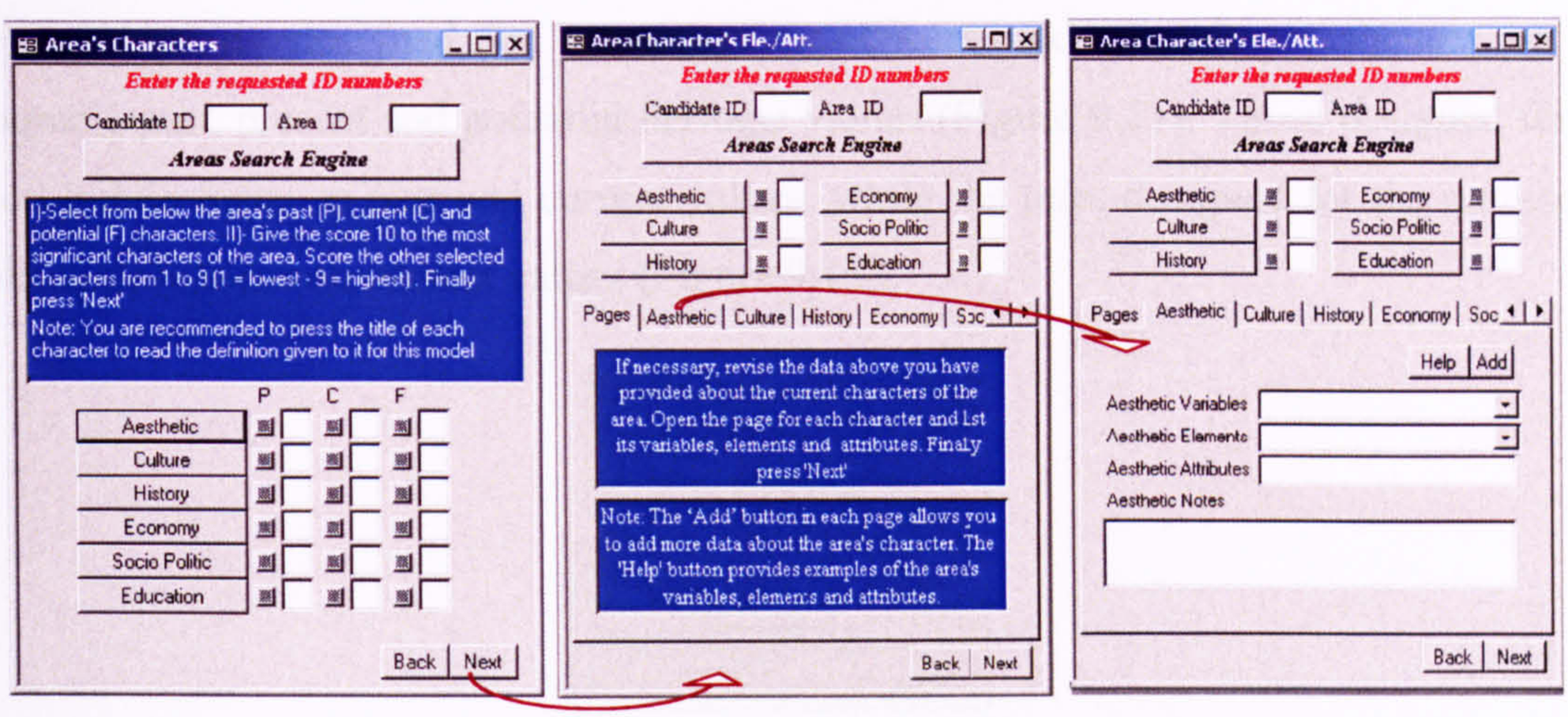


Figure 9.11: Basic areas' appraisal levels for conservation officers and consultants

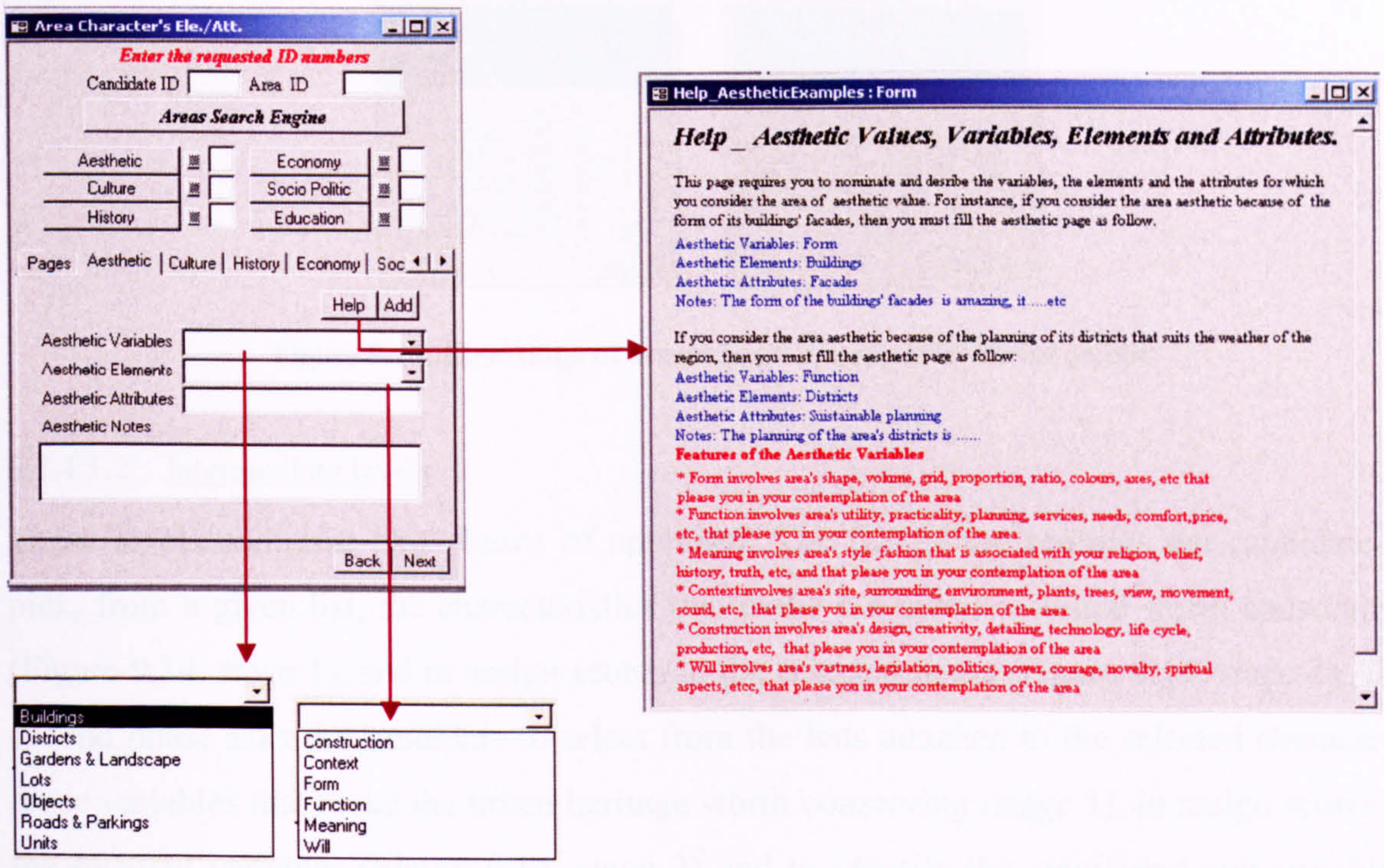


Figure 9.12: Help and choices lists of areas' basic appraisal levels

One drawback associated with these levels is that they do not always give sufficient information about the variables and sub variables that give the resource's character its significance, and they do not directly list the elements and attributes of these variables and sub variables. These basic levels require minimal information from the candidate. They are brief and quicker to handle conceptually than is the case with the intermediate and the advanced levels. The basic levels are especially good when the urban heritage is rich and complex, and there are a large number of resources that contribute to its significance.

The basic levels designed for conservation officers and consultants focuses on the resource's past, present and potential heritage values (Figure 9.11). Those designed for the expert public focus on past and current values, while the ones designed for the non-expert public simply focus on current values (Figure 9.13).

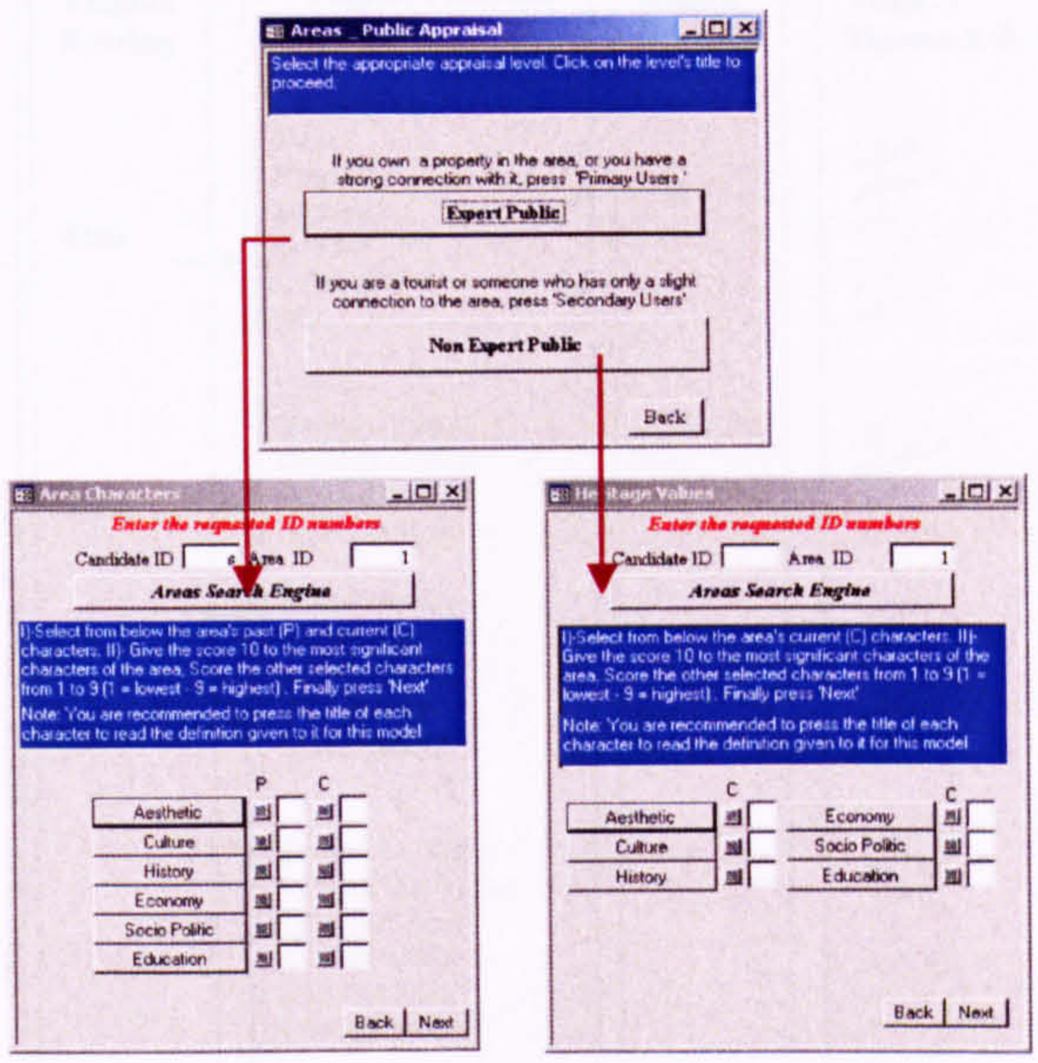


Figure 9.13: First stage of areas' basic appraisal levels for public

9.2.4.1.2 Intermediate levels

These levels comprise two phases of appraisal. The first phase requires the candidate to pick, from a given list, the characteristics that make the urban resource worth conserving. (Figure 9.14, stage 1), and to assign scores to the selected items (Figure 9.14, stage 2). The second phase asks the candidate to select from the lists attached to the selected characters, those variables that make the urban heritage worth conserving (stage 1), to assign scores to the selected variables (Figure 9.14, stage 2) and to identify the significant sub variables, elements and attributes of the selected variables (Figure 9.14, stage 3). Here again, the model offers the candidate definitions for the proposed variables (Figure 9.16).

These levels do not always give sufficient information about the sub variables that give the resource's characters their significance. Also they do not adequately nominate the elements and attributes of these sub variables. These levels are good for appraising non-complex urban resources. They are able to gather much detailed information about the urban heritage's characters and variables. These levels require the candidate to give more information about the appraised urban resource than the preceding ones, and thus they are longer. Despite being longer they are easier, and more consistent for identifying the significant variables, elements and attributes of the urban resource.

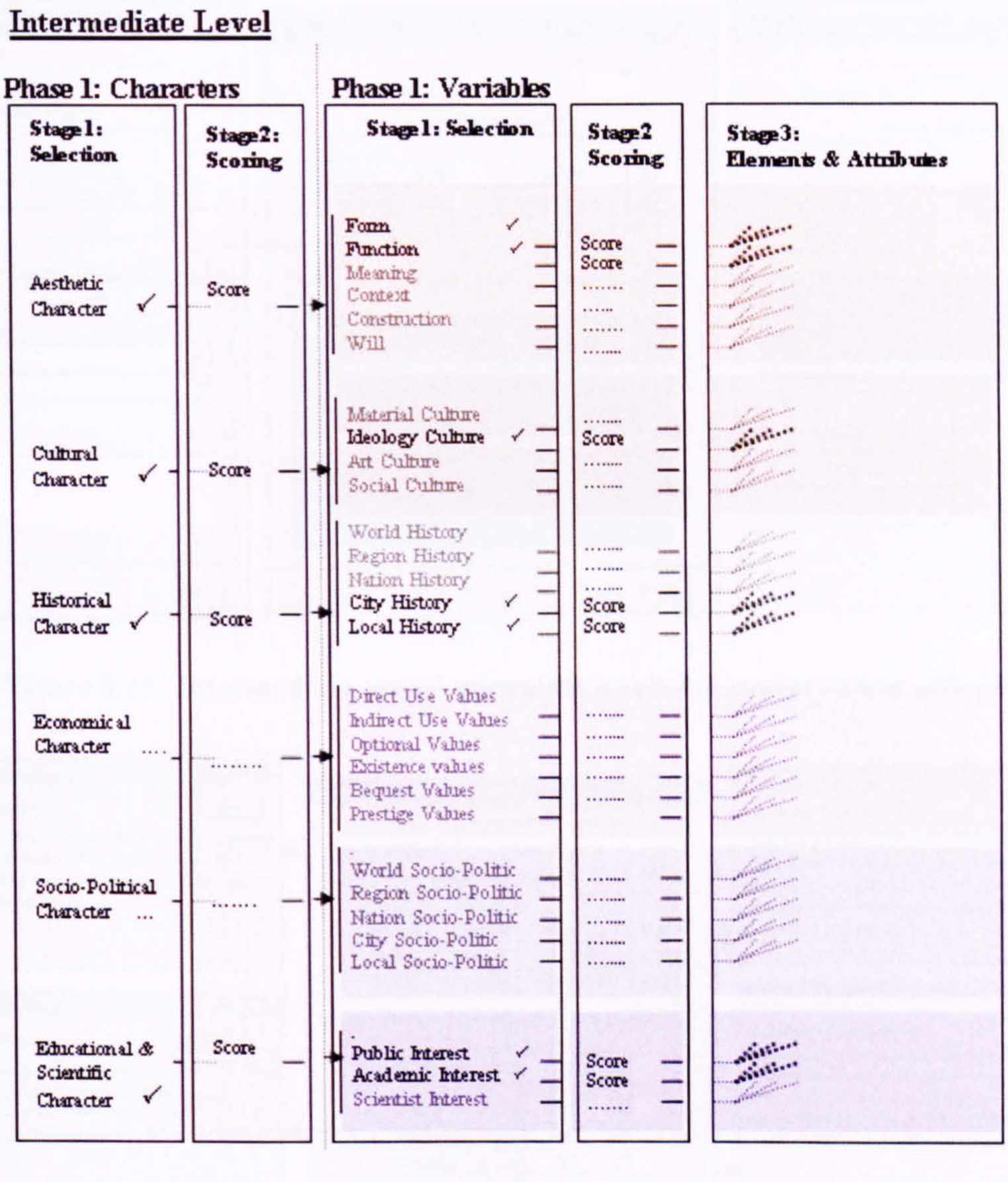


Figure 9.14: Intermediate appraisal levels of the urban heritage resources

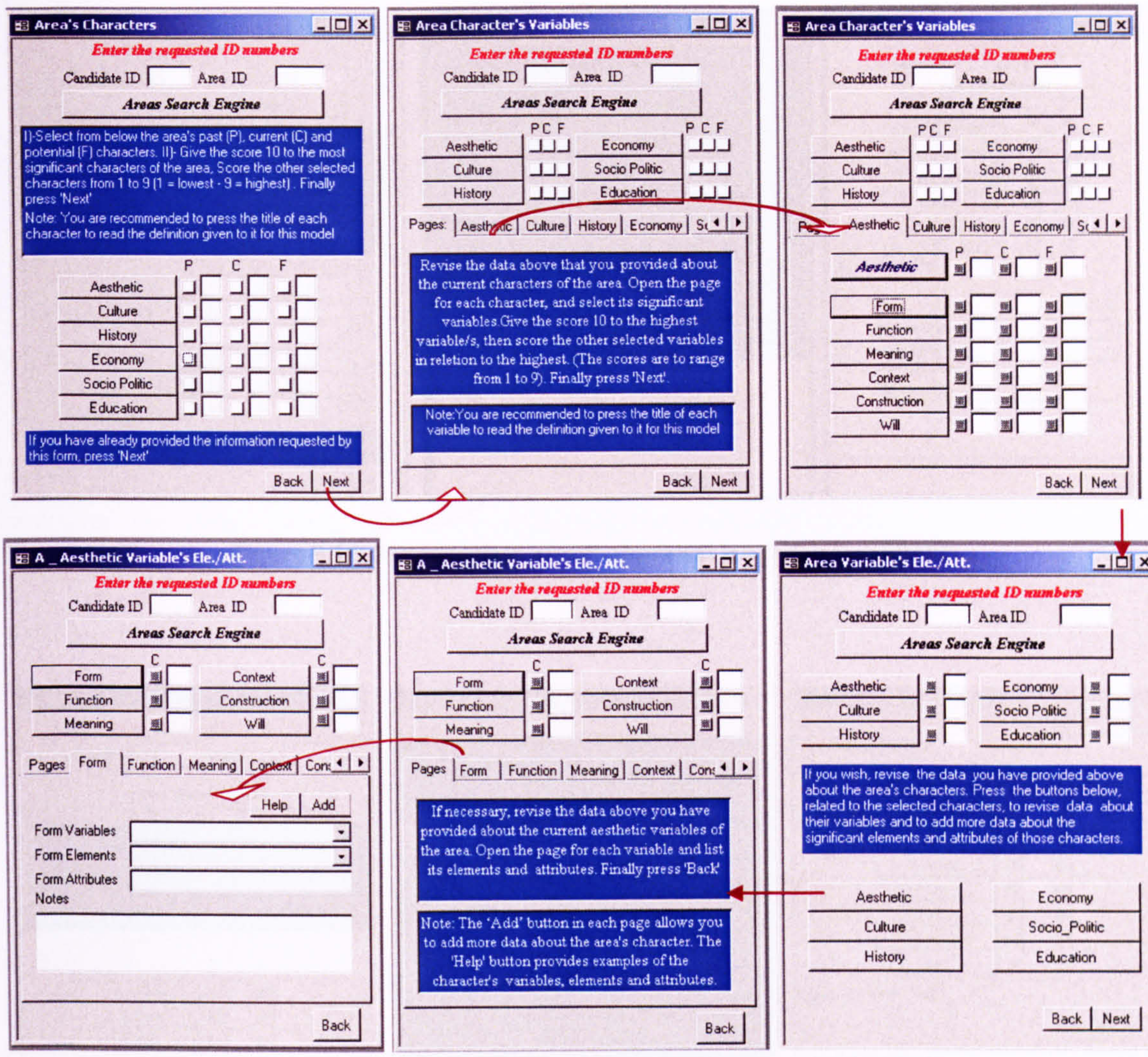


Figure 9.15: Intermediate areas' appraisal levels for conservation officers.

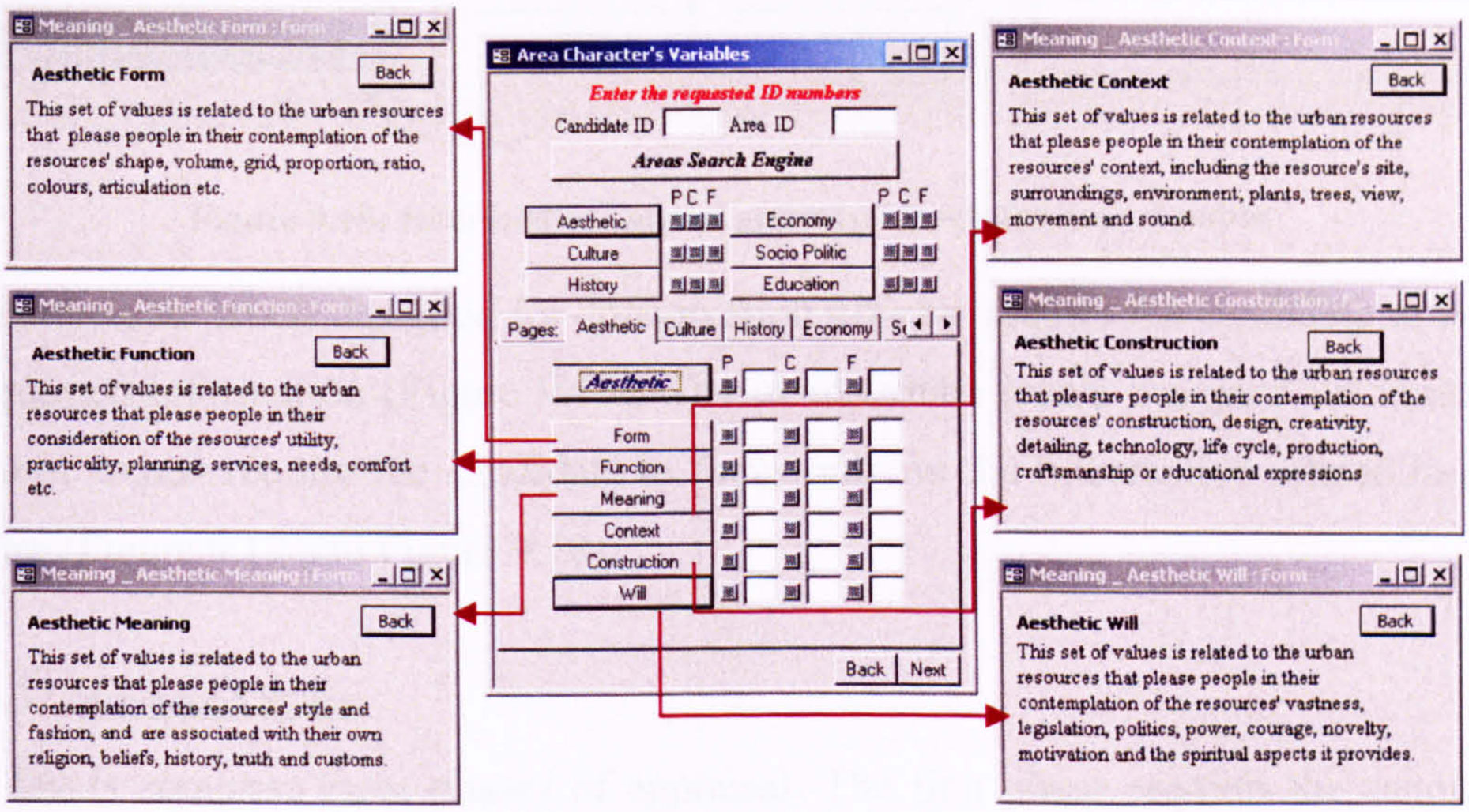


Figure 9.16: Link to Aesthetic character's thesaurus

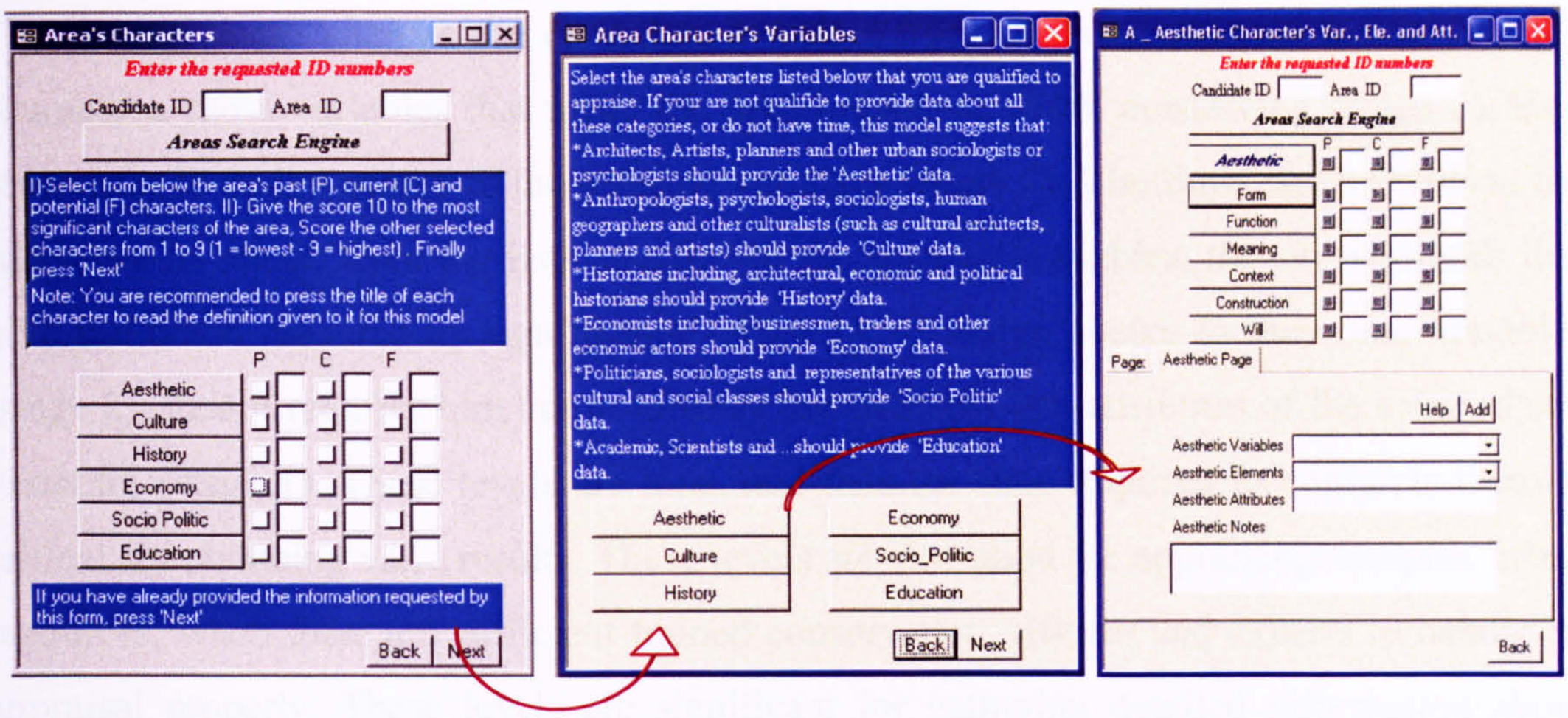


Figure 9.17: Intermediate areas' appraisal levels for consultants

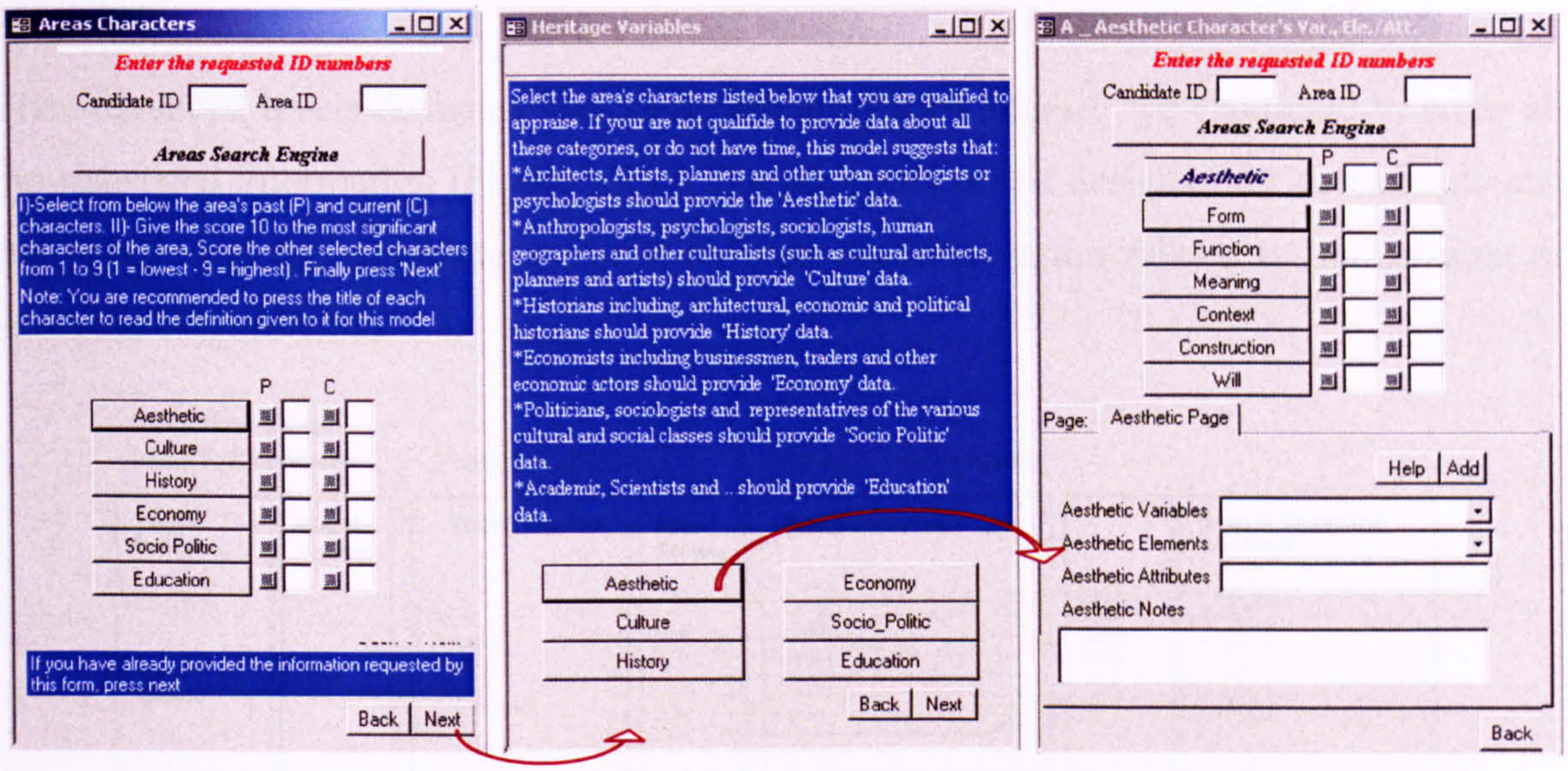


Figure 9.18: Intermediate areas' appraisal levels for expert public

The Intermediate levels designed for conservation officers require the candidate to enter all the requested information (Figure 9.15). The intermediate levels designed for consultants and public expert require the candidate to focus only on the information related to his/her expertise (Figure 9.17 and Figure 9.18).

9.2.4.1.3 Advanced levels

These levels comprise three phases of appraisal. The first phase requires the candidate to pick, from a given list, the characteristics that make the urban resource worth conserving (Figure 9.19, stage 1), and to assign scores to the selected characters (Figure 9.19, stage 2).

The second phase charges the candidate to select from the lists attached to the selected characters, those variables that make the urban resource worth conserving (stage 1), then seeks him to assign scores to the selected variables (stage 2). The third phase involves the candidate to select, from the lists attached to the selected variables, the sub variables that give the urban resource its significance (stage 1); to assign scores to these sub variables (stage 2); then it requires him/her to identify the elements and attributes of the selected sub variables (stage 1). These levels are long, and thus the time required to complete them is critical for obtaining valid results. These levels are also good for appraising complex urban resources, when there are sufficient trained conservation officers and experts to handle its appraisal properly. These levels are significant for gathering detailed information about urban heritage characters, variables and sub variables. They require the candidate to give all possible information about the urban resource. These levels are the longest, but the most consistent.

The Advanced levels designed for conservation officers require the candidate to enter all the requested information (Figure 9.20). The advanced levels designed for consultants and the public lead the candidate to focus only on the information related to his/her area of expertise (Figure 9.21).

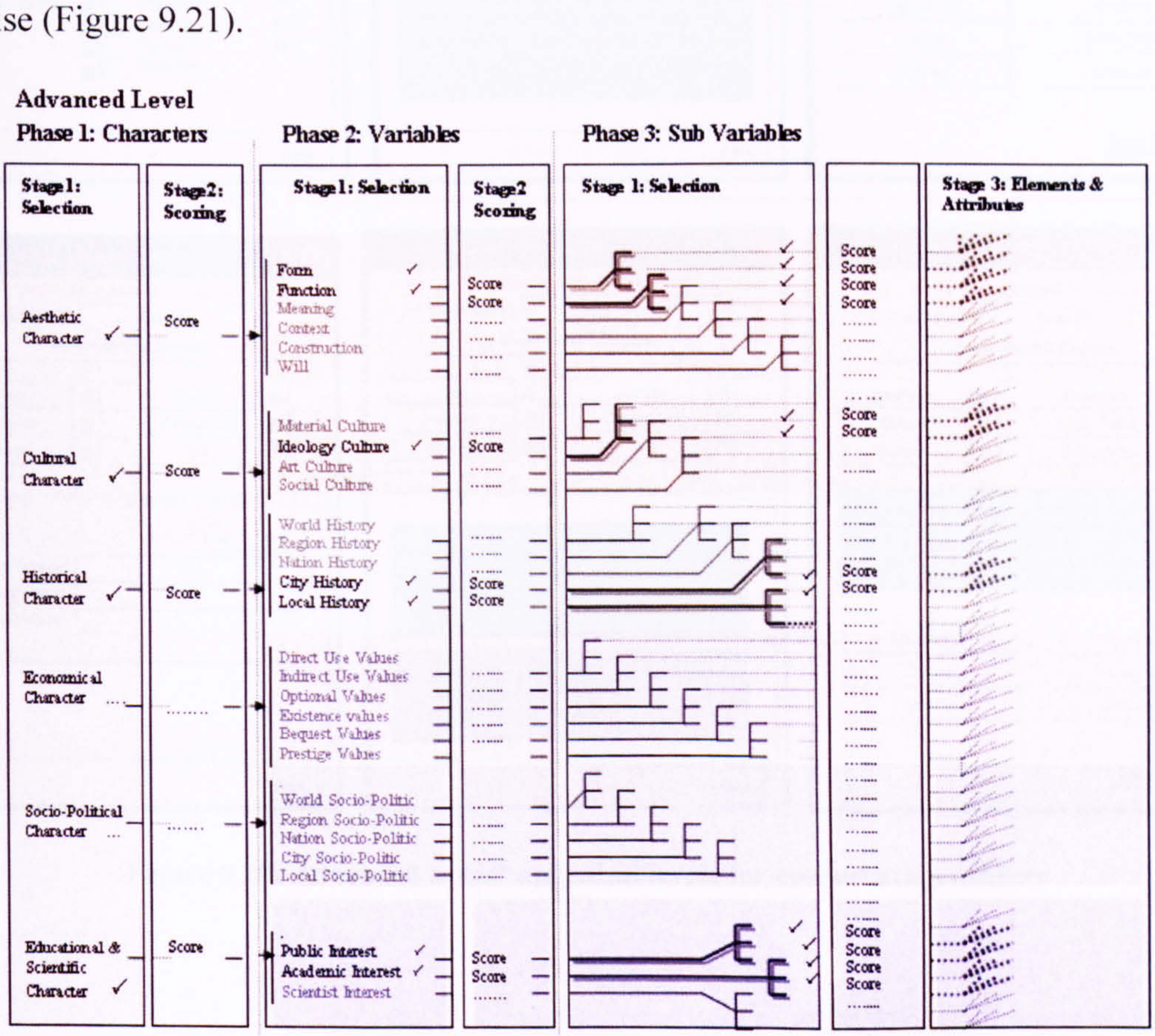


Figure 9.19: Advanced appraisal level of the urban heritage resources

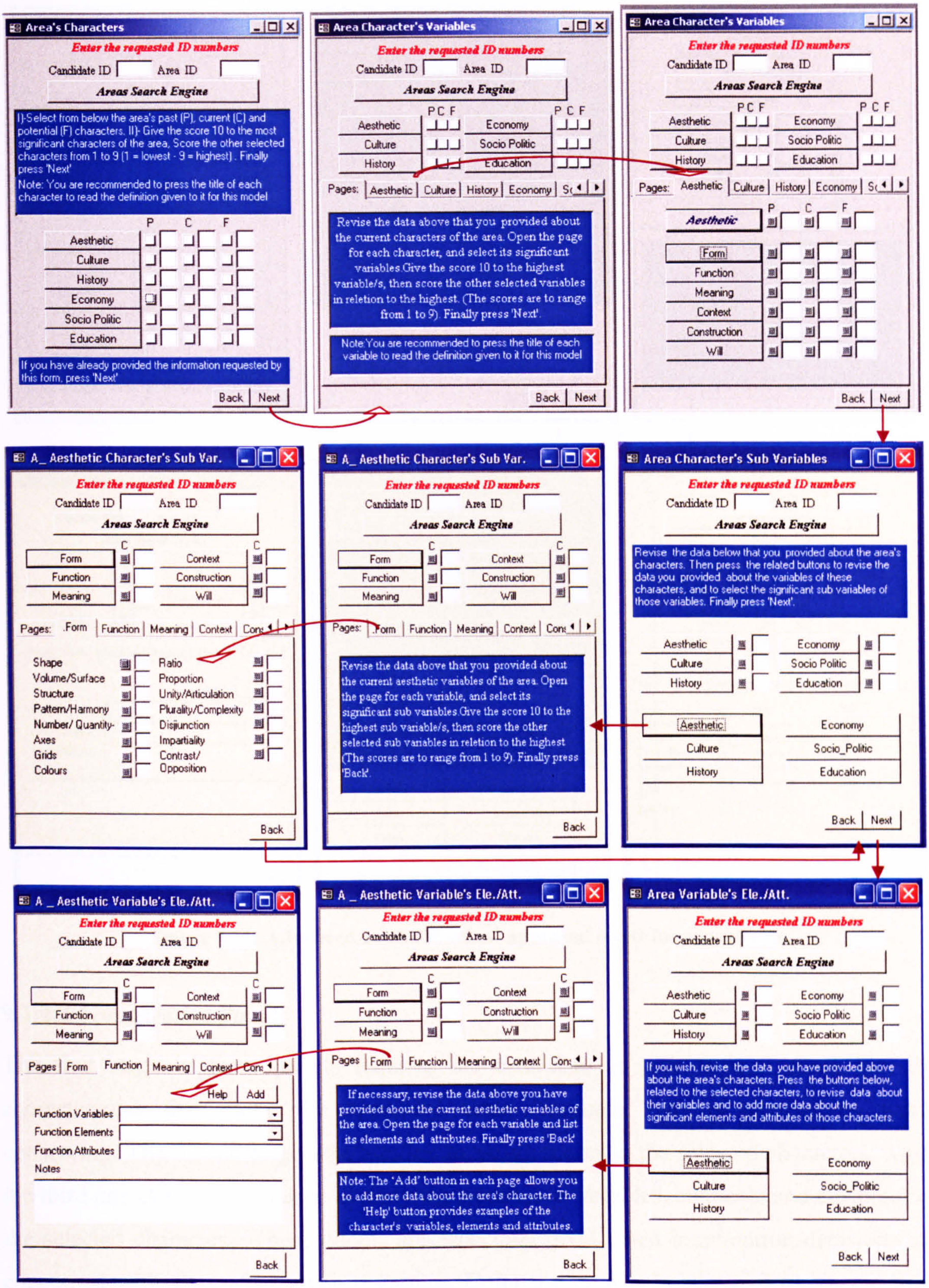


Figure 9.20: Advanced areas' appraisal levels for conservation officers

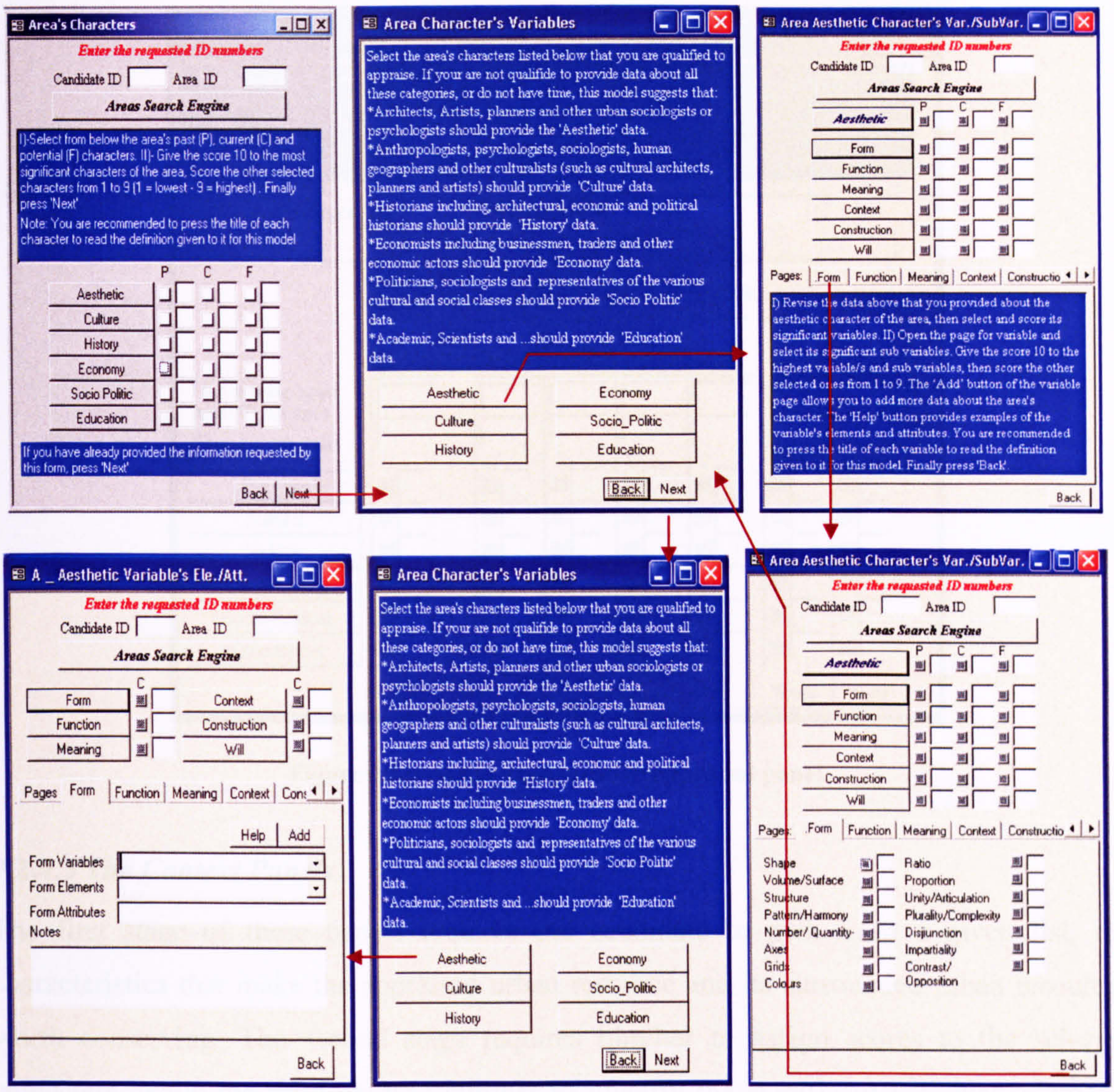


Figure 9.21: Advanced aesthetic areas' appraisal levels for consultants

9.2.4.2 *Comparative Panels*

The first stage in these panels requires the candidate to pick from a given list, the characteristics that make the appraised urban resource and its alternatives worth conserving. The second stage asks him/her to assign scores to the selected characters, while the third one charges him/her to identify the significant variables, elements and attributes of the selected characters. These panels are especially good when intervention decisions are concerned with alternative urban resources. Comparative panels allocated to conservation officers and the consultants comprise only one level, whereas the public comparative panel involves two. The first level is for experts who have a good background in the appraised urban resource. The second is for non-experts who have little background knowledge about the appraised resource (Figure 9.22)

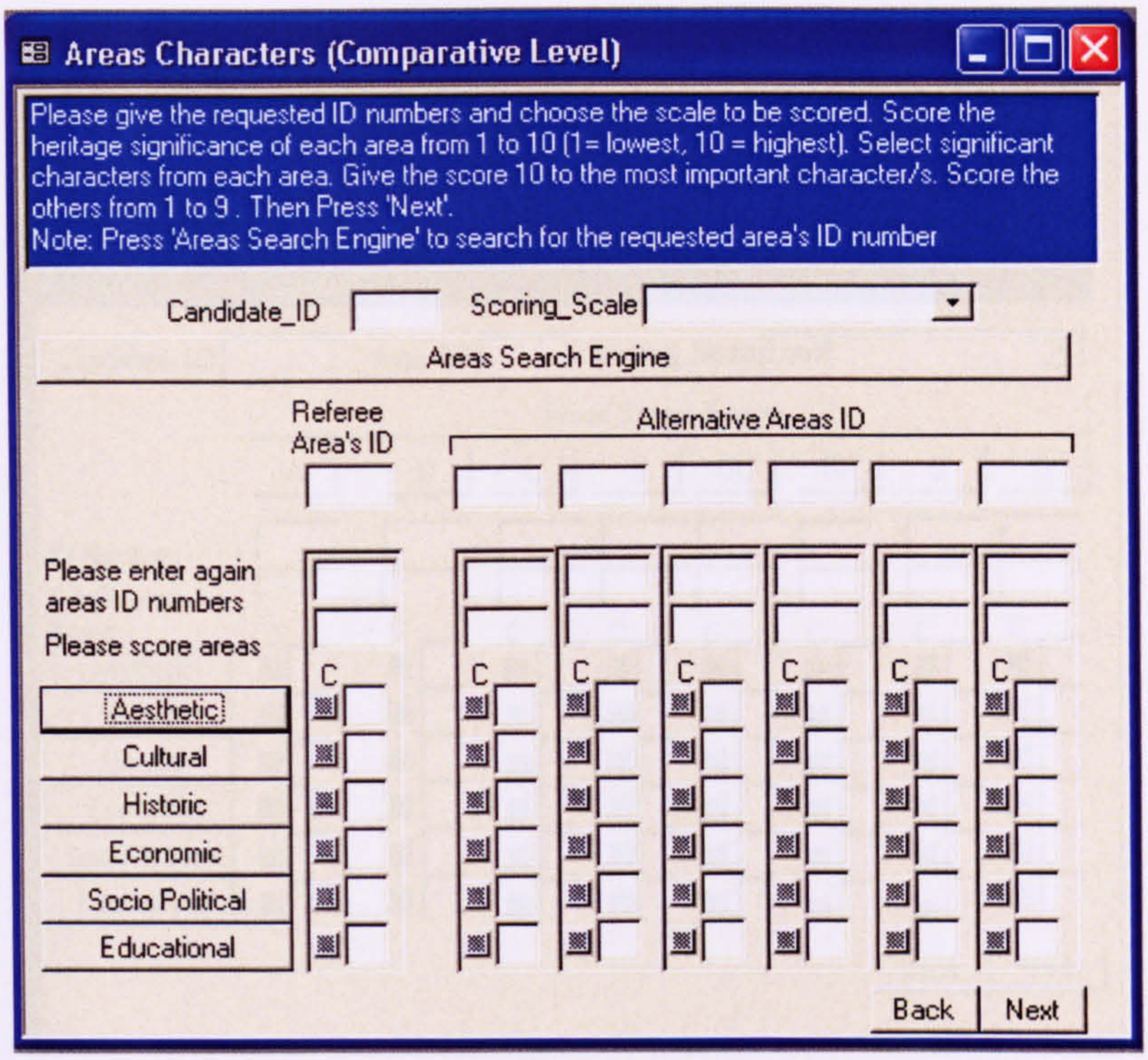


Figure 9.22: Areas' comparative appraisal panel.

9.2.4.3 *The Context Panels*

The first stage of these panels requires the candidate to pick from a given list, the characteristics that make the appraised urban resource and its surrounded urban resources worth conserving. The second stage requires him/her to assign scores to the selected characters, while the third charges him/her to identify the significant variables, elements and attributes of the selected values. These levels are especially good when intervention decisions are concerned with a resource and its surroundings. The context panels allocated to conservation officers and consultants comprise only one level, whereas the public context panel involves two. The first level is for experts who have good background about the appraised urban resource. The second is for non-experts who have little background knowledge about the appraised resource (Figure 9.23).

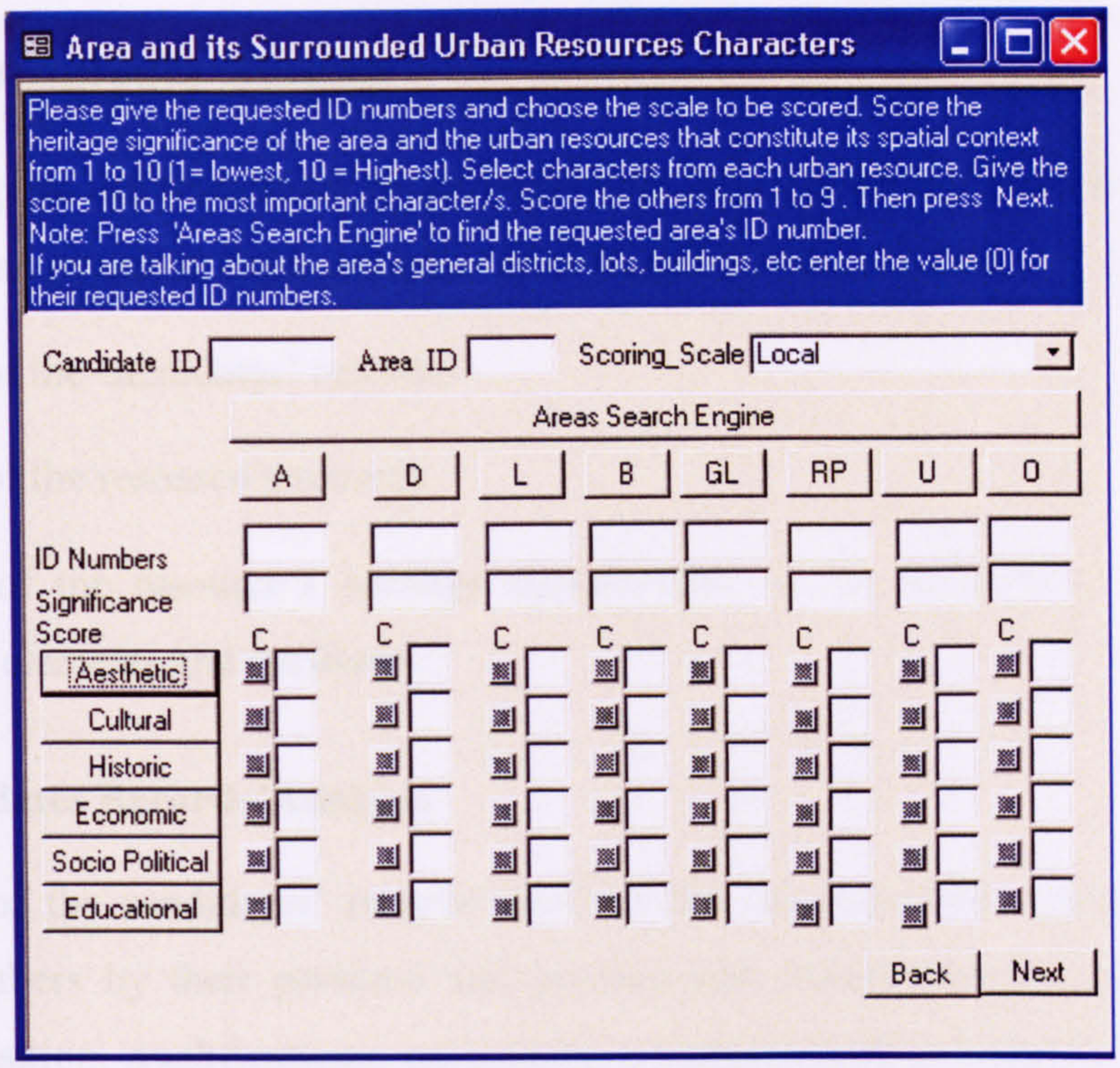


Figure 9.23: Areas' contextual appraisal panel

9.3 Data Analysis Stages

This model applies different kinds of analysis to the information gathered from candidates, about each urban resource. Such analyses are arranged into three stages:

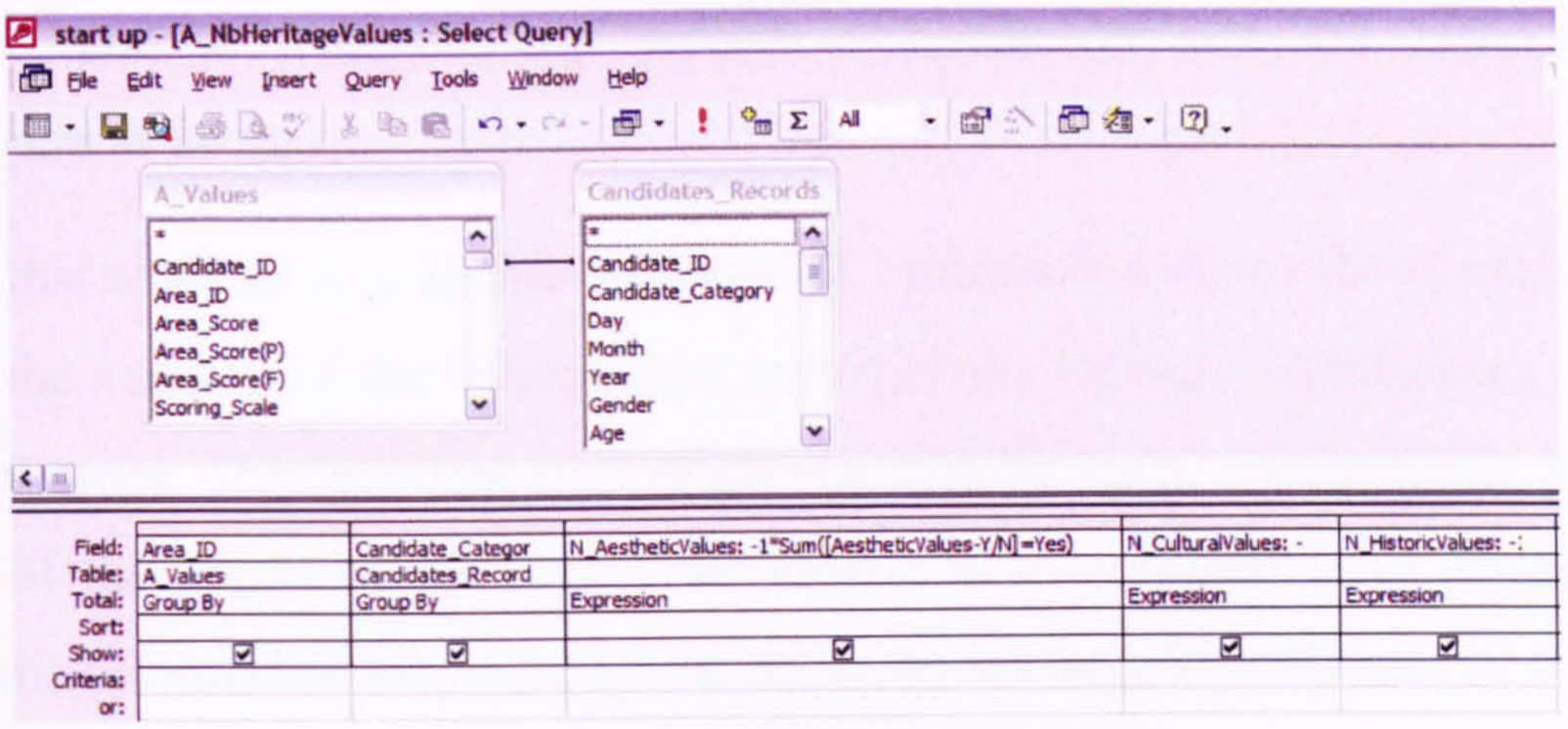
- Analysis of the candidates' records.
- Analysis of the resource's records.
- Analysis of the resource's heritage significance, i.e. its characters, variables, sub-variables, elements and attributes.

9.3.1 Candidates Records'Analysis

The analysis of the candidates' records involves the categorisation and counting of the candidate numbers by their personal and professional aspects (gender, age, experience, profession, position, qualifications, nationality, political identity, religion, place of birth, place of residence etc.)

The main aim of this analysis is to check that the stakeholders involved in the assessment of the resource fairly represent the diversity required by urban appraisal principles and theories. It is also intended to gain insight into the assessment results for each category.

Microsoft Access has been used to design all the queries, for the desired analysis. Figure 9.24 shows a prototype for these queries and the tables used to consider them. Indeed, quite a large number of queries have been developed to analyse the candidates' records, and to relate such records to the appraisal elements. What is special about this model is that all the required queries are designed in such a manner that decision makers will not longer need to built the queries themselves. The model does everything, to help decision makers concentrate on the important issues rather than becoming caught up in the technical part of the appraisal process.



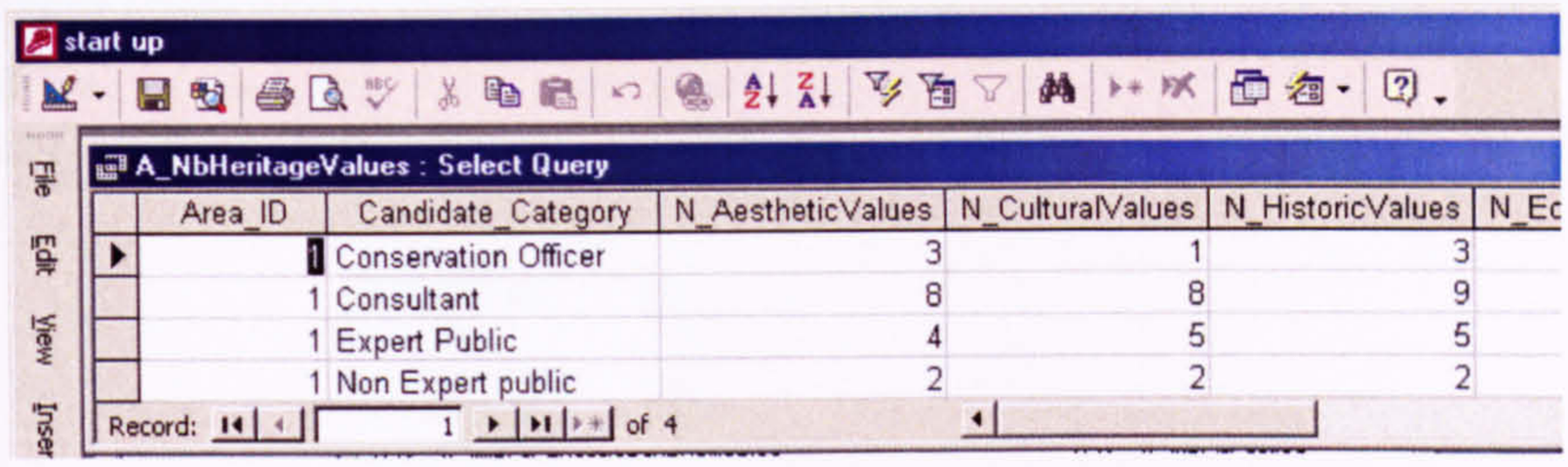


Figure 9.24: Queries for automated candidates records' analysis (candidates' main categories)

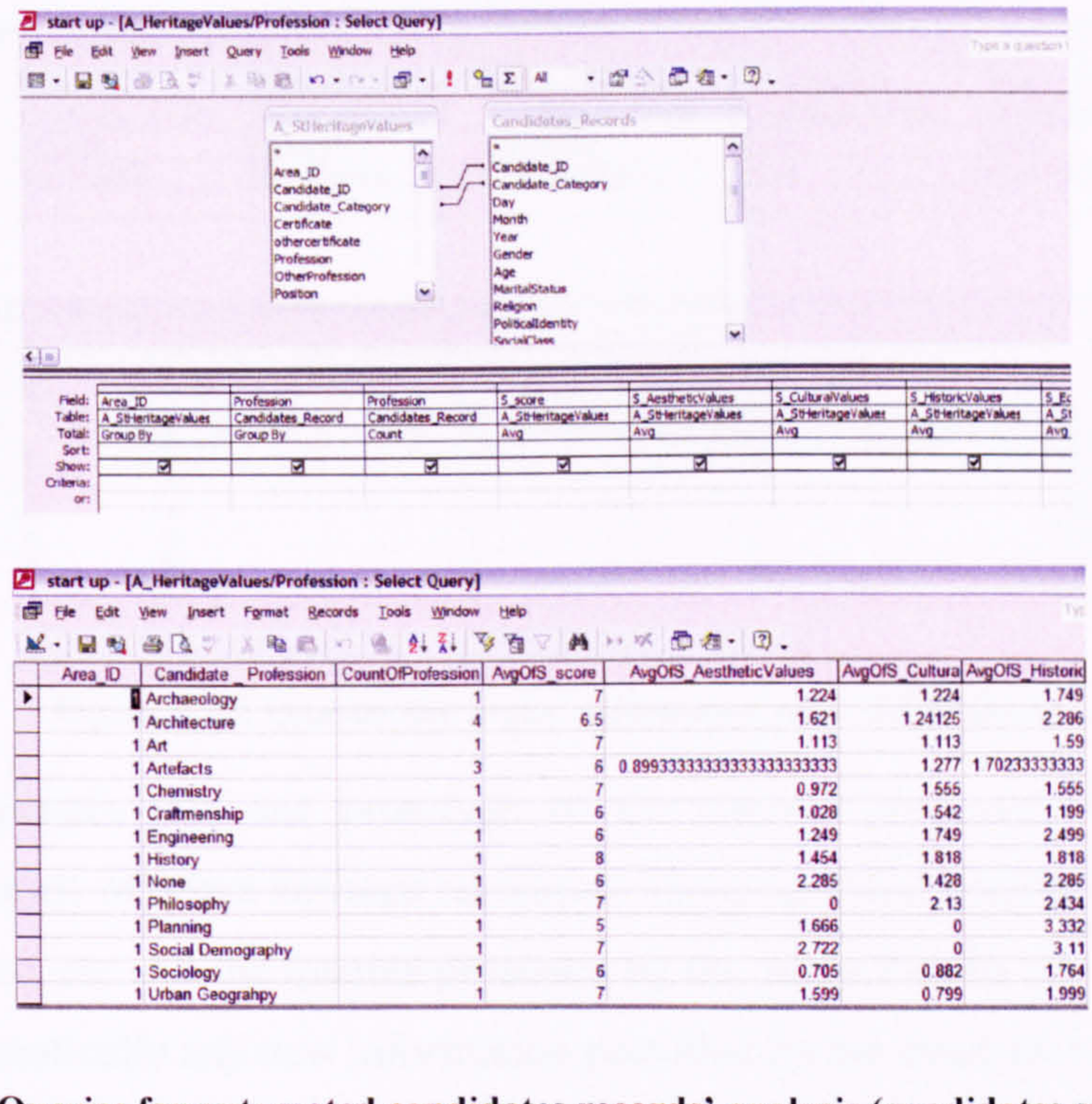


Figure 9.25: Queries for automated candidates records' analysis (candidates sub categories)

9.3.2 Urban Heritage Records' Analysis

This stage involves the categorisation of available information about the resource's details including levels of wealth, tourism, tax, utility, services, satisfaction; on its shape, scale, style, etc.; on its ownership details such as owners' satisfaction, their desire to exchange the

property, etc.; and WTP details, e.g. number of candidates who are willing to pay, the amount they are WTP etc.

The aim of this analysis is to gather all possible information about the appraised resource, and to test the validity of the information given about heritage significance. This testing involves two steps. The first step is to study the stakeholders' backgrounds and views on the quality of the appraised resource. The second is to compare those backgrounds and views with the information they have given about the heritage significance of the resource.

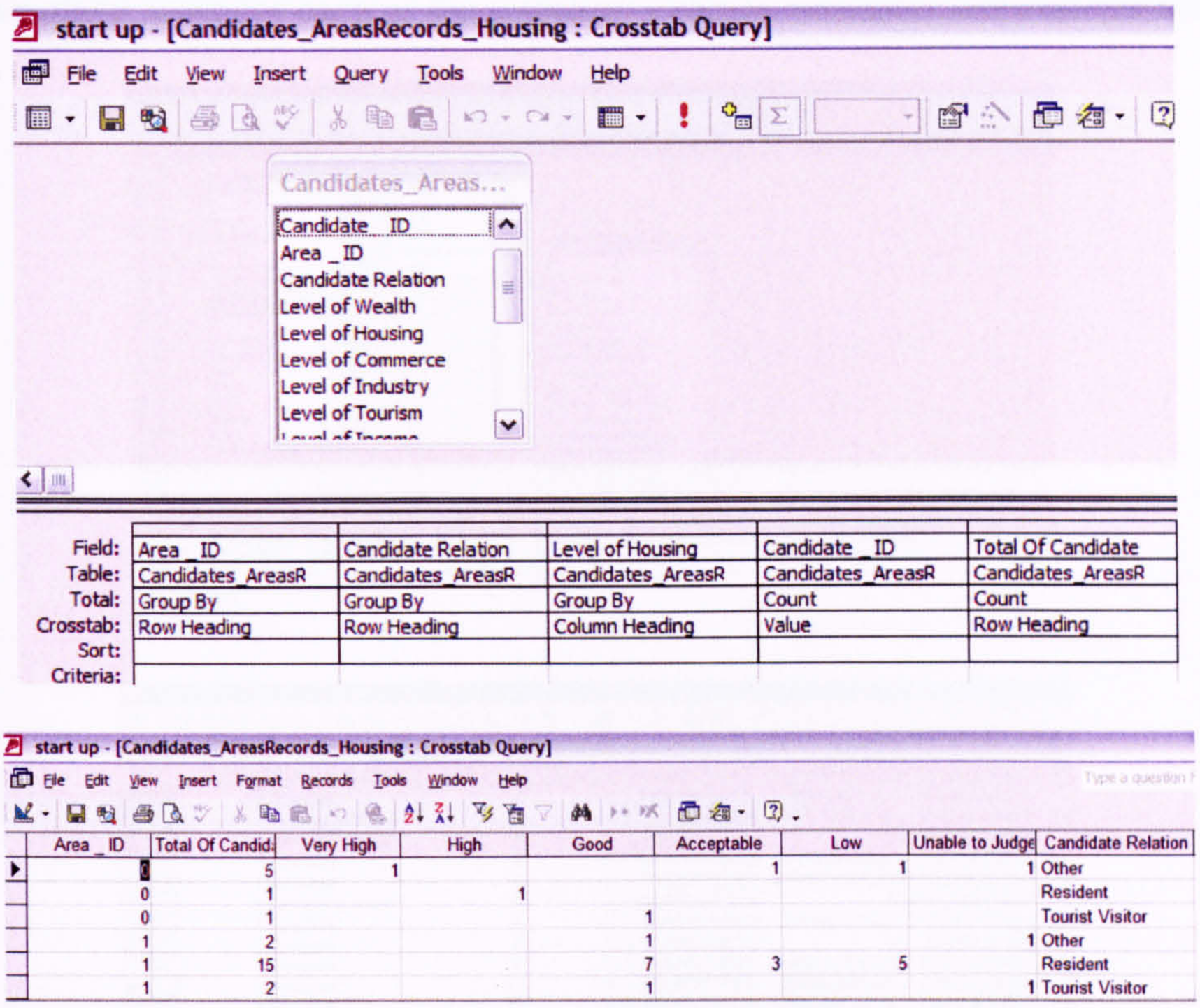


Figure 9.26: Queries for areas' automated records' analysis

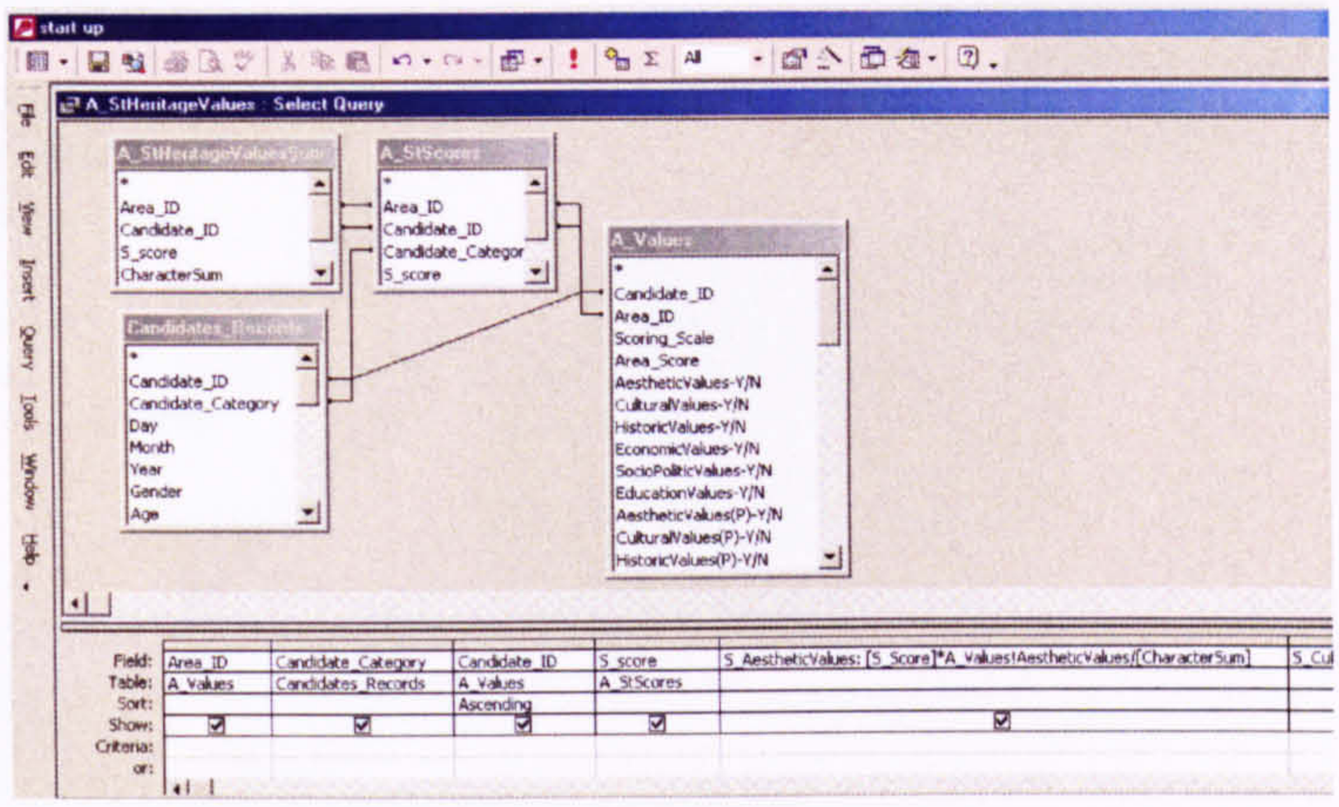
Figure 9.26 illustrates just one prototype of the queries proposed by this study, for analysing the records of urban heritage resources. There are other queries related to level of wealth, commerce, etc. All the queries proposed by the study for this analysis are designed to calculate automatically any new information provided by the candidates.

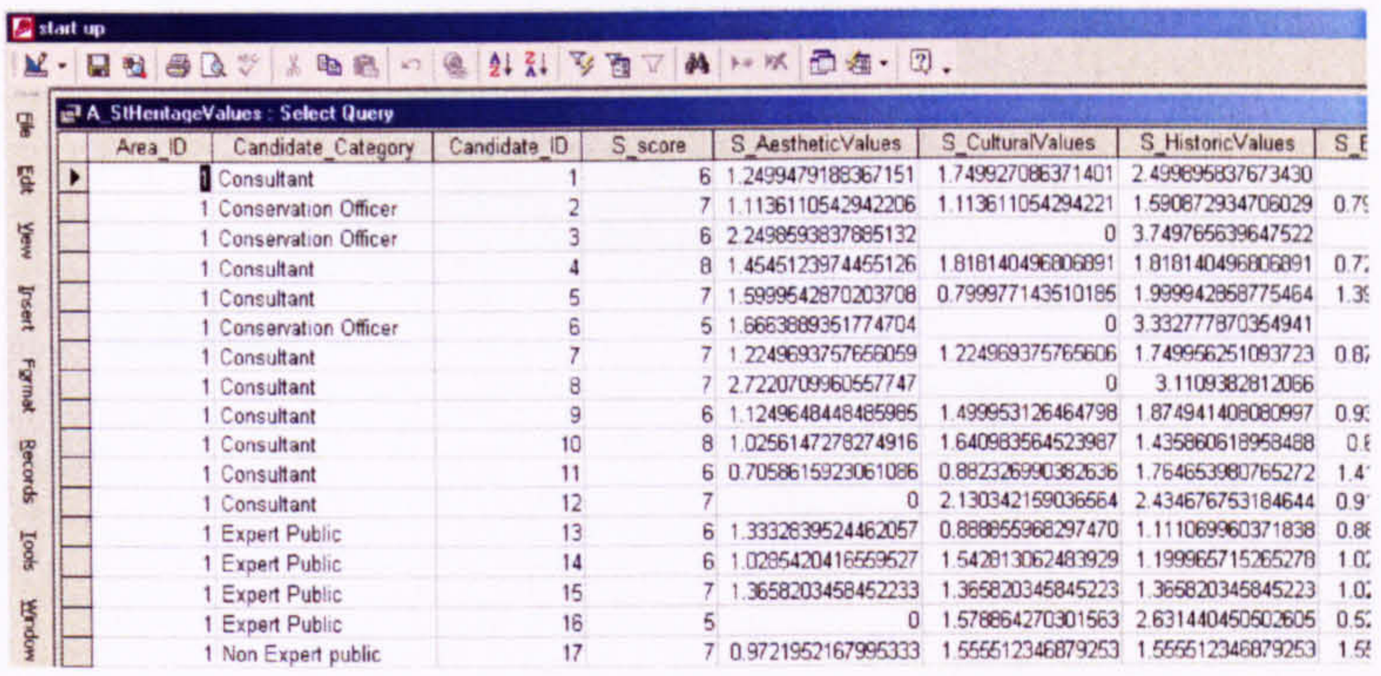
9.3.3 Urban Heritage Values' Analysis

Such analysis involves the calculation of:

- The number of times each of the resource's values, variables and sub-variables is selected.

- The average score given to its significance and the final score of this significance.
- The corrected scores of each of the resource's values, variables and sub-variables, and the average of these scores.
- The maximum and minimum scores given to the resource's significance.
- The maximum and minimum corrected scores given to each of resource's values, variables and sub-variables.
- The weighted score for each of the resource's values, variables and sub-variables.





Area_ID	Candidate_Category	Candidate_ID	S_score	S_AestheticValues	S_CulturalValues	S_HistoricValues	S_E
1	Consultant	1	6	1.2499479188367151	1.749927086371401	2.499695837673430	
1	Conservation Officer	2	7	1.1136110542942206	1.113611054294221	1.590872934706029	0.79
1	Conservation Officer	3	6	2.2498593837885132	0	3.749765639647522	
1	Consultant	4	8	1.4545123974455126	1.818140496806891	1.818140496806891	0.72
1	Consultant	5	7	1.5999542870203708	0.799977143510185	1.999942858775464	1.39
1	Conservation Officer	6	5	1.6663889351774704	0	3.332777870354941	
1	Consultant	7	7	1.2249693757656059	1.224969375765606	1.749956251093723	0.87
1	Consultant	8	7	2.7220709960557747	0	3.1109382812066	
1	Consultant	9	6	1.1249648448485985	1.499953126464798	1.874941408080997	0.93
1	Consultant	10	8	1.0256147278274916	1.640983564523987	1.435860618958488	0.8
1	Consultant	11	6	0.7058615923061086	0.882326990382636	1.764653980765272	1.4
1	Consultant	12	7	0	2.130342159036564	2.434676753184644	0.9
1	Expert Public	13	6	1.3332639524462057	0.888855968297470	1.111069960371838	0.88
1	Expert Public	14	6	1.0285420416559527	1.542813062483929	1.199965715265278	1.02
1	Expert Public	15	7	1.3658203458452233	1.365820345845223	1.365820345845223	1.02
1	Expert Public	16	5	0	1.578864270301563	2.631440450502605	0.52
1	Non Expert public	17	7	0.9721952167995333	1.555612346879253	1.555612346879253	1.55

Figure 9.27: Queries for areas' automated heritage significance analysis

The model disaggregates these calculated values by category of candidates (officers, consultants and public). It also disaggregates them by the profession of the candidates, their experience, age, position, gender, political identity, nationality and religion.

The model also arranges the attributes given to each resource's values, variables and sub-variables. The idea is to enable the decision makers to calculate the number of repeated elements and attributes, and to calculate the average for each.

The results of these analyses are reported to the decision makers in different forms.

9.4 Data Output Stages

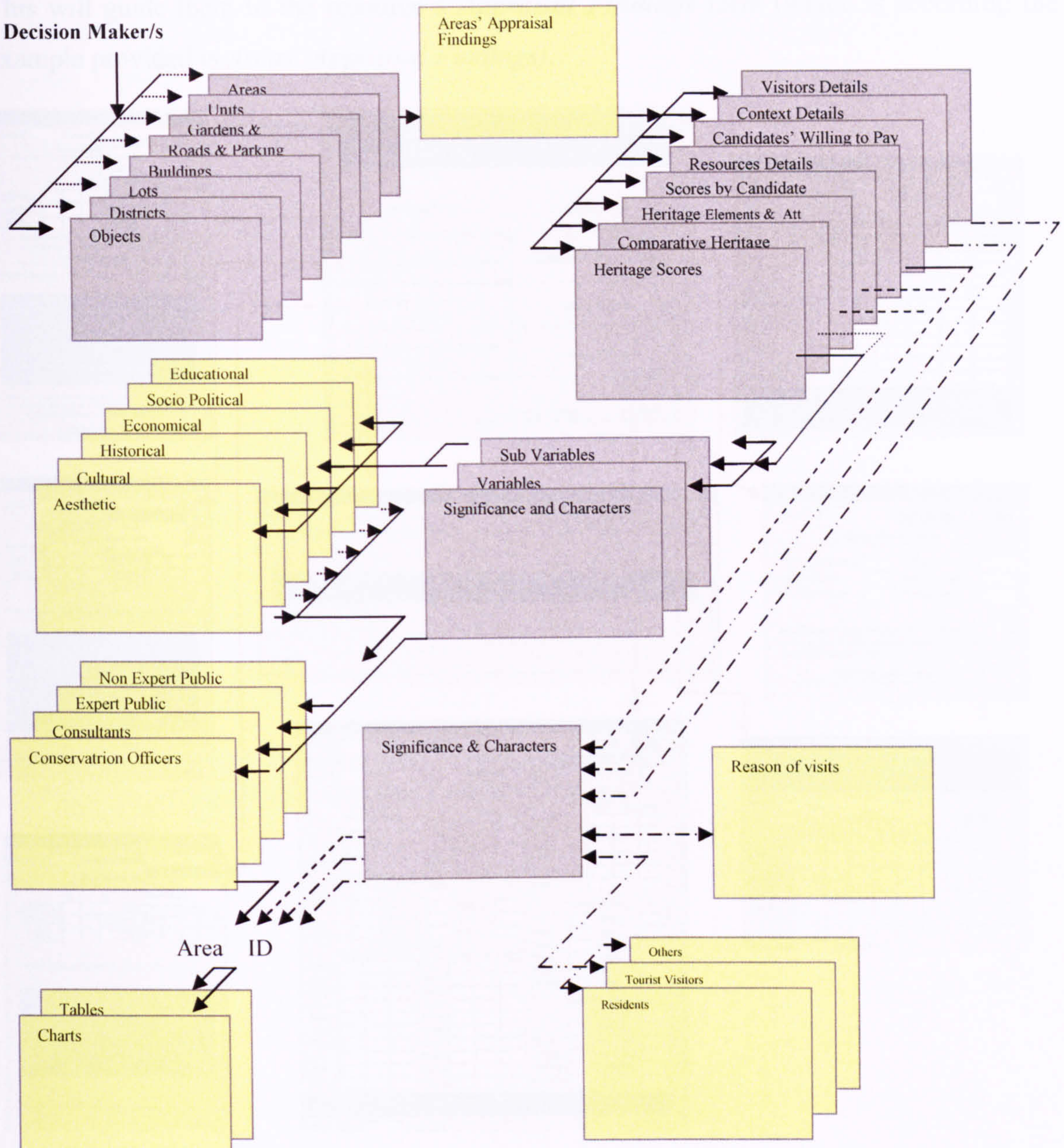


Figure 9.28: Data output stages

9.4.1 Overview

The Data output is divided into seven main stages (Figure 9.28). Each stage is then divided into eight categories, each one of these categories is divided into different sub groups, the coming paragraphs shed light on these stages, categories and sub categories. Decision makers access the model individually or in a group. They are asked to read an introduction

to give them some background about the model, and are then required to choose the category of the urban resource they would like to study (areas, districts, buildings, etc). This will guide them to the resource's ***Appraisal Findings*** form (which is according the example provided is *Areas' Appraisal Findings)*.

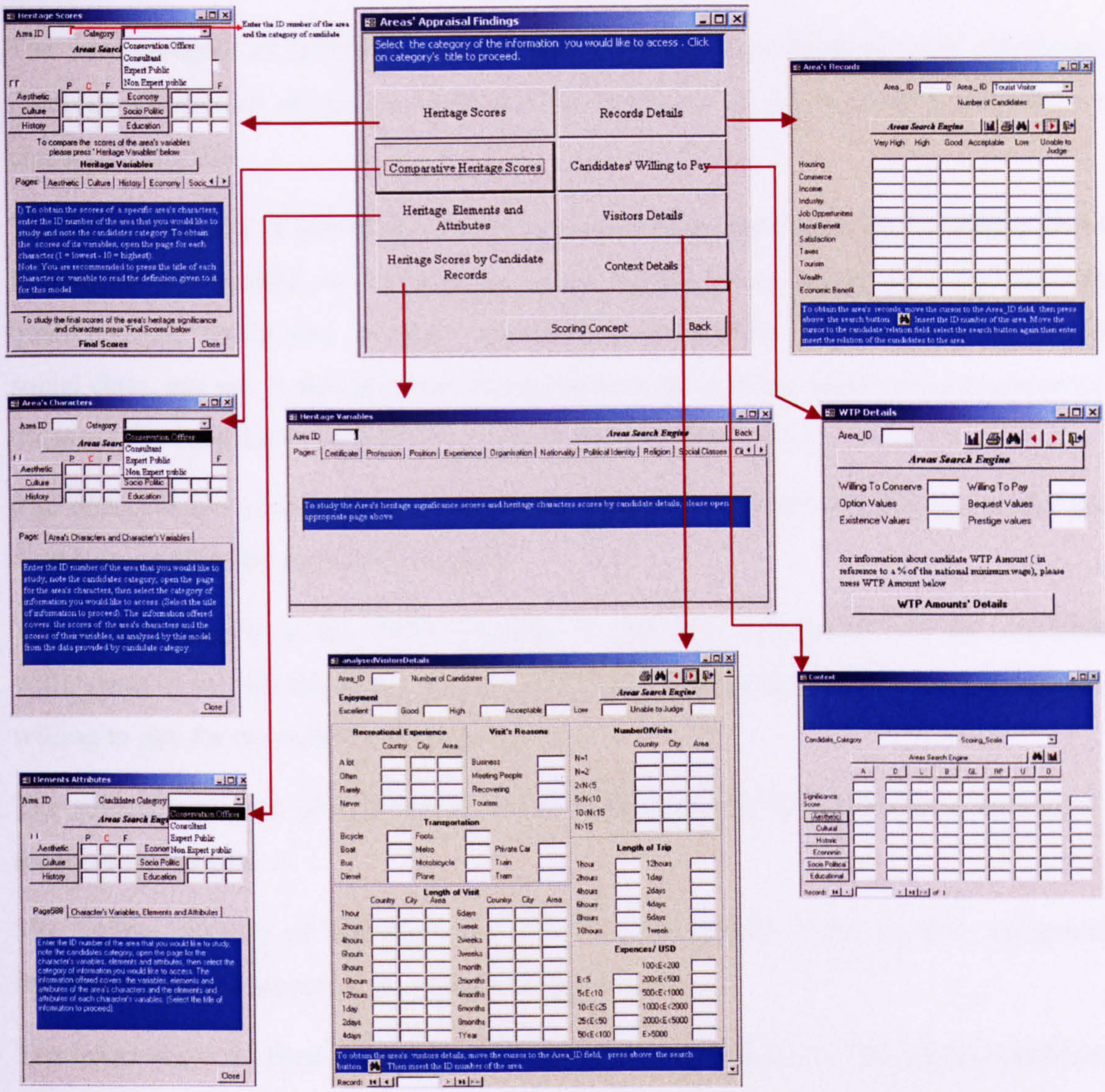


Figure 9.29: Areas' information form and sub forms

This form gives access to the information obtained from candidates about themselves, about the resource, and their relationship with this resource. (The resource will be replaced in this section with area, as an example). Eight categories of information can be accessed through this form. The first category of information is referred to as ***Heritage Scores.*** It concerns the final and the average scores of each heritage character of the area, and each variable and sub-variable (To read about the scoring modes please refer to Chapter 8).

The second category of information is referred to as ***Comparative Heritage Scores.*** It includes information on the final, average, maximum and minimum corrected scores of each heritage character of the areas and each variable. It also includes information about the number of times this character or variable of the areas is considered significant.

The third category of information is referred to as ***Heritage Elements and Attributes.*** It involves information about the elements and attributes of the resource's characters and character variables.

The fourth category of information is referred to as ***Heritage Scores by Candidate Details.*** It involves information on the average scores of the area/s significance by candidate/s qualifications, profession, position, experience, nationality, religion, political identity, social class, age etc. It also involves information on the average scores of each character of the area/s by candidate/s qualifications, profession, position, etc

The fifth category of information is the *Areas **Details***. It includes information on the area's details as gathered by candidate category.

The sixth category is the ***WTP Details.*** It includes information on the candidate/s willingness to pay for the area/s conservation, and the amount of money the candidates are willing to pay for the area/s conservation.

The seventh category of information is the ***Visits Details***. This includes information on area/s visitor details.

The eighth category of information is the ***Context Details***. This involves comparative information on the scores of the adjacent urban resources.

The information for these categories is both tabular and graphical. The tabular information for the first three categories is organized by the resource's ID number and the candidate's category. The tabular information for the ***Heritage Score by Candidate Details*** is organized by the resource's ID number. The tabular information of the ***Resource Details*** and the ***WTP Details*** is organized by the resource's ID number and the candidate's relation to the resource. The tabular information for ***Visitors Details*** is organized by the resource's ID number and visit reason. The tabular information for the ***Context Details*** category is organized by the candidate's category and the scales of scoring (local, national, regional and international)

The graphical information for these categories is more flexible. The information for the first three can be organised by single area, different alternative areas in comparison to each others, and a unity of alternative areas. This graphical information can also be organised by a single candidate's category, different candidates' categories or a unity of candidates categories. Figure 9.30 shows the nine possible graphical arrangements of the information provided by these three categories:

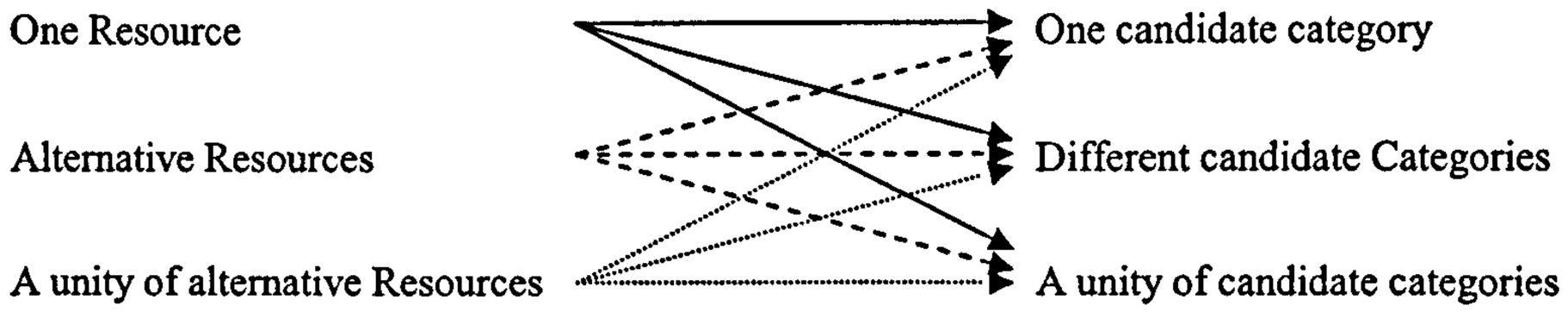


Figure 9.30: The possible graphical arrangements of the survey information by candidates

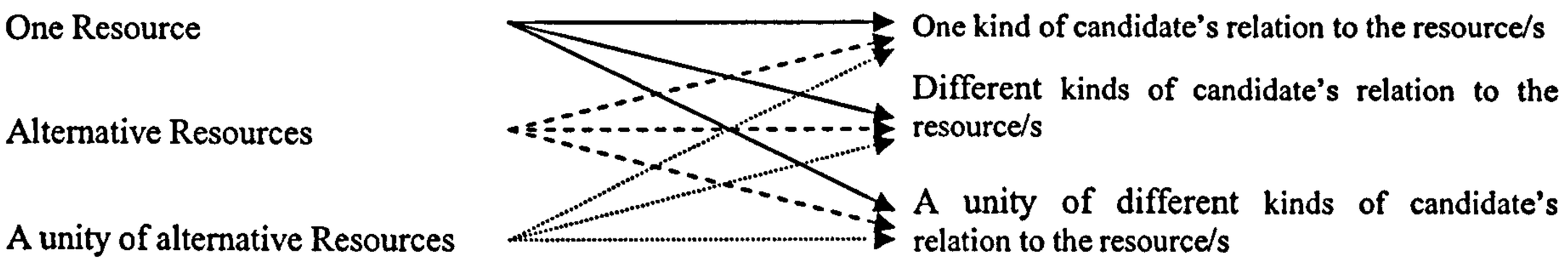


Figure 9.31 The nine possible graphical arrangements of the resources' information by candidate relation to the resource

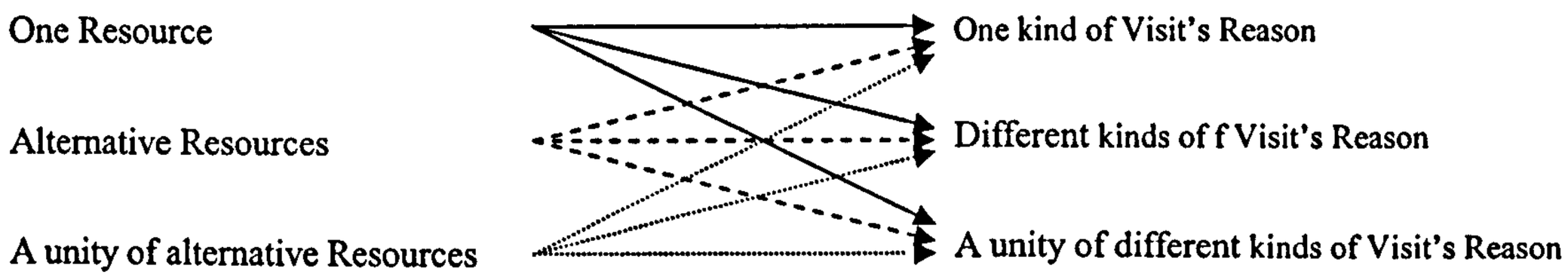


Figure 9.32: The nine possible graphical arrangements of information provided by the visitors' details category

Figure 9.31 shows the nine possible graphical arrangements of the information provided by candidates concerning the appraised urban heritage resources. Figure 9.32 shows the nine possible graphical arrangement of the visits information provided by candidates.

Any chart developed in Microsoft Access can be adjusted to give a number of different scenarios for the arrangement of information. It was enough to develop one single chart for each set of information, and then adjust this chart into the nine graphical arrangements of information mentioned in the previous section.

Figure 9.33 shows the methods of adjusting a chart. Figure 9.34 presents the nine possible graphical scenarios for the arrangement of information relating to the heritage significance of building A (ID=1) & building B (ID=2).

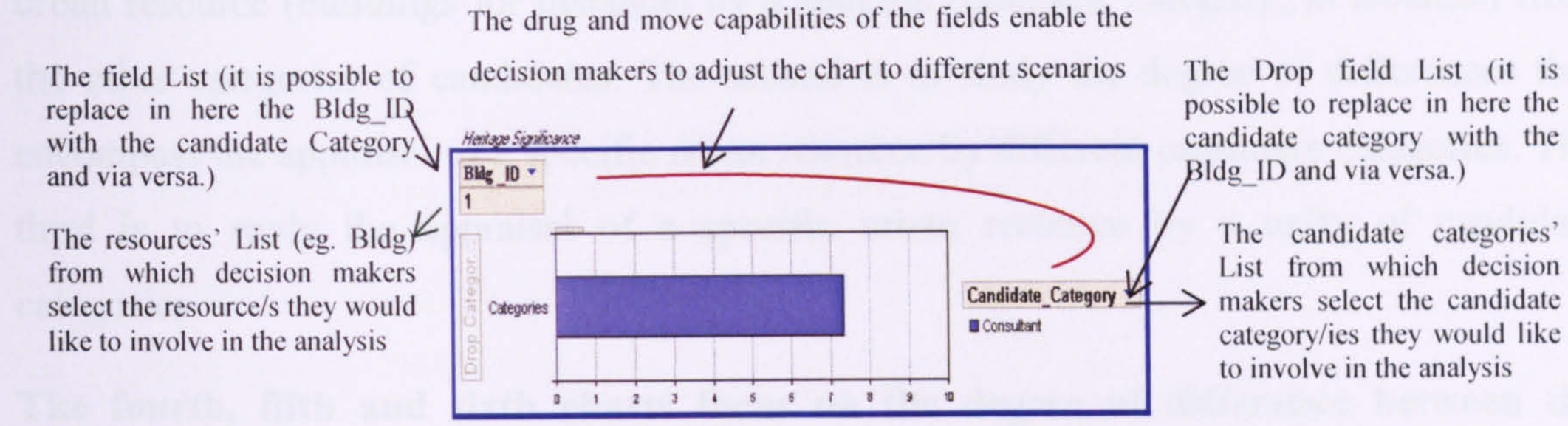
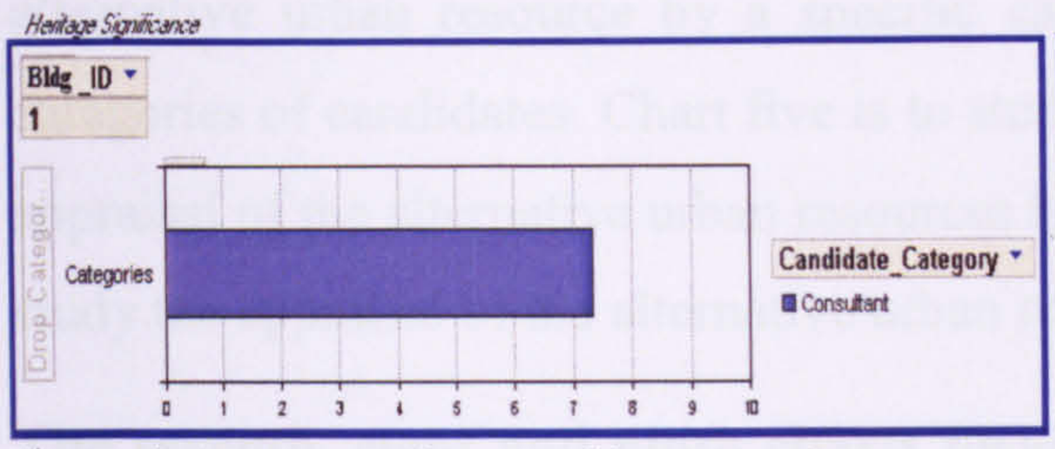
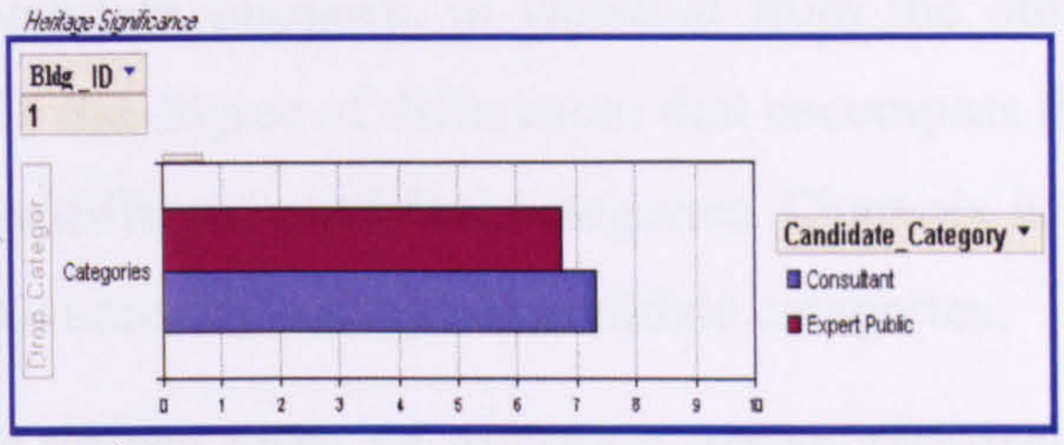


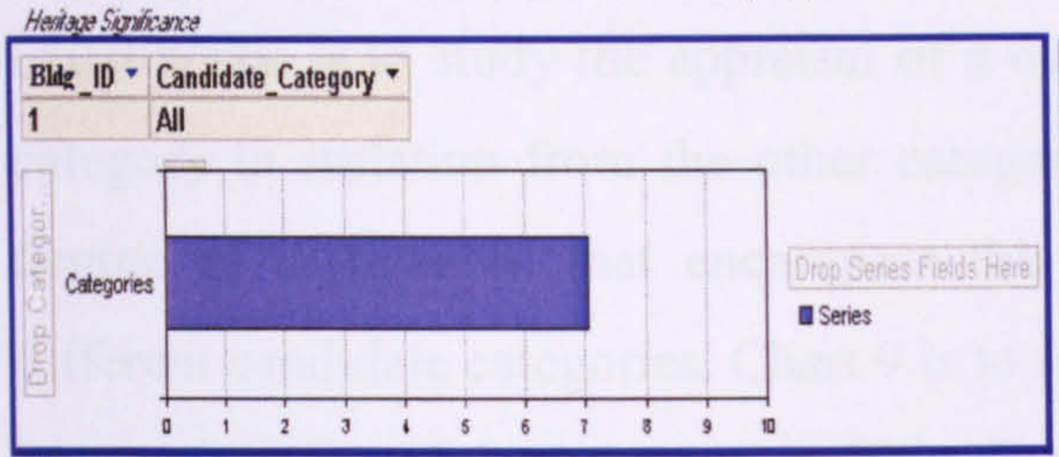
Figure 9.33 The initial chart developed to display buildings' information



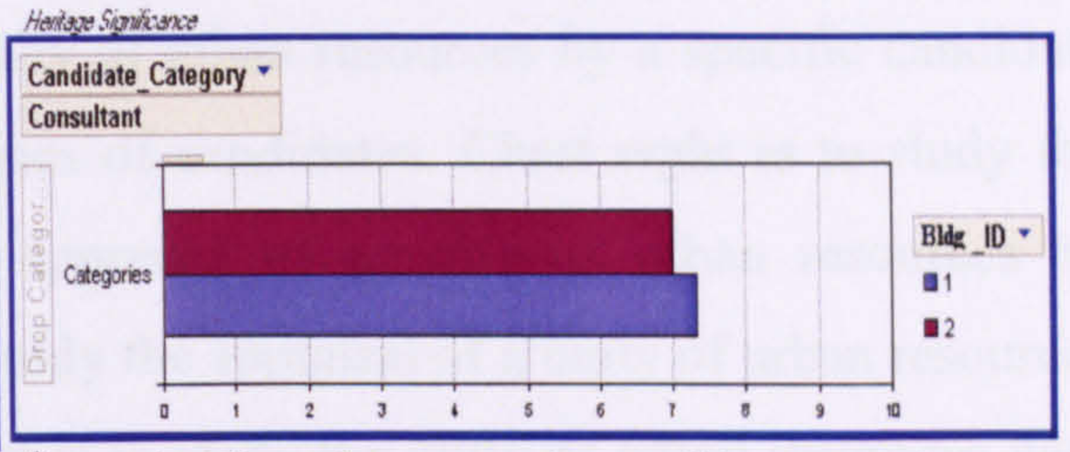
1st scenario (one resource & one candidate category)



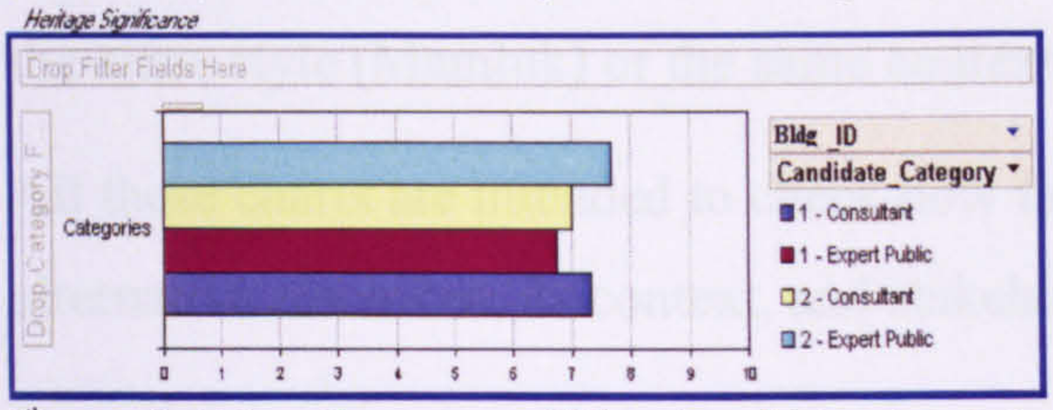
2nd scenario (one resource & different candidate categories)



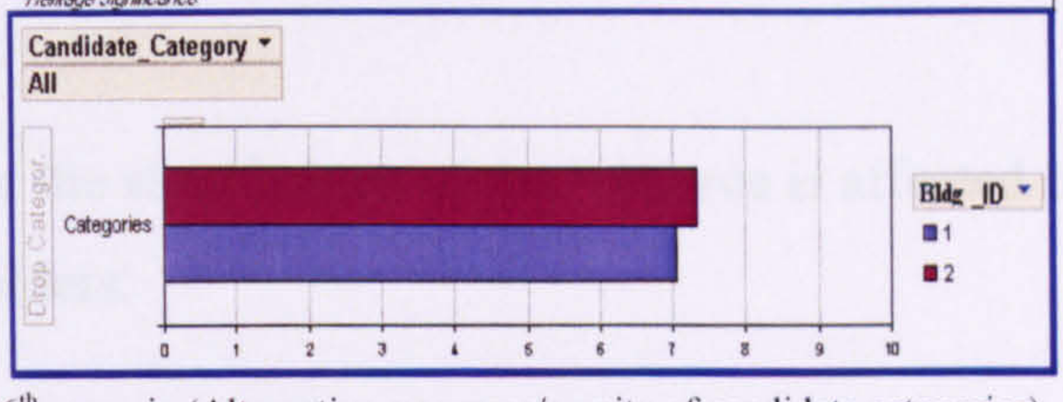
3rd scenario (one resource & a unity of candidate categories)



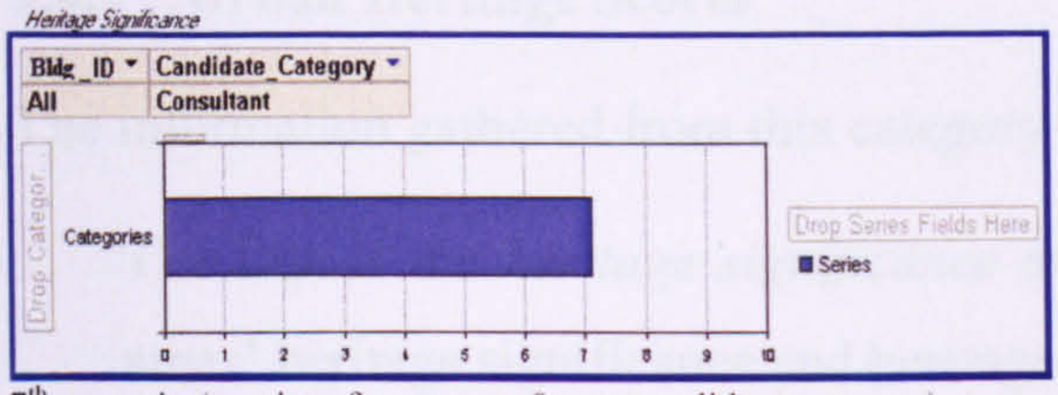
4th scenario (Alternative resources/one candidate category)



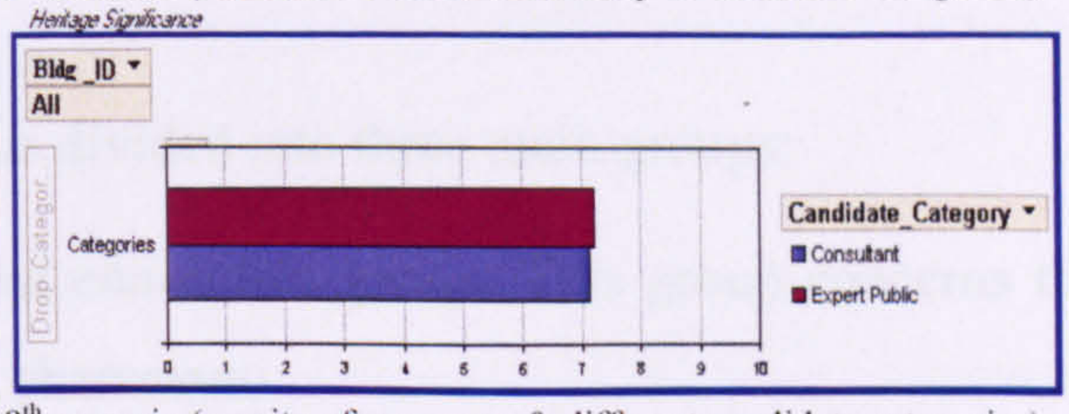
5th scenario (Alternative resources/different candidate categories)



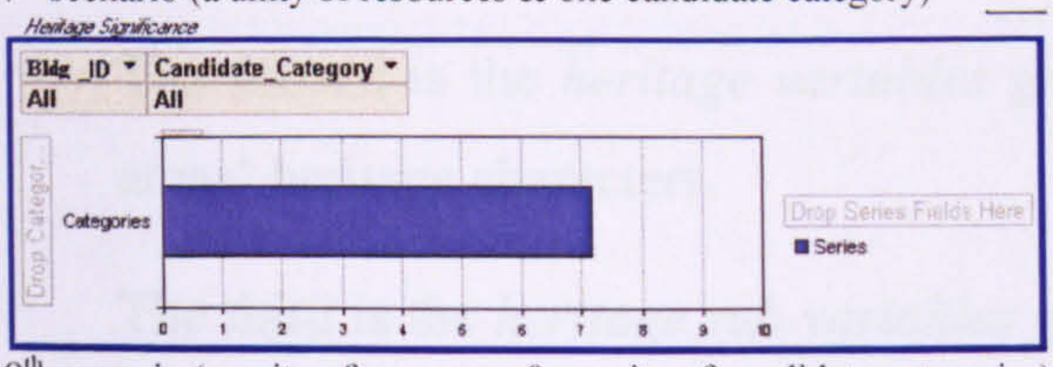
6th scenario (Alternative resources/a unity of candidate categories)



7th scenario (a unity of resources & one candidate category)



8th scenario (a unity of resources & different candidate categories)



9th scenario (a unity of resources & a unity of candidate categories)

Figure 9.34: The nine scenarios for displaying buildings' information

The first, second and third charts focus on the analysis of one specific urban resource in isolation from its alternatives. The first chart is for studying the appraisal of a specific urban resource (buildings for instance) by a specific candidate category, in isolation from the other categories of candidates. The second is to study the degree of differences that encompass the appraisal of a specific urban resource by different candidate categories. The third is to study the appraisal of a specific urban resource by a unity of candidate categories.

The fourth, fifth and sixth charts focus on the degree of difference between the heritage values of different urban resources. Chart four is to study the appraisal of the alternative urban resource by a specific candidate category, in isolation from the other categories of candidates. Chart five is to study the degree of differences that encompass the appraisal of the alternative urban resources by different candidate categories. Chart six is to study the appraisal of the alternative urban resources by a unity of candidate categories.

The seventh, eight and ninth charts focus on the unity of different urban resources. Chart seven is to study the appraisal of a unity of urban resources by a specific candidate category in isolation from the other categories of candidates. Chart eight is to study the degree of differences that encompass the appraisal of a unity of urban resources by different candidate categories. Chart 9 is to study the appraisal of a unity of urban resources by a unity of candidate categories. This chart is to study the unity of urban resources with the same style (Mamluk) or the same context.

All these charts are intended to check how far the significance of the resource is affected by alternative resources, its context, and stakeholders.

9.4.2 Urban Heritage Scores

The information gathered from this category is divided into three main groups:

- The first is the *heritage significance and characters group*. This group concerns the areas' heritage significance and heritage characters.
- The second is the *heritage variables group*. This group concerns the variables of the areas' heritage characters.
- The third is the *heritage sub variables group*. This group concerns the sub variables of the areas' heritage characters.

Each of these groups is divided into two sub groups: the first concerns the areas' average scores. The second concerns the areas' final scores. Here the final scores are the scores of the areas multiplied by the candidates' interests.

9.4.2.1 *Urban Heritage Significance and Characters*

Urban Heritage Average Scores (The case of Areas and Building resources)

This Sub group is located in the form called ***Heritage Scores***. This form is accessible from the Areas'Appraisal Findings Form. This group has no graphical information, but it gives access to the final scores that are both tabular and graphical. Figure 9.35 shows the forms related to this group of information. These forms provide instructions that tell the decision makers how to consider a query, and how to automatically gather the results.

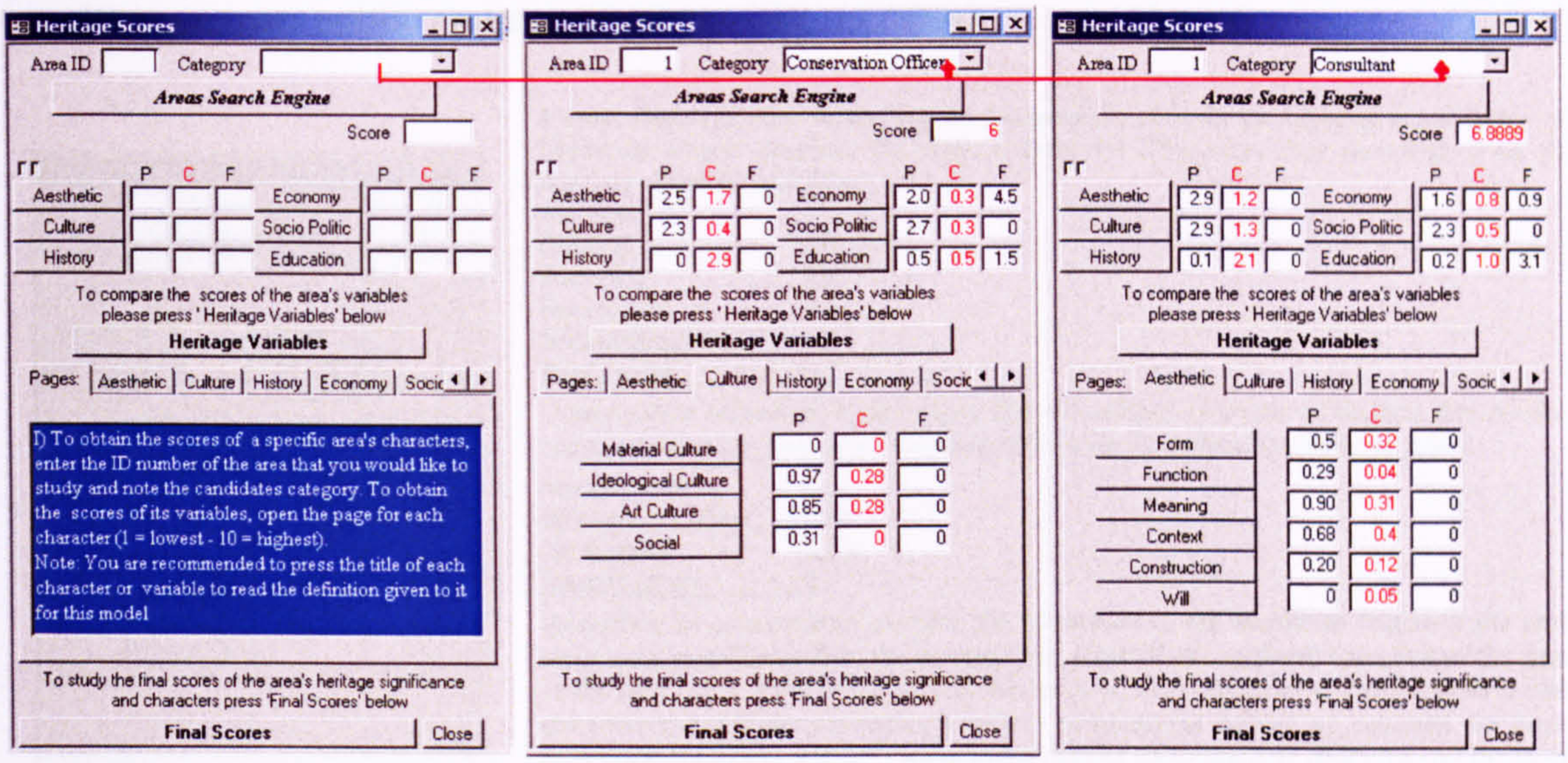


Figure 9.35: Information of Medieval Tripoli's heritage scores by conservation officers

This sub group presents:

- The score of the heritage significance of the area by candidates' category
- The score of each heritage character of the area by candidates' category including its past, present and potential scores.
- The score of each heritage variable of the area by candidate's category, including its past, present and potential scores.

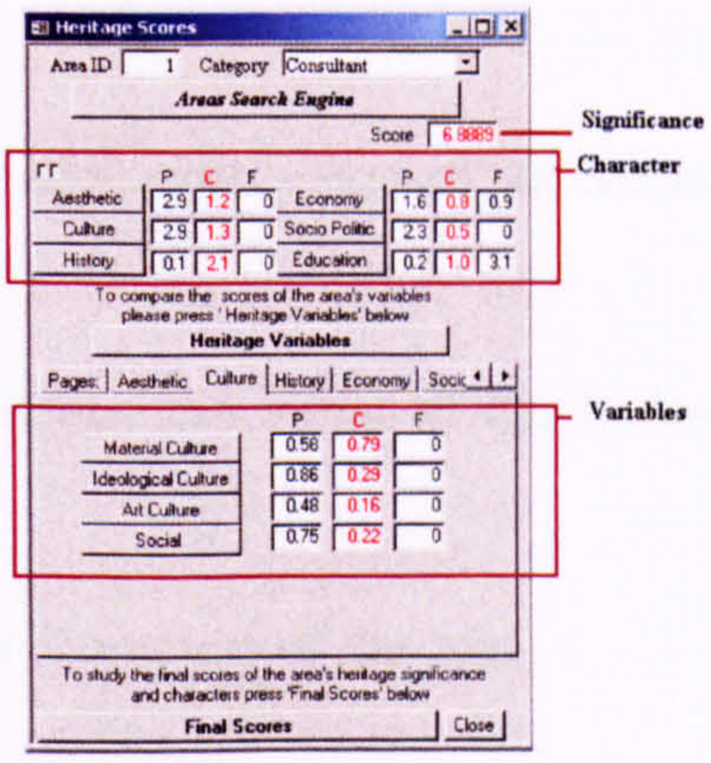
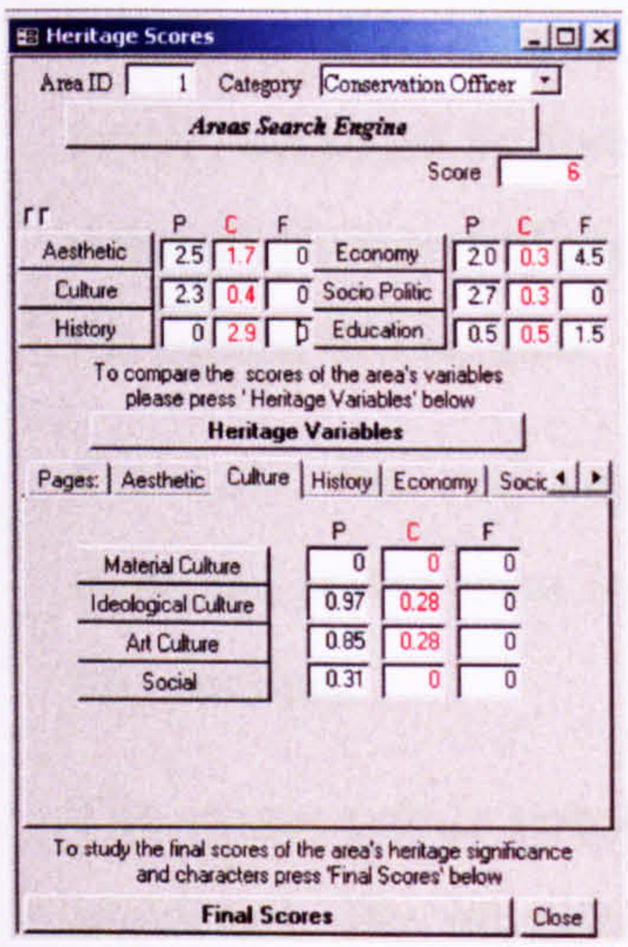


Figure 9.36: Medieval Tripoli's heritage significance, characters & variables

Figure 9.36 and Figure 9.37 give an example and description of this category of information. According Figure 9.37, decision makers are to enter the ID of the area they would like to study and to choose the category of candidate involved. They are then able to collect the results of their query, and consider a new query if desired. It must be noted here that the information related to area's variables is arranged in the same form, in one tab control with six pages. The first page concerns the variables of the aesthetic character. The others concern respectively the variables of the cultural, historical, economical, socio-political and educational characters.

Figure 9.36 and Figure 9.37 describes the methods of reading the information gathered from the model. Figure 9.38 shows the way to shift from one category of candidate to another. It also displays and describes comparatively the evaluation of Medieval Tripoli by consultants, expert public and non-expert public members.



Forms Descriptions: According to conservation officers the heritage significance of Medieval Tripoli deserves the score 6 from 10. This score they distribute it on its heritage character as follow:

Aesthetic	1.7
Cultural	0.4
Historical	2.9
Economical	0.3
Socio-Political	0.3
Educational	0.5

Conservation officers as such believe that the cultural character of the area deserve the score 0.4 from 10. This score they distribute it on its cultural variables as follow:

Material culture	0
Ideological Culture	0.28
Art Culture	0.2 8
Social Culture	0

According to conservation officers, the characters of the Medieval Tripoli in the past were more significant than the present. The score of the aesthetic character of the area in the past is 2.3 while in the present the score is 0.4. Conservation officers believe that the historical and the aesthetic characters of Medieval Tripoli are currently the most important, (scores=1.9 & 1.7) while in the past its socio-political character was the most important (score=2.7). Conservation officers believe that Medieval Tripoli conservation will remarkably increase its economical and educational potential

Figure 9.37: Description of Medieval Tripoli heritage scores' form

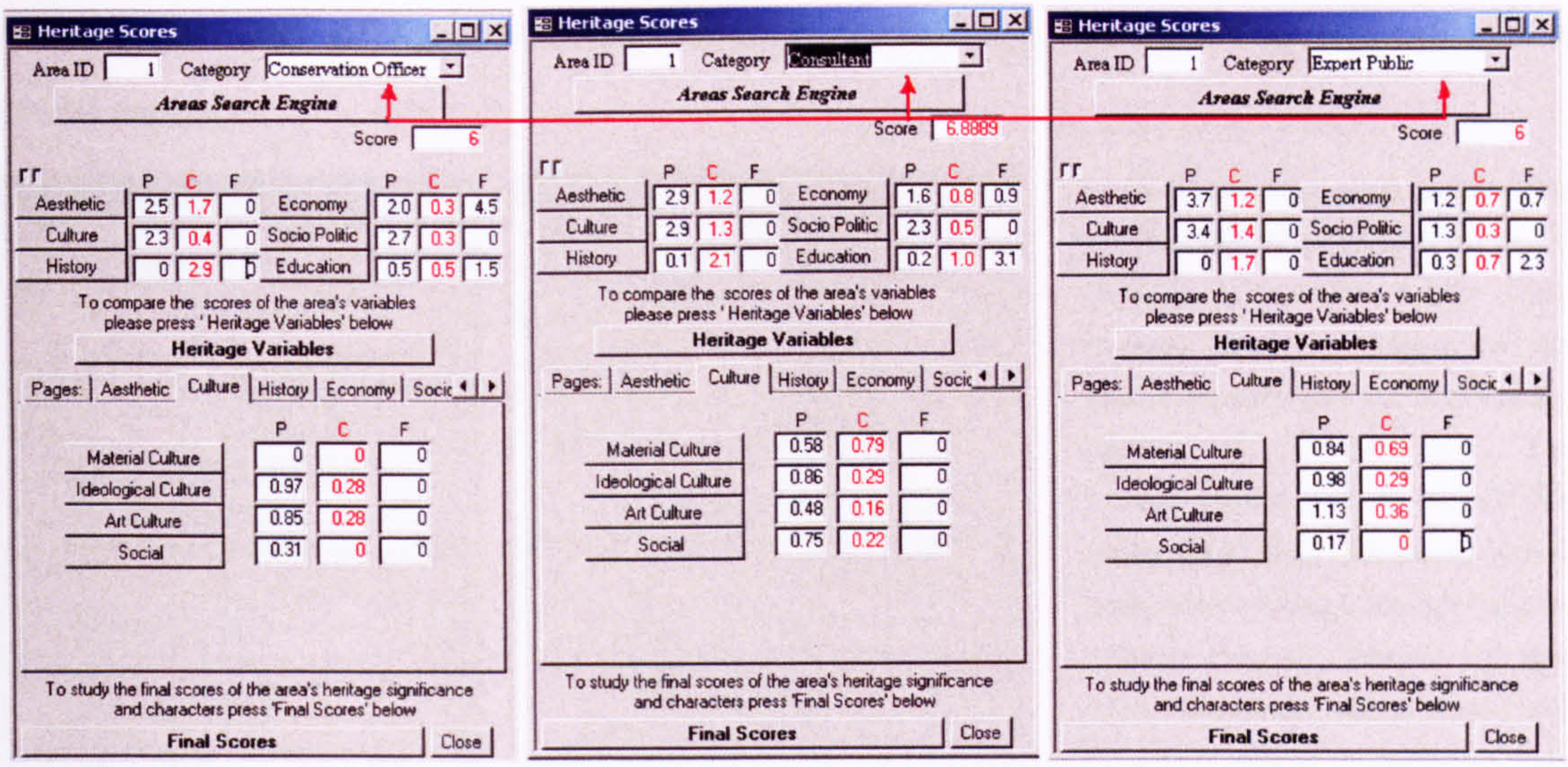
This group also shows (Figure 9.35):

- The heritage characters of the area that increase or reduce the value of its heritage significance.
- The heritage variables of the area that increase or reduce the value of the heritage characters that constitute them.
- The degree of difference between the different heritage characters of the area.
- The degree of difference between the different heritage variables of the area.

- The degree of difference between the past, present and potential scores of each heritage character of the area.
- The degree of difference between the past, present and potential scores of each heritage variable of the area

The forms of this group indicate, for instance, that for medieval Tripoli:

- The aesthetic, cultural and socio-political characters were much more important in the past than the present. This results are valid, because the historical review and the interviews conducted by this study about the medieval centre of Tripoli have illustrated that the beautiful old centre of Tripoli has lost most of its orange gardens, buildings, pedestrian bridges and roads under the pressure of density, pollution, negligence, flood and unsuccessful planning, while what remains is often in poor condition. Moreover, medieval Tripoli has lost its original cultural identity with the migration of its original people and activities to new areas. The medieval area is now mostly occupied by foreign immigrants and poor people. So is the case with the socio-political character of medieval Tripoli, which has changed greatly since Beirut became the capital of Lebanon.
- Currently, the majority of candidates from all categories consider that historical character is the most important. The historical studies section in Chapter 6 validates this finding.
- The expert public consider the aesthetic character of Tripoli to be currently the most important. The interviews conducted with members of the public during the transect walk showed that the people of Tripoli are not necessarily aware of its historic character as evidence that tells the story of the area, but they are certainly aware of the sense of pleasure that the old features of this area provide for them.
- The majority of candidates consider that the aesthetic character of the area derives from its meaning variables, and not from its form. These results are again valid; the historical studies and the interviews conducted in this regard highlighted that few resources of the area have an important form. However many of the resources in medieval Tripoli have aesthetic meaning and context.



Form Description: According to conservation, officers and the expert public, the heritage significance of Medieval Tripoli deserves the score of 6 from 10. According to them, the historic character of Tripoli is also the most important. However, this does not mean that both of them have a similar point of view concerning its heritage characters. Conservation officers consider the cultural character of medieval Tripoli remarkably less significant than its historical character while the public do not consider it as such. They give these characters scores which are in some way close to its historic character. Moreover, the views of consultants and expert public are different from those of the non-expert public. The forms are designed to study such diverse considerations of urban heritage.

Figure 9.38: Medieval Tripoli heritage scores by consultants, expert public, and non-expert public

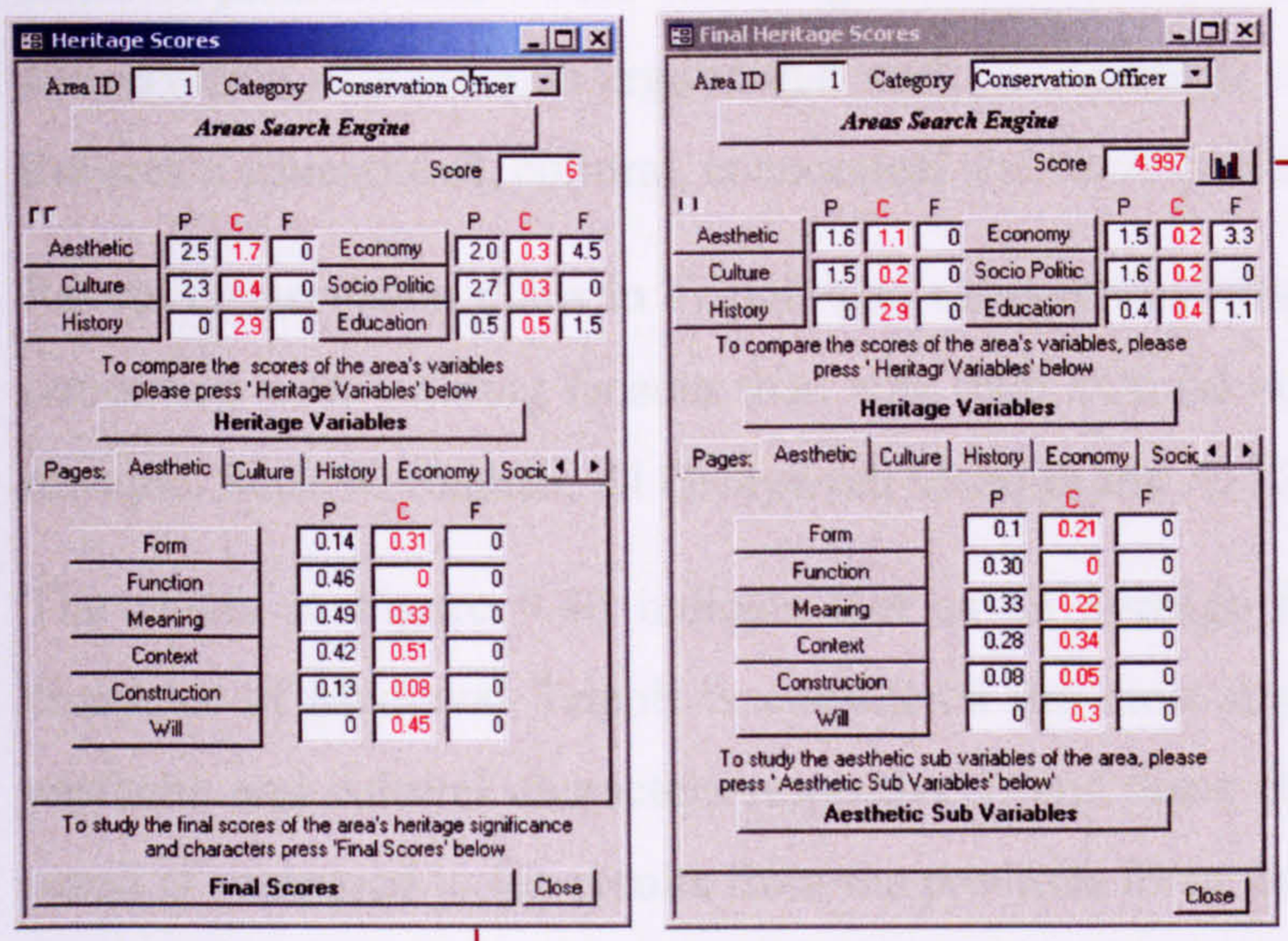
All this information is intended to enhance the urban appraisal process, and to make it more effective, allowing decision makers to recognise not just the heritage significance of the area, but also the characters that give the area such significance. Moreover, decision makers can identify the variables that give each heritage character of the area its importance. Here decision makers are informed of the views of the various categories of stakeholder for the areas.

Urban Heritage Final Scores (The case of Areas and Building resources)

This sub group is located in the form called ***Final Heritage Scores***. This form is accessible from the button called ***Final Scores,*** located in the ***Heritage Scores*** Form.

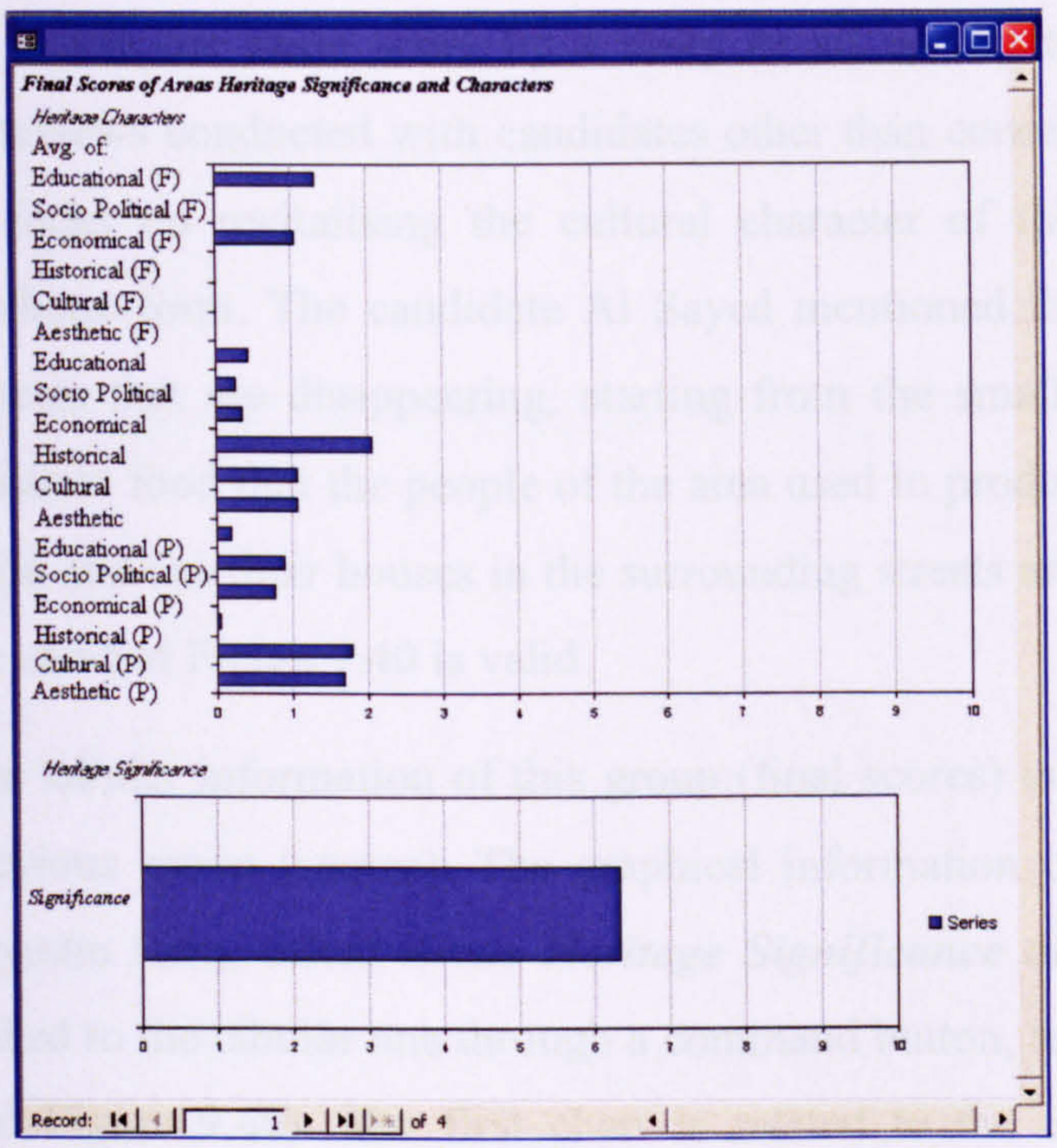
Like the average scores, this group presents the score of the area's heritage significance and the score for each heritage character and variable of the area. However, this time the score is the final score The final score permits study of the influence of the stakeholders' interest on what heritage characters and variables should be enhanced. The forms of Figure 9.39 present the scores and the final scores of medieval Tripoli heritage significance and character and the scores and the valid scores of its aesthetic heritage forms. These two groups of forms indicate that Tripoli conservation officers are looking to enhance the

historical character of Medieval Tripoli, then respectively its aesthetic, educational and cultural aspects.



Form Description: it is possible to link together the forms related to Area's Heritage Score and Area's Final Heritage Score, and compare how the final score of the area is affected by the interests of its stakeholders. For instance, these two forms indicate that conservation officers have more interest in the historic heritage character than its cultural character. Because of this interest the current cultural character of the area is reduced in importance from 0.4 to 0.2, while the current historic character remains its value (2.9)

Figure 9.39: Heritage scores and final scores of Medieval Tripoli by conservation officers.



Form Description: This form offers quite a large amount of information. For instance, it shows that the final score of the heritage significance of Medieval Tripoli (as an average for all candidates) is 6.3 from 10. This value derives from its current historic, aesthetic and cultural characters that respectively have values equal to 2.03, 1.06 and 1.02 from 10. This form also shows that the aesthetic and cultural characters of Medieval Tripoli are decreasing, as is the case with its economic character that is expected to increase again with the proposed conservation plans

Figure 9.40: Medieval Tripoli's final heritage scores by a unity of candidates categories

The results of Figure 9.39 are valid with regard to the desires of conservation officers. During the interviews conducted in Tripoli, conservation officers mentioned that the enhancement of Tripoli's historic character is essential because this character is what gives the area its heritage significance. The enhancement of its aesthetic character, even while equivalent to the cultural one, must come second after the historic character. Conservation

officers suggested that the enhancement of Tripoli aesthetic character increase the people's sense of pleasure and would encourage them to become more involved with the area. The conservation officers also argued that such involvement can help consequently enhancing the area's educational, cultural, economical and socio-political characters.

Recent conservation plans in Tripoli also validate this result. Recent plans have been more concerned with building facades than with their cultural or economic aspects (Al Mansouri mosque, Souk Al Saghah, Al Owaysiyah Mosque and Al Khatouniyah School).

The charts in Figure 9.40 indicate that as an average for all candidates, the historical character of Medieval Tripoli is considered the most important. This is followed by the aesthetic and cultural characters respectively, and these differ slightly in importance. This result if compared to the results from the previous form shows that the candidate categories other than conservation officers consider the area's cultural character to be very important. (The final score given to the area's cultural character by conservation officers is 0.2 from 10, while the same score by a unity of all candidate categories is 1.02 from 10). The interviews conducted with candidates other than conservation officers revealed their desire to focus on revitalising the cultural character of the area, rather than focusing on its aesthetic form. The candidate Al Sayed mentioned that Tripoli has a number of cultural aspects that are disappearing, starting from the smaller aspects to the bigger ones. (The seasonal food that the people of the area used to produce, going up to the way they used to build and use their houses in the surrounding streets and squares). Again the result given in the chart of Figure 9.40 is valid.

The tabular information of this group (final scores) is arranged in the same manner as the previous group (scores). The graphical information of the final scores is organized in a separate form, called ***Areas Heritage Significance and Characters Charts***. This form is linked to the tabular one through a command button, and comprises two charts (Figure 9.39 and Figure 9.40). The first chart is related to the area's heritage significance, and the second chart is concerned with the area's heritage characters. The charts for this group can be adjusted into different scenarios, as mentioned. To show the applicability and output of these scenarios, this study uses the example of Medieval Tripoli and the examples of Al-Mansouri Mosque and Khan al Saboun. However it must be noted here that only the methods of accessing the areas forms are explained. The aim is to avoid unnecessary repetition.

The graphical information of this group can be adjusted to focus on (Figure 9.40):

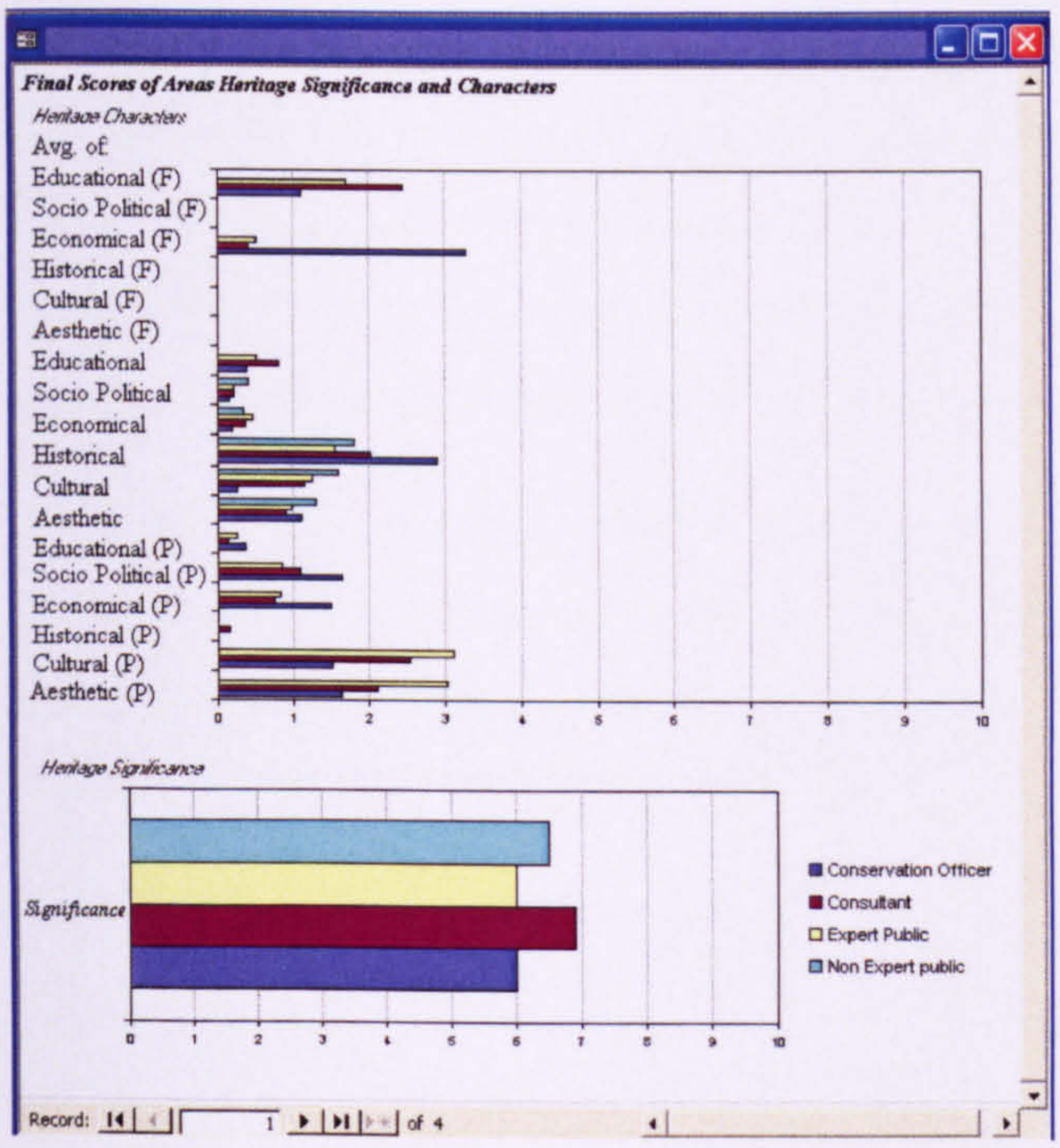
- A specific area in isolation from the other areas
- A specific area in comparison with the other areas
- A specific area in unity with other areas

In addition to these adjustments, it is possible to display the information to consider:

- One category of candidates in isolation from the others.
- One category of candidates in comparison to other stakeholders.
- A unity of all candidates.

It is also possible to arrange the information into a new set of four scenarios:

- The first to display only the past character of the area/s
- The second to display only the present character of the area/s
- The third to display only the potential character of the area/s
- The fourth to display the past current or potential characters of the area/s in comparison with each other

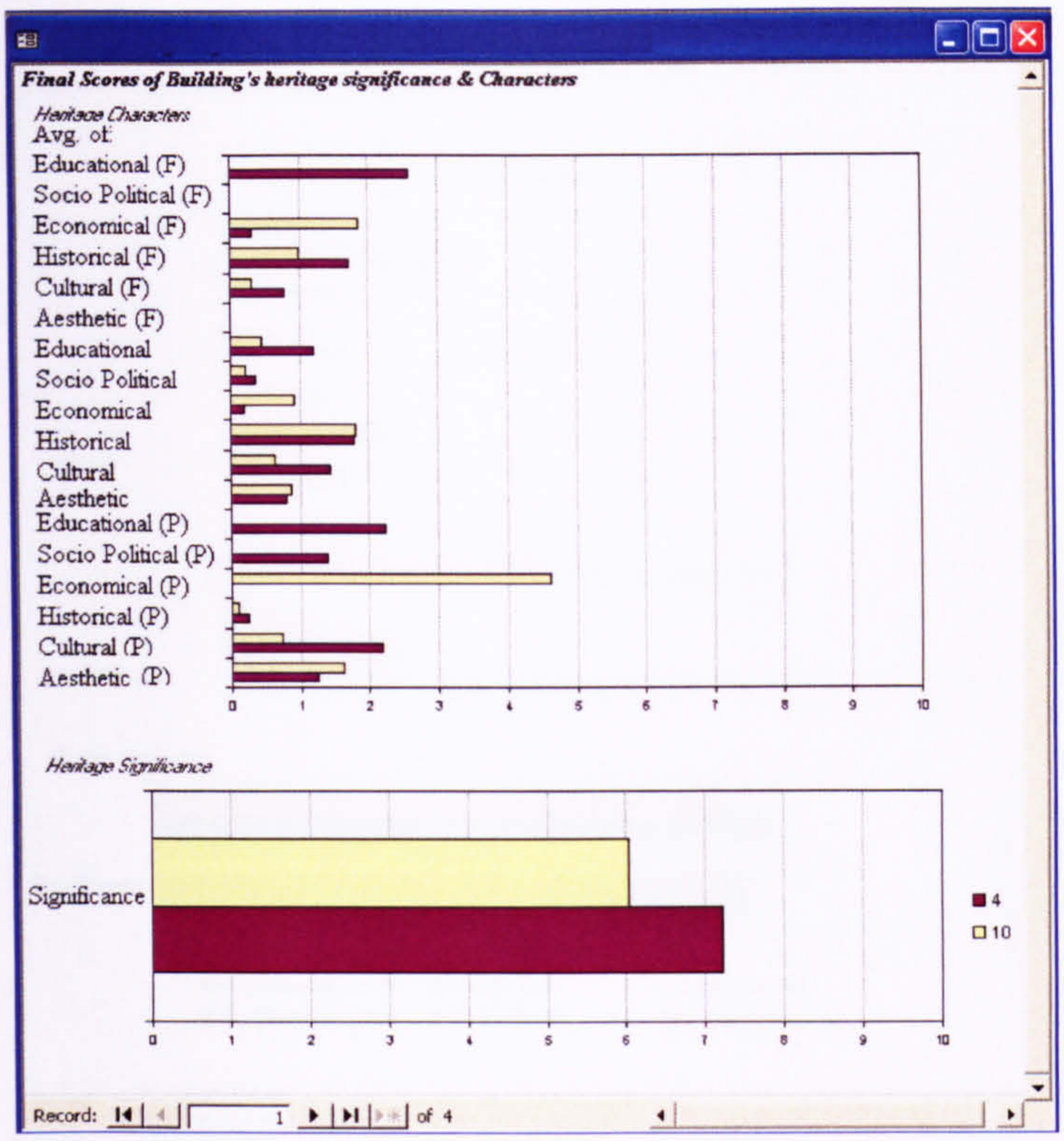


Form Description: the form in this figure is djusted to display the evaluation of Medieval Tripoli by different categories of candidates. According to this form, consultants give the heritage significance of Medieval Tripoli the highest score, whereas it is the conservation officers who consider its current historic character most highly. Such information is very important for identifying the views of others.

Figure 9.41: Medieval Tripoli final heritage scores by different categories of candidates

Figure 9.40 to Figure 9.45 show these adjustments, and provide descriptive examples about the way of reading the information provided by the model at that stage.
Again it must be noted that all the information provided by the tables and charts in this model can be automatically updated, when new candidates enter new information.

Figure 9.41 clarifies what has been said before concerning the cultural character of medieval Tripoli. This figure shows that for consultants and the public experts, the cultural character of Medieval Tripoli is approximately at the same level of importance. The interviews conducted with the expert public have shown their desire to enhance the cultural aspects that made up their identity. They have mentioned that their social and material culture is changing and disappearing. They have noted that their houses used to be surrounded with gardens of oranges' trees. They have added that they used to have special drinks made out of the flowers of these trees. Nowadays few houses have remained this identity.
The main advantages of this stage of the model is that decision makers are not required to go through the long process of developing a query, designing the format of its tables and charts. The model has already completed these steps. The decision makers need only select from a given list of choices the query they desire, and to access directly, quickly and efficiently the relevant information in the proper format.



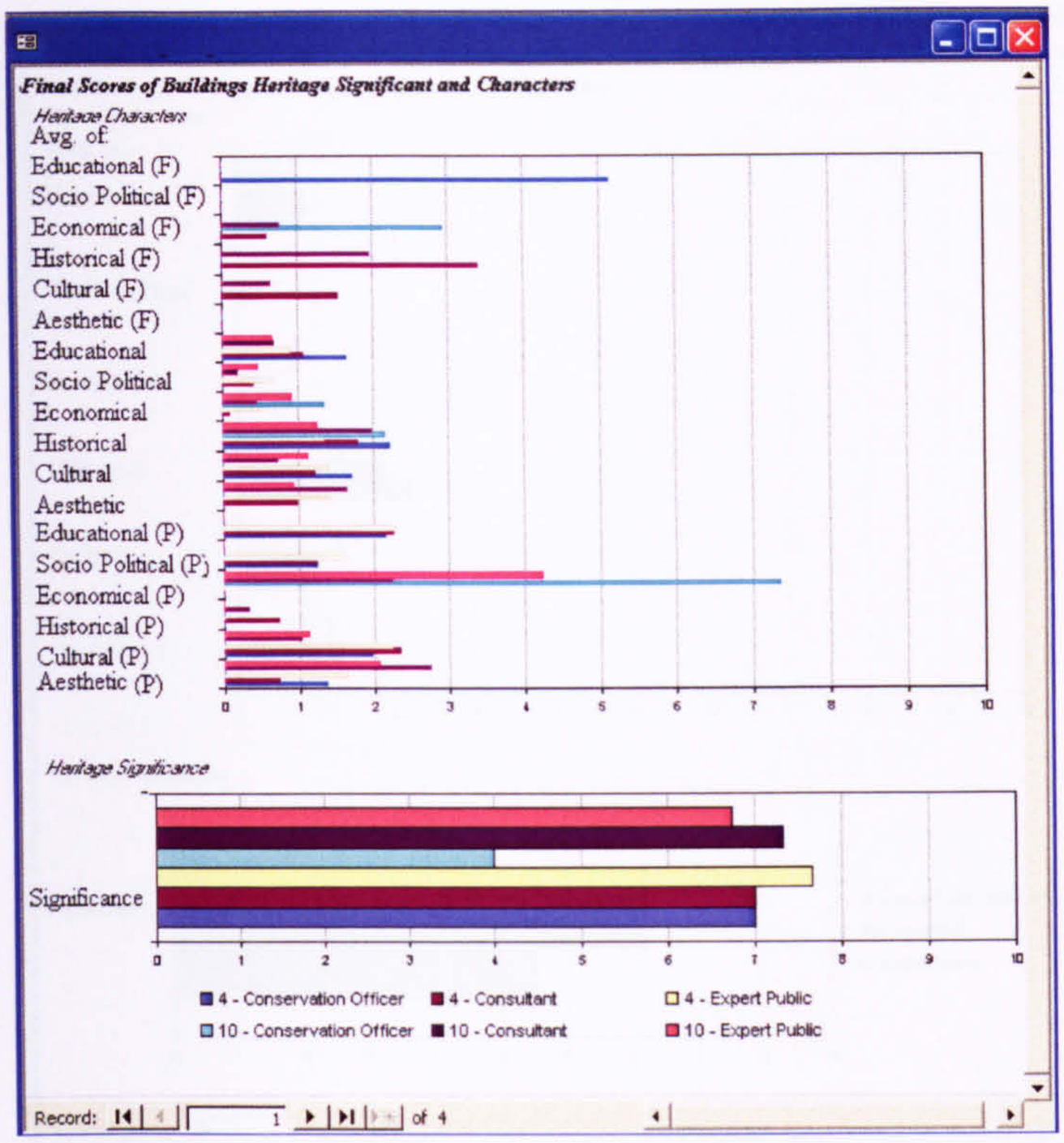
Form Description: The chart adjustments in this form are for quicker assessment of the average significance of the resources.

This form displays the evaluation of Al-Mansouri Mosque and Khan Al-Saboun. This form offers quite a lot of information; for instance it shows that the heritage significance of Al-Mansouri Mosque for the unity of candidate categories is higher than that of Khan Al Saboun. The reason is that they consider the cultural and educational characters of Al-mansouri to be more important than those of Khan Al-Saboun.

Figure 9.42: Final heritage scores of Al-Mansouri mosque [4] & Khan Al-Saboun [10] by a unity of candidates' categories

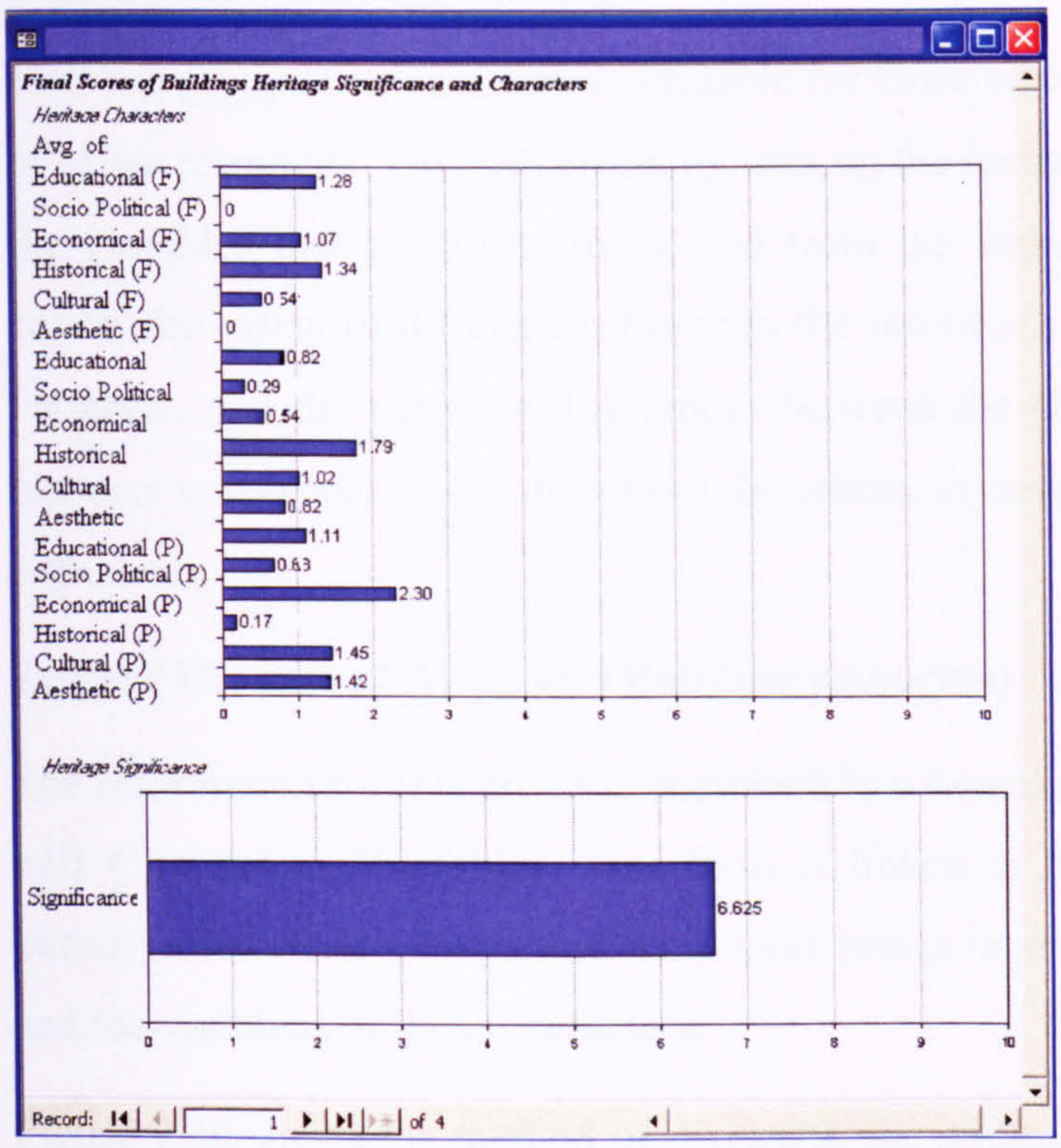
Figure 9.42 give the example of appraising to urban resources from the same categories and the way of presenting the information gathered about these two resources in comparison to each others. The charts in this figure show that the heritage significance of Al Mansouri mosque is higher than the heritage significance of Khan Al Saboun. These charts then list the values of the heritage character of these buildings. For instance, the first chart of this figure indicates that Al-Mansouri's cultural character, as an average for all categories of candidates, is more important than that of Khan All Saboun. This finding can be considered valid as Al-Mansouri is a religious building while Khan al Saboun is a commercial one.

In Figure 9.43, the second chart shows that all candidate categories agree that the heritage significance of al-Mansouri mosque is higher than the heritage significance of khan al-Saboun. While not all of



Form Description: This form is adjusted to compare the view of the different categories of candidates. This form shows for instance that conservation officers, consultants and the expert public have approximately the same opinion concerning the heritage significance of Al-Mansouri mosque, whereas for Khan Al Saboun the view of the conservation officers is much different from both the consultants and the expert public. The heritage character chart on this form clarifies their different points of view. Such clarification is essential to learn from the experiences of others

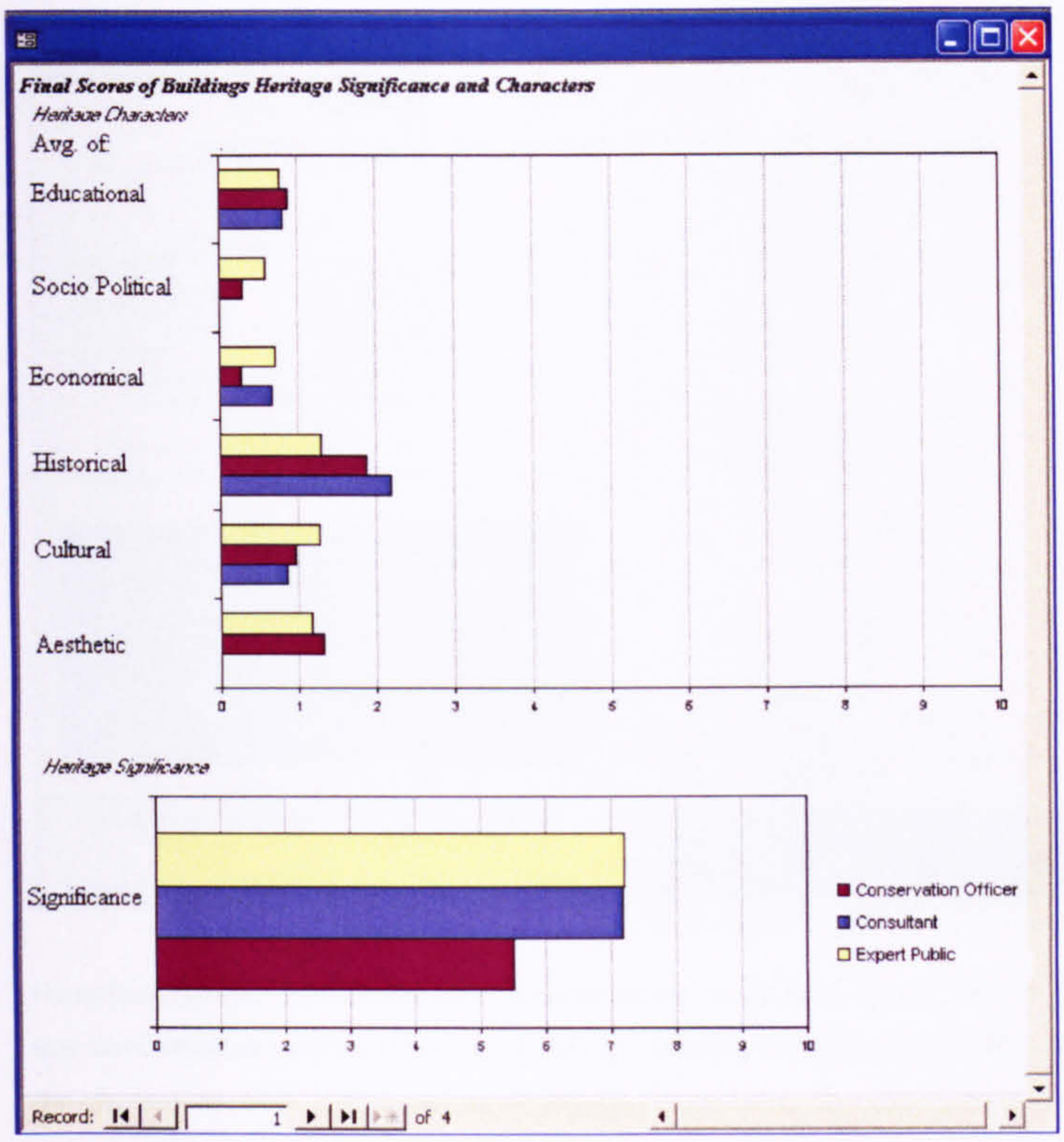
Figure 9.43: Final heritage scores of Al-Mansouri Mosque [4] & Khan Al-Saboun [10] by different categories of candidates



Form Description: this form is adjusted to study the heritage significance and characters of buildings that exist in the same surroundings, or buildings with the same characteristics. By comparing this form with the two previous ones it can be seen that the heritage significance of Al-Mansouri mosque declines in value when it is seen in unity with Khan Al Saboun. The reason for this is that the heritage significance of Khan Al Saboun is lower than the heritage significance of Al-Mansouri mosque.

Such adjustment can become more significant when the number of united buildings increases.

Figure 9.44: Heritage final score of al-Mansouri Mosque [4] united to Khan al-Saboun [10] by a unity of candidates categories



Form Description: This form is adjusted to display just the current heritage characters of the two united buildings

Such adjustment is to eliminate some complexity from the appraisal process

Figure 9.45: Current heritage final score of al-Mansouri Mosque [4] united to Khan al-Saboun [10] by a unity of candidates categories

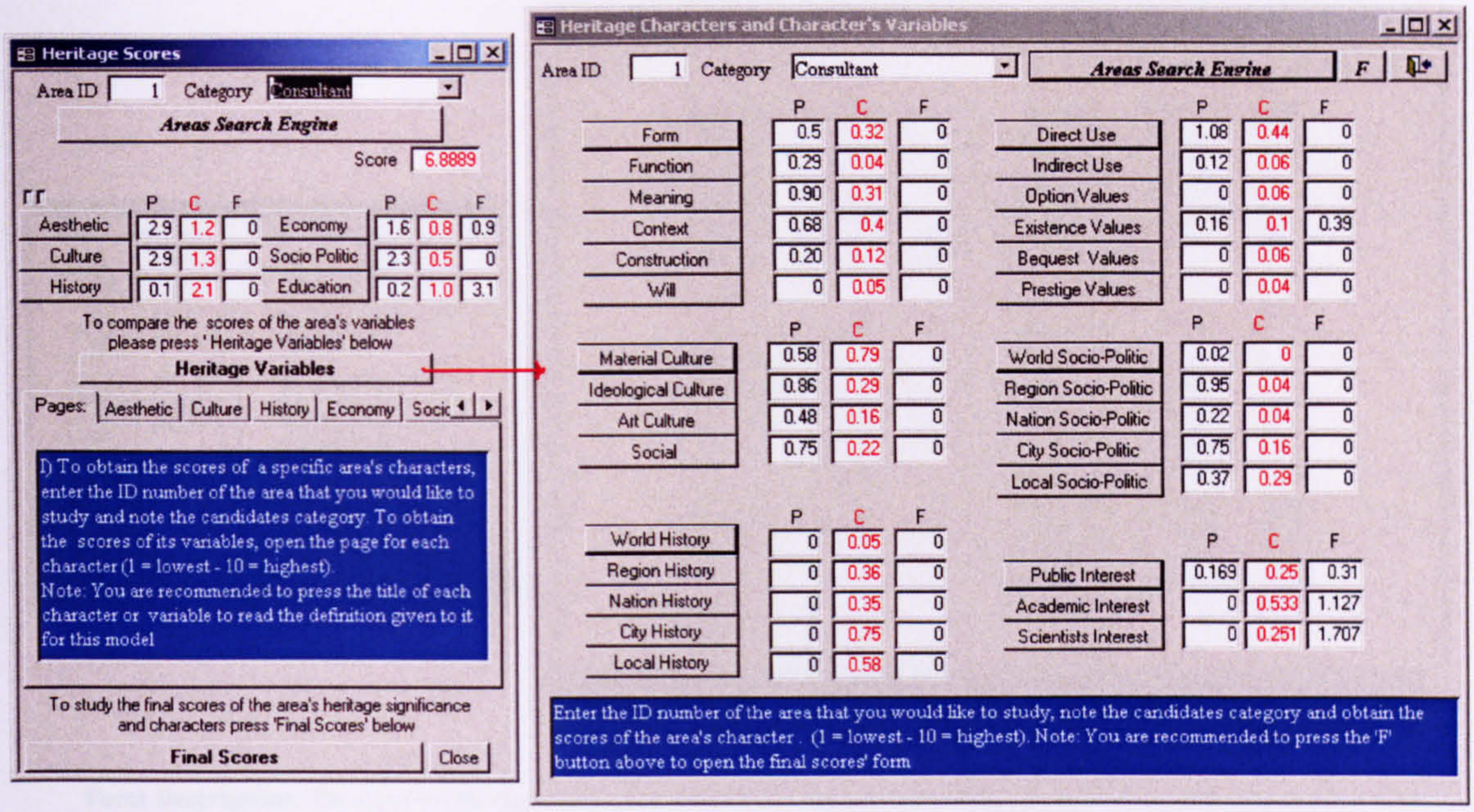
9.4.2.2 *Urban Heritage Variables*

This sub group of information is valuable for those who are looking for a detailed appraisal of urban resources. This sub group focuses on the heritage characters of the resources from the variables that constitute them, and from the stakeholders' views and interests. This covers the extent of differences between the resource's past, present and potential heritage variables, and the range of differences between the character and variables of a specific resource considered in isolation from the others, in comparison with the others, and in unity with them.

Scores (The case of Areas and Building resources)

The information for this group is organized in a separate form, called **Heritage Characters and Characters Variables**. This form is linked to the main form through a command button called *Area's Variables*. This form brings together the resource heritage characters and the variables of these characters.

Figure 9.46 shows the method of accessing the information for this group and the manner of adjusting and reading it.

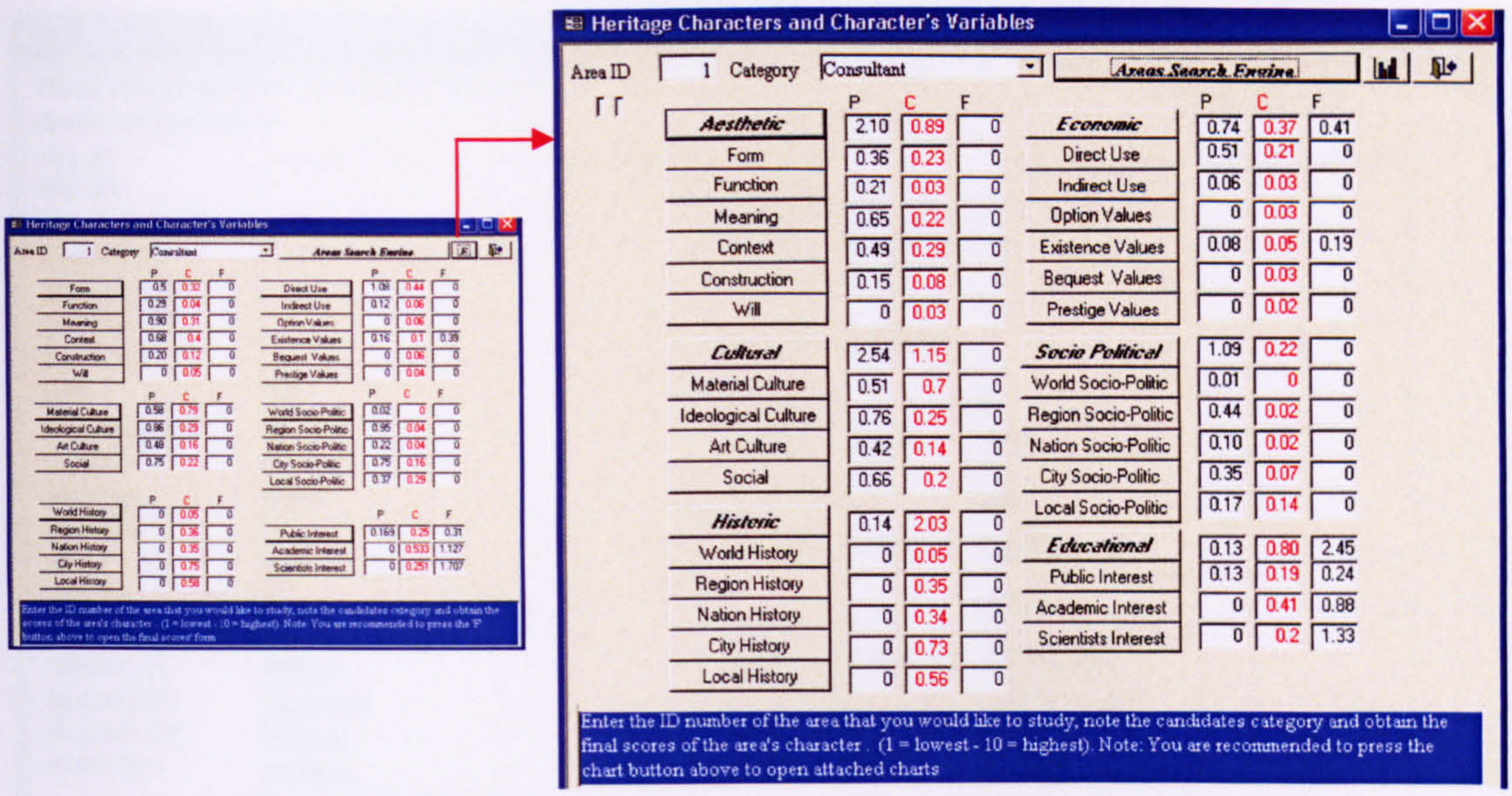


Form Description: These forms offer information about the heritage variables of the appraised urban resource. For instance, they show that for consultants the most important heritage variable of medieval Tripoli is local history (score = 0.75), followed respevtively by the city history, local, nation and region history. These forms also show that the most important aesthetic aspect is the context variable (score = 0,4).

Figure 9.46: Medieval Tripoli heritage variables' scores by consultants

Areas Final Scores

The final scores group follows the same arrangement as the scores group. This information is accessible from the 'F' button in the form named **Heritage Characters and Characters Variables**. The graphical information for this group is accessible from the chart icon, located in the same form. This information is organized into six charts. The first chart is related to the variables of the aesthetic character, the others respectively to the variables of the cultural, historical, economical, socio political and educational characters. This form is linked to the Character Variables' form through a command button. Each of these charts can be adjusted into the nine scenarios mentioned earlier (Figure 9.47).



Form Description: The form on the right displays the scores of the area's heritage variables after multiplying them with the consultants' interest. Again, here the comparison that can be made between the variable scores and final scores is useful when deciding upon an intervention strategy.

Figure 9.47: Medieval Tripoli heritage characters and variables' final scores by consultants.

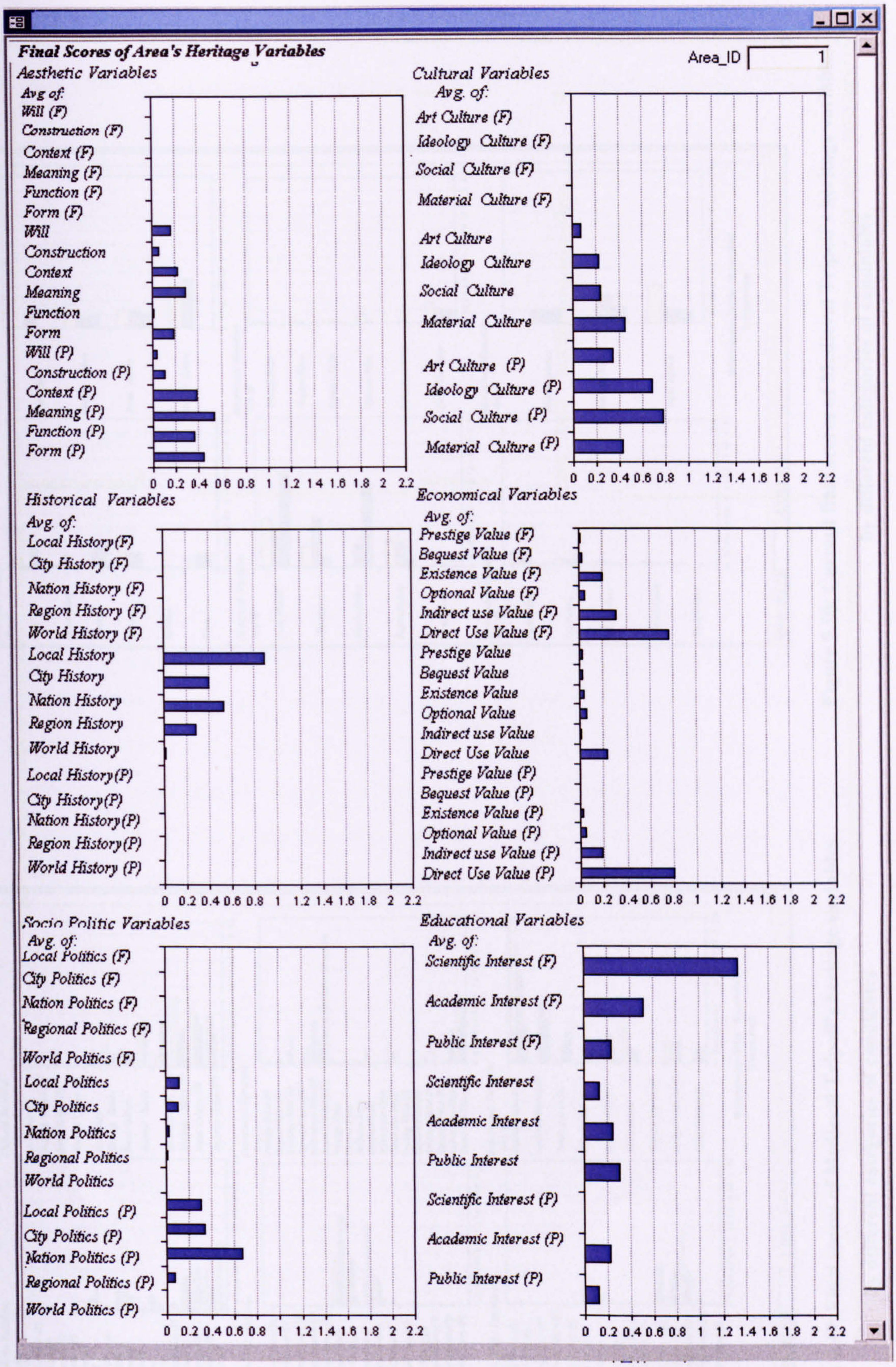


Figure 9.48: Final scores of Medieval Tripoli's heritage variables by all candidates categories

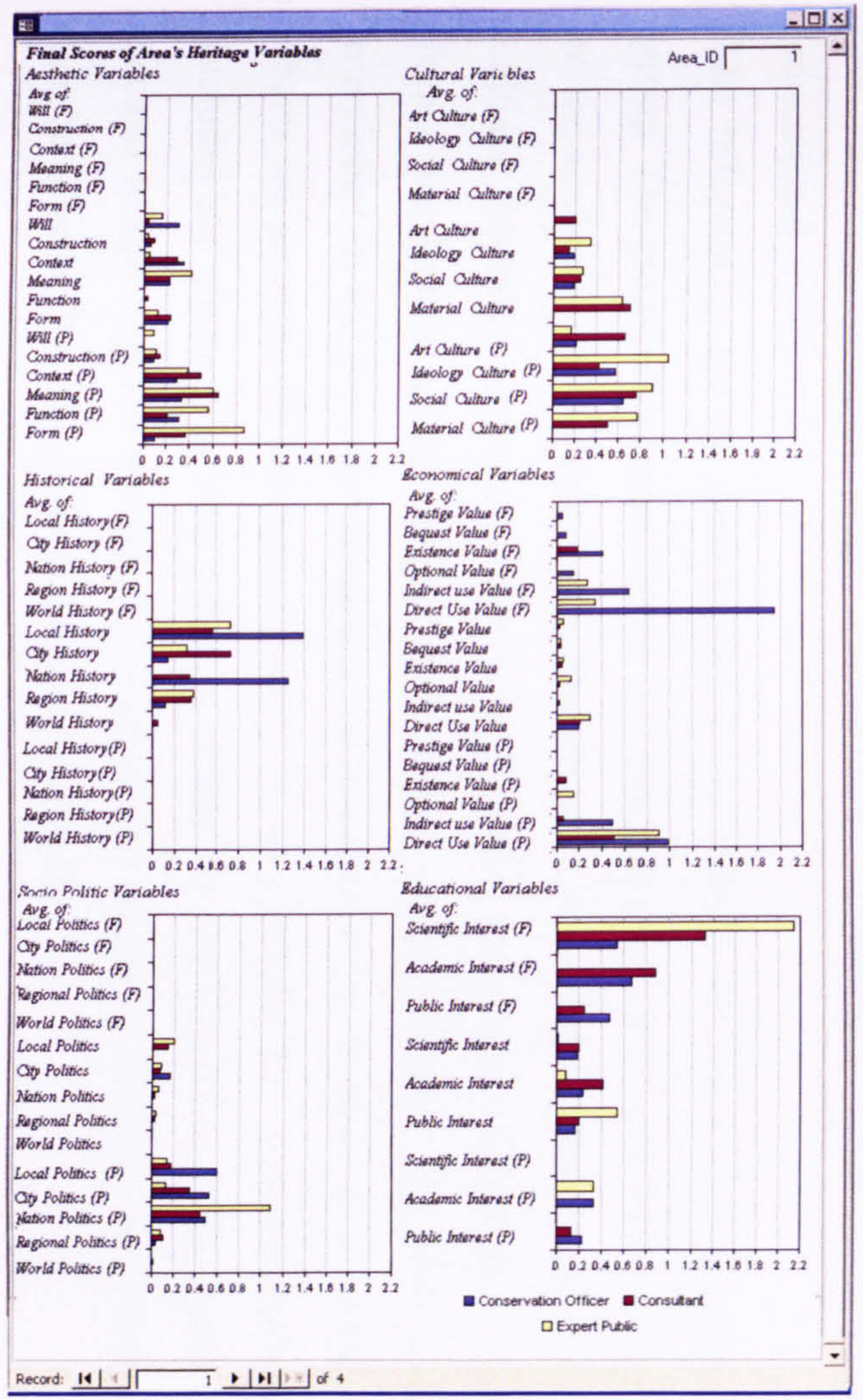


Figure 9.49: Final scores of Medieval Tripoli's heritage variables by different categories of candidates

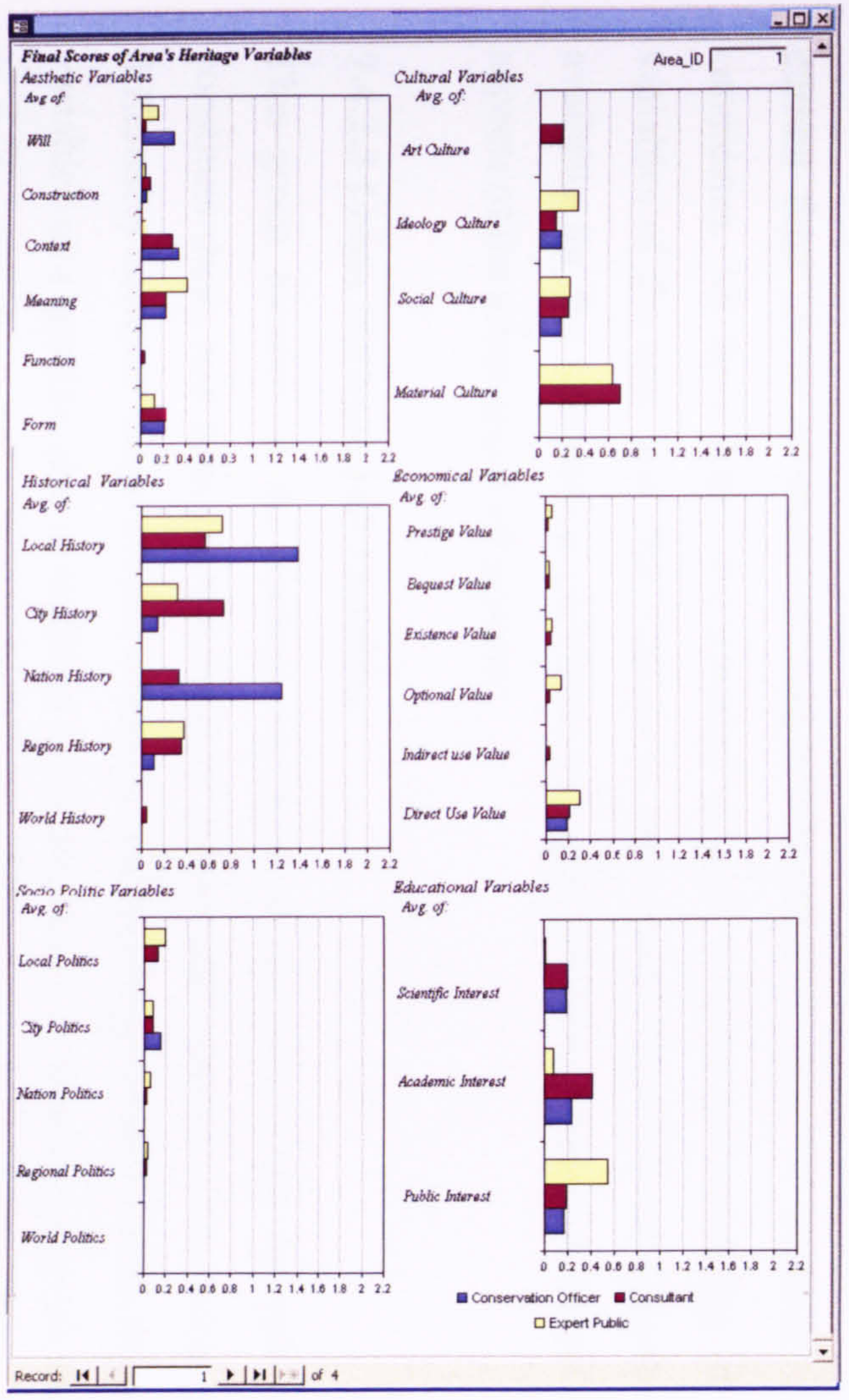


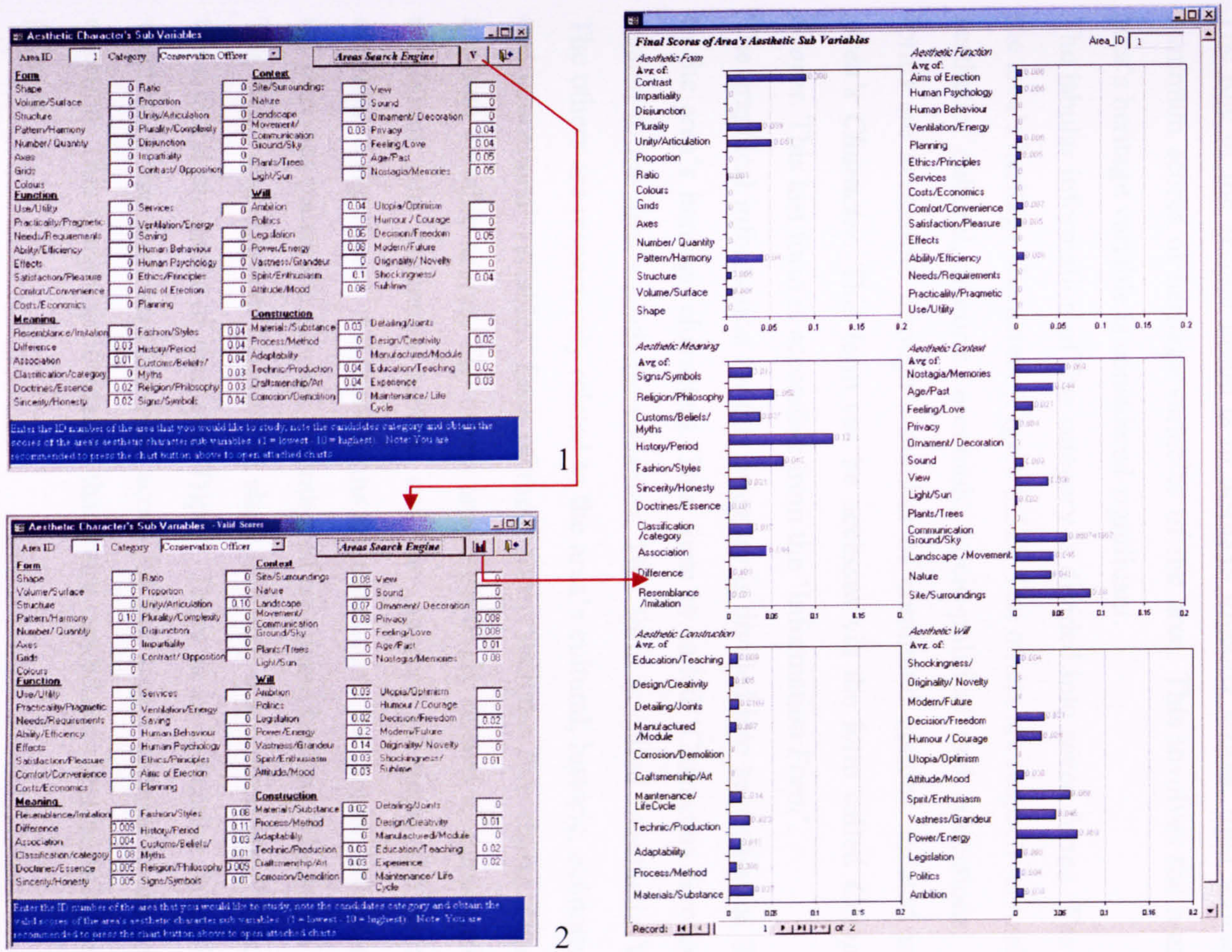
Figure 9.50: Current final scores of Medieval Tripoli's heritage variables by different categories of candidates

The charts in Figure 9.48 show the final score of Medieval Tripoli heritage variables by all the categories of candidates and the charts of Figure 9.49 display Medieval Tripoli heritage variables by different categories of candidates. While the charts in Figure 9.50 display the current final scores of Medieval Tripoli's heritage variables by different categories of candidates. All these forms are intended to give a better understanding of the heritage variables of the area, and their relation to each other. The different adjustments that are available for the information provided, will help decision makers to focus on particular aspects of the urban appraisal process.

9.4.2.3 *Urban Heritage Sub Variables*

This group focuses on the heritage variables of the areas from the sub-variables that constitute them, and from the stakeholders' views and interests. This covers the extent of differences between the area's sub-variables, and the range of differences between the sub-variables of a specific area in isolation from the others, in comparison with the others, and in unity with them. The tabular information for the scores is organized into six separate forms. The first concerns the sub-variables of the aesthetic character. The others concern respectively the sub-variables of the cultural, historic, economic, socio political and educational characters. The first is linked to the aesthetic variables page through a command button called 'aesthetic sub-variables', while the others respectively are linked to the following variables pages: the cultural, historical, economic, socio political and educational.

The information for the final scores group follows the same arrangement as the scores group. The graphical information for this group is divided into six forms. The first is related to the aesthetic sub-variables form. The others concern respectively the sub-variables of the cultural, historic, economic, socio political and educational characters. These graphical forms are linked to the tabular information forms, through the command buttons as mentioned in the previous paragraph. Each of these forms contains a set of charts. These charts are arranged by heritage variables. As an example, the Aesthetic Sub-variable Form includes six charts. The first brings together the sub-variables of the aesthetic form, the second brings together the sub-variables of the aesthetic function, etc. Each set of charts can be adjusted into the scenarios mentioned earlier.



Form Description: The first chart of this figure shows that contrast and plurality, articulation and harmony, structures and volumes are the aesthetic form of medieval tripoli that pleases its stakeholders. This chart also displays the final scores of these variables. While the other charts provide similar information concerning Medieval Tripoli aesthetic function, meaning, context, construction and will.

Figure 9.51: Current heritage sub variables scores of Medieval Tripoli by conservation officers (1). Current heritage sub variables final scores of Medieval Tripoli by conservation officers (2). Current heritage sub variables final scores of Medieval Tripoli by a unity of candidates categories (3).

9.4.3 Comparative Urban Heritage Scores

The Comparative Heritage Scores information is divided into two groups:

- The first concerns the area's heritage characters.
- The second concerns the variables that give the area its significant heritage characters.

The *role of the first group* is to displays together scores, final scores, maximum, and minimum scores of each heritage character of the area. This involves the number of times the area's heritage character is considered significant.

The role of the second group is to displays together scores, final scores, maximum, and minimum scores of heritage variables of the area. This involves the number of times the area's heritage variable is considered significant.

The tabular information of this category is divided into seven forms. The first is related to the area's heritage characters (Figure 9.52). The others are respectively related to the area's aesthetic, cultural, historic, economic, socio-political and educational variables. These forms are accessible through a number of command buttons, located in the form called ***Area's Character.*** This form can be accesses via the form called ***Comparative Heritage Scores.*** This last form is accessible from the 'Information Form'.

The graphical information for this category is divided into seven forms. The first is related to the area's heritage characters. This form is called 'Characters Scores'. The second is related to the area's aesthetic variables. This form is called 'Aesthetic Variables Scores'. The others are respectively related to the area's cultural, historic, economic, socio-political and educational variables. Each of these forms includes five charts. One is related to the heritage variable scores. The others are respectively related to same variables final score, maximum and minimum scores, and the number of times the area's variable was considered significant. All these forms are attached to the tabular information mentioned in the previous paragraph through a number of command buttons (Figure 9.52).

The forms and charts of Figure 9.52 show that only one conservation officer has considered the cultural character of medieval Tripoli. There is an indication from the model that the validity of the score and the final score for the area's cultural character must remain in question. This is also an indication that more candidates must be involved in the appraisal process.

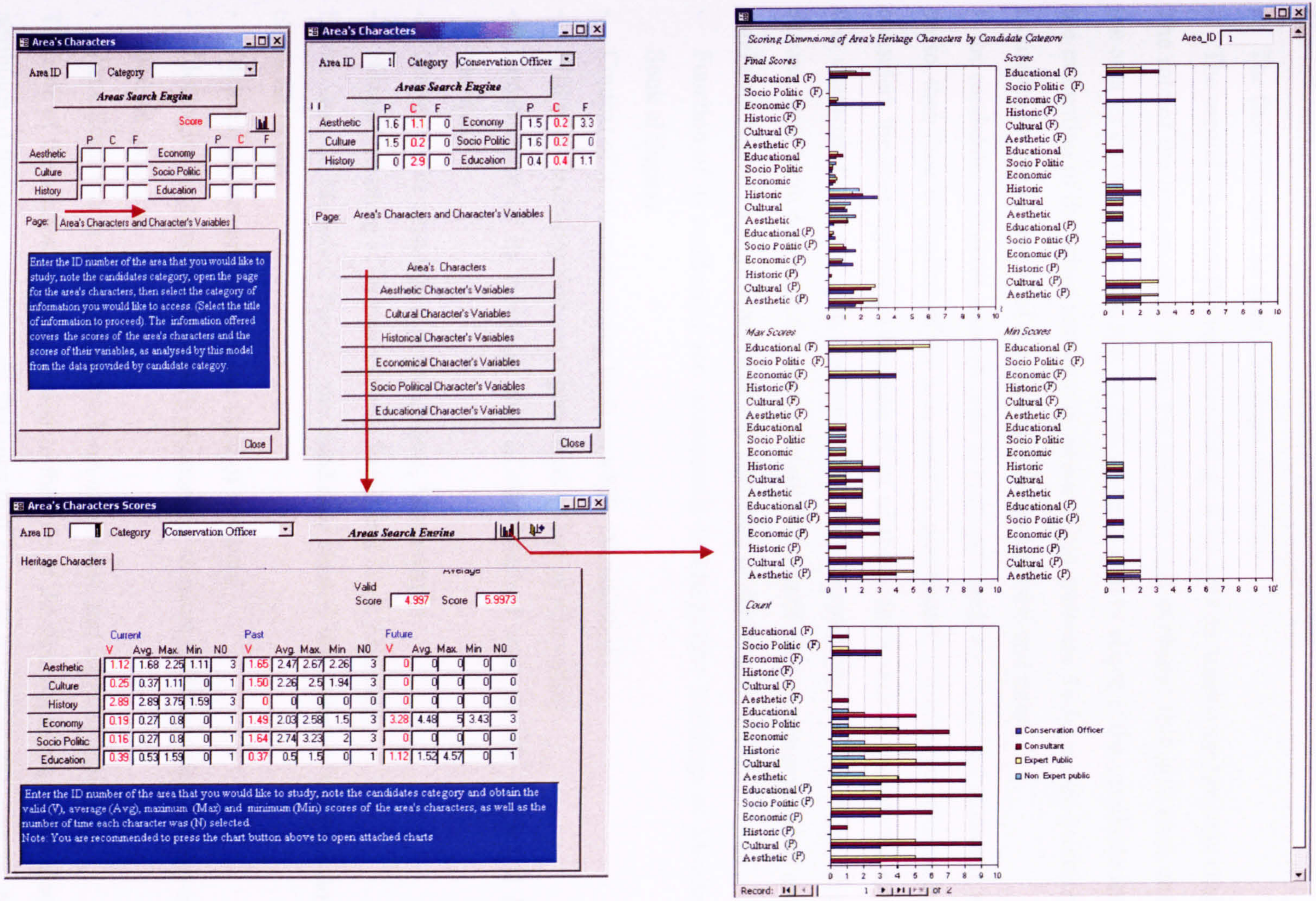


Figure 9.52: Mdieval Tripoli comparative heritage scores by different categories of candidates

9.4.4 Urban Heritage Elements and Attributes

The information of this category is divided into two groups:

- The first concerns the area's heritage characters.
- The second concerns the variables that give the area its significant heritage characters.

The role of the first group is to list the elements and attributes that give each character of the area its significance. The role of this group is also to check if the candidate involved in the evaluation of the urban resource is aware of his answers. To be aware he/she must give examples for the character of the area he/she has selected and rated.

If the candidates are given enough time to nominate such elements and attributes but fail to do so, then their evaluation of the area must be questioned. For instance, if a candidate who considers the area significant because of its aesthetic form cannot specify the elements of this character that have such aesthetic form, nor the attributes of this form, then his/her answer must be in doubt. In the case of medieval Tripoli that was appraised as an area, the candidate related its significant aesthetic character to the (Figure 9.53):

- Function of its residential and commercial buildings (the buildings of Mouhaitrah and Souk al Sagha).
- Context of its districts, being built on a hill. (Mouhaitrah)
- Will of its buildings that are regenerated. (Khan al Khayattin)
- Construction of its buildings that is characterised with its life cycle (Al Mansouri Mosque).
- Context of its nostalgic districts (Nouri, Mouhaitrah)
- Historic meaning of its roads (Souk Sagah and Souk Attarine).

In the case of Medieval Tripoli, the candidate related the resource's significant cultural character to the:

- Material culture produced in the form of furniture.
- Ideological culture that is mostly apparent in religious buildings (belief) and residential houses (privacy).
- Art culture that is produced in the form of wooden and copper engraving.

The role of the second group is similar to the role of the first but this time the elements and attributes of heritage variables are the ones that must be listed and checked. In the case of Medieval Tripoli, the candidate related the resource's significant aesthetic form variables to the:

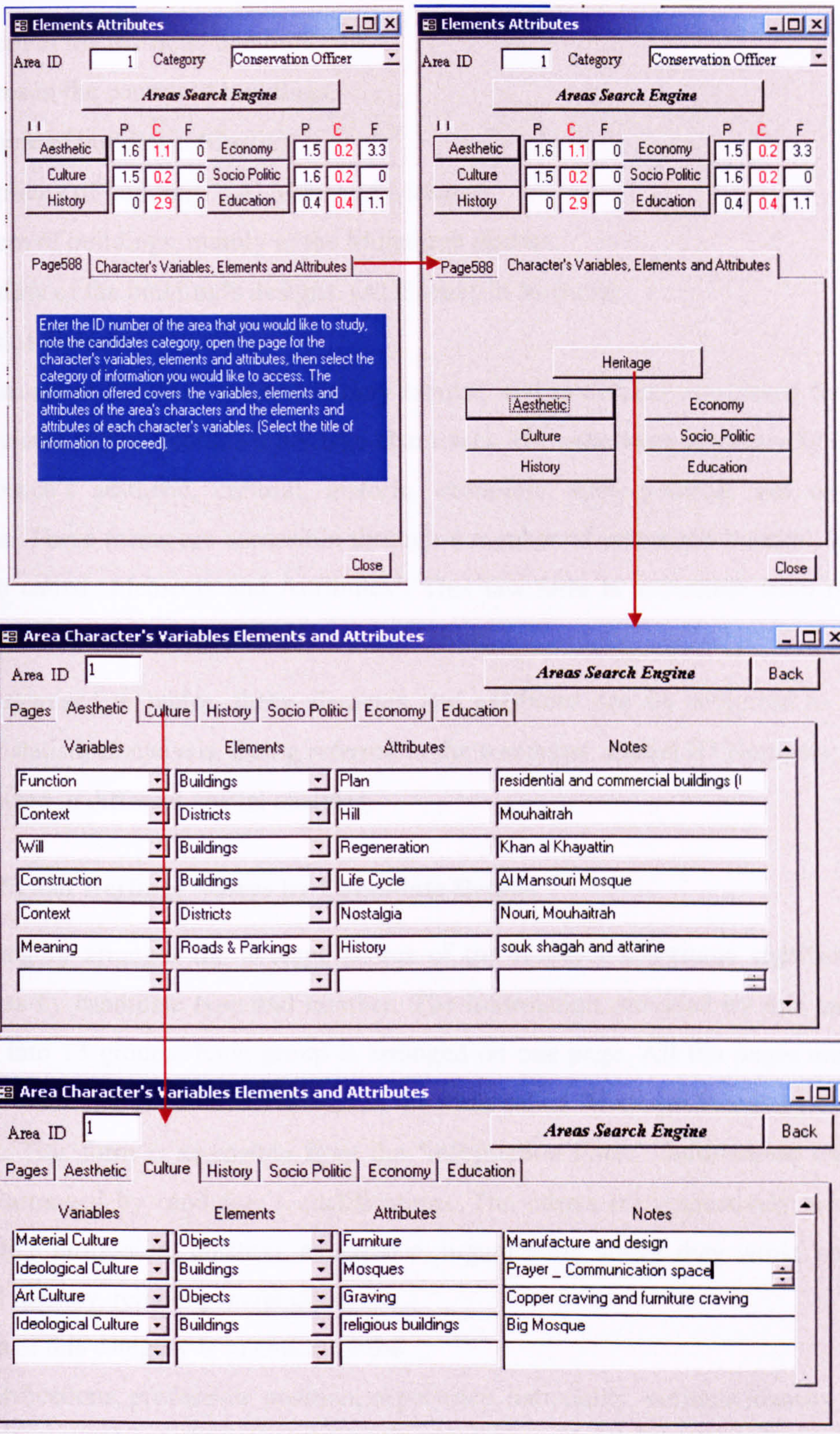


Figure 9.53: Medieval Tripoli's aesthetic and cultural elements and attributes

- Pattern of the districts' contours.
- Spaces in the courtyard buildings.
- Volume of buildings. (Castle)
- Simplicity of buildings. (Al Mansouri Mosque)
- Pattern of buildings, mainly in the Muhaitrah district.
- Plurality of the building's designs. (Al Butasiyah Mosque)
- Axis of districts.

The information for this category is only tabular, and is divided into seven forms. The first is related to the resource's heritage characters. The others are respectively related to the resource's aesthetic, cultural, historic, economic, socio-political and educational variables. These forms are accessible through a number of command buttons, located in the form called 'Elements and Attributes'. This last form is accessible from the 'Final Information Form'.

Being organised in tables, these elements and attributes can be subjected to different kinds of statistical analysis. Being referred to the resources' spatial ID Numbers, they can be subjected to different spatial analysis.

9.4.5 Urban Heritage Scores by Candidate Details

This category arranges the average scores of the resource's heritage significance and characters by candidate type and number. The information provided by this category is divided into 13 groups. Each group is arranged on one page. All the pages are brought together under one tab control, located in the form called 'Heritage Scores by Candidates Details'. This form is accessible from the 'Information Form'. Information on the first page is arranged by candidate's qualifications. The others are respectively arranged by candidate's profession, position, experience, organisation where they work, nationality, political identity, religion, social class, etc.

The role of this category is to check for the

- Qualifications, profession, position, experience, nationality, political identity, religion, social class etc. of the candidates involved in the resource appraisal. That is a test of the involvement of various kinds of stakeholder in the appraisal process.
- Number of candidate by qualifications, profession, position, experience, nationality, political identity, religion, social class etc. This is a test of the equal and homogenous involvement of stakeholders in the appraisal process.

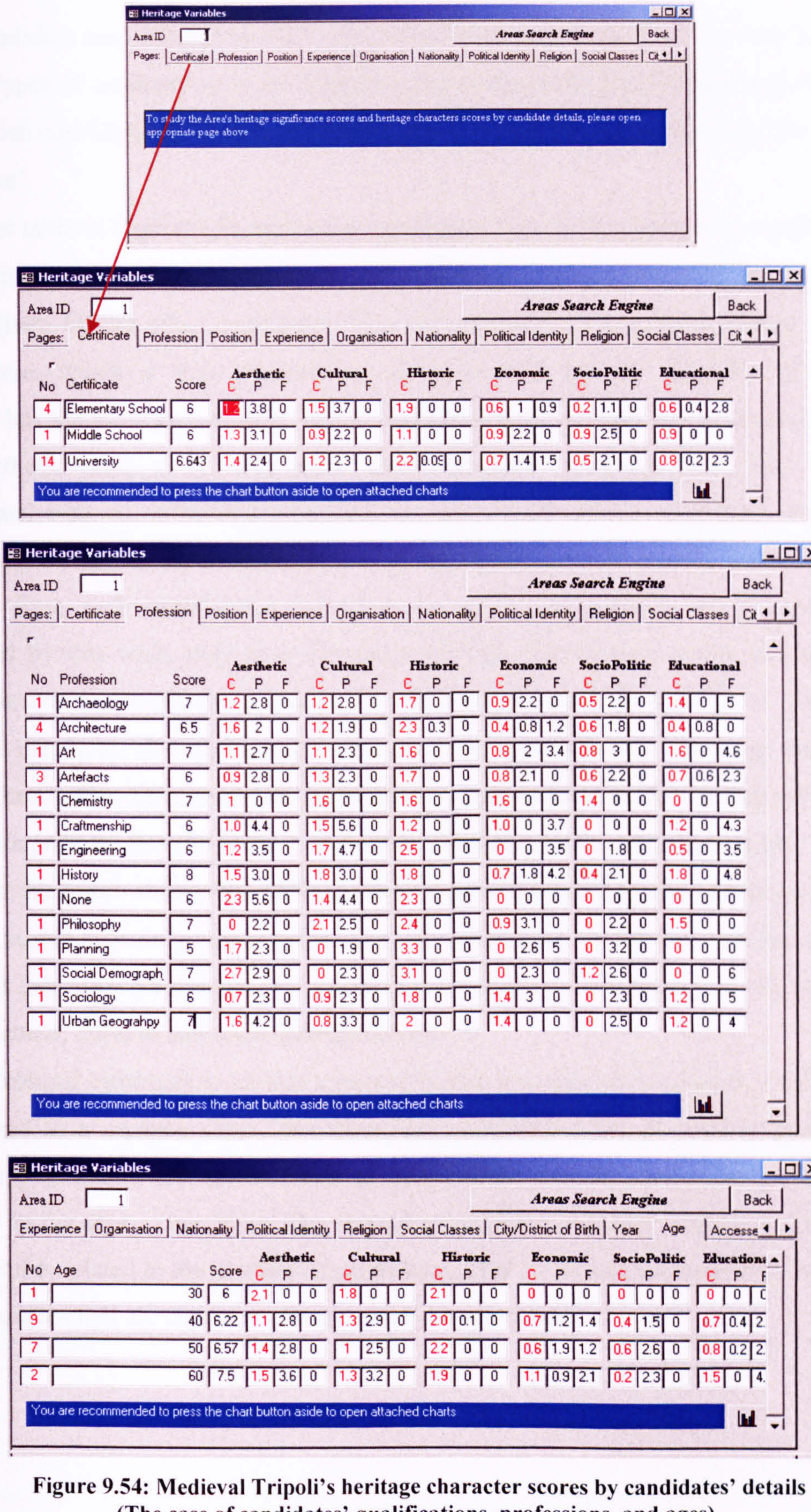


Figure 9.54: Medieval Tripoli's heritage character scores by candidates' details (The case of candidates' qualifications, professions, and ages).

The candidate may attempt to affect the result of the appraisal. This is a way to identify which types of candidate give the highest score to the area's significance and characters, and which candidates give them the lowest and is a step toward recognising 'for whom to conserve'.

The first table in Figure 9.54 shows that candidates who hold a university certificate give the heritage significance of the medieval centre of Tripoli scores that are higher than those given by the other candidates. The second table in this figure shows that most candidates, whatever their professions, agree that the historic character of medieval Tripoli has the most significance. Those candidates who have no real profession consider the aesthetic value of the area more significant then its historic one. The interviews conducted with all candidates produced the same result. Those candidates who have a university certificate are more interested in the significance of Tripoli, and they wish to benefit from such significance to revive the area's old position and to revitalise it. Directed by this wish, they give the area's heritage significance scores that are higher than the scores given by those candidates who have no university certificate. The second table in the figure also demonstrates that historians give the area's heritage significance the highest value. This result can be justified to some extent by the findings of the same table that indicate that the historic character of the area is the most significant. The third table in the figure shows that older candidates give the heritage significance of the area higher scores than do younger candidates. The interviews conducted with the candidates showed that older candidates are generally more aware of the history of the area, at the architectural, cultural and socio-political levels.

The graphical information for this category is also arranged in 13 groups. Each group is organised in a separate form. The forms are accessible from the tabular pages of this category, as mentioned above. Each of these forms contains three charts. The first is related to the area's characters. The second is related to the area's heritage significance. The third is related to the number of candidates. This set of charts is useful for comparing the resources that are significant to any group of candidates.

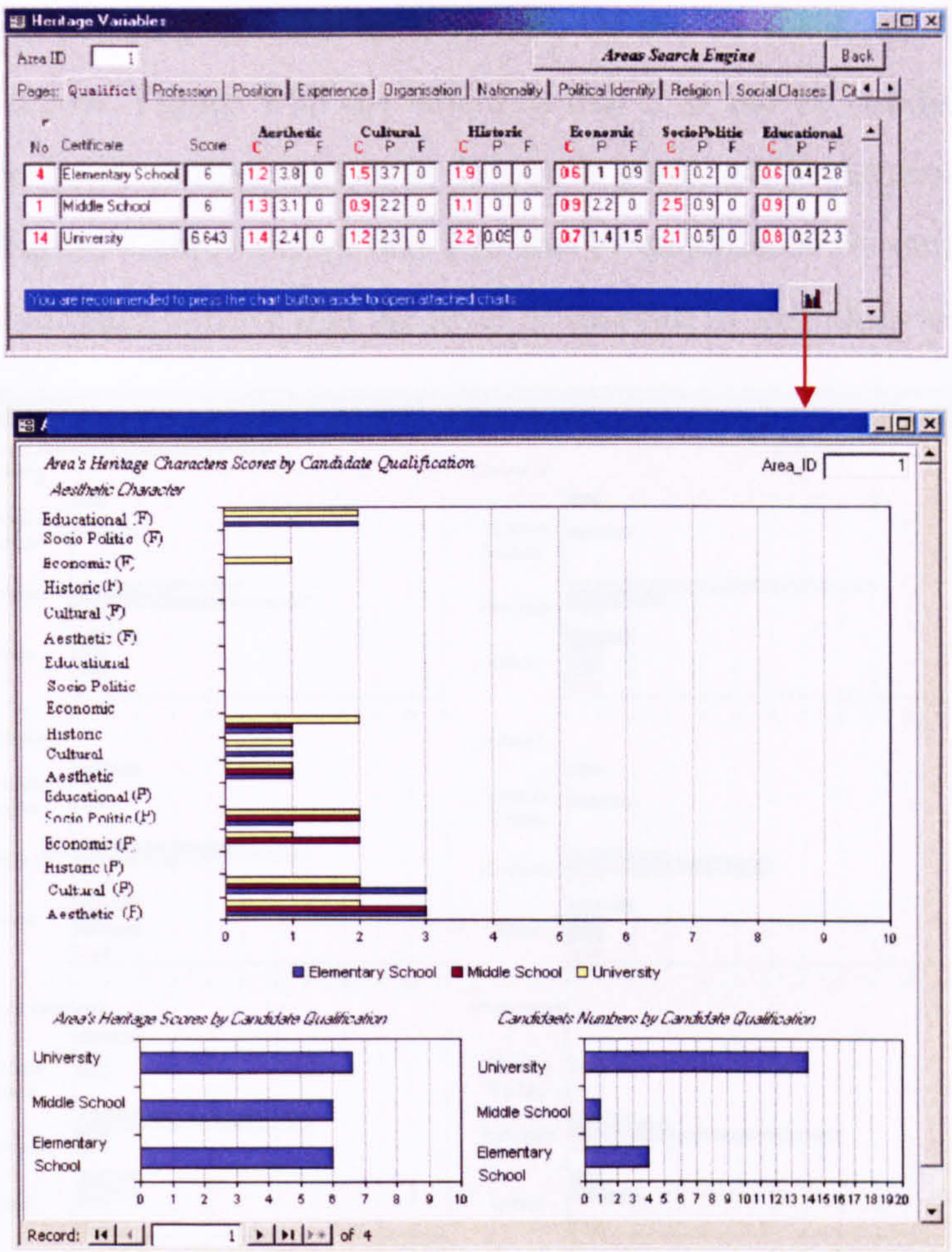


Figure 9.55: Medieval Tripoli's heritage character scores by candidates' Details (The Case of candidates' qualifications).

9.4.6 Urban Heritage Details

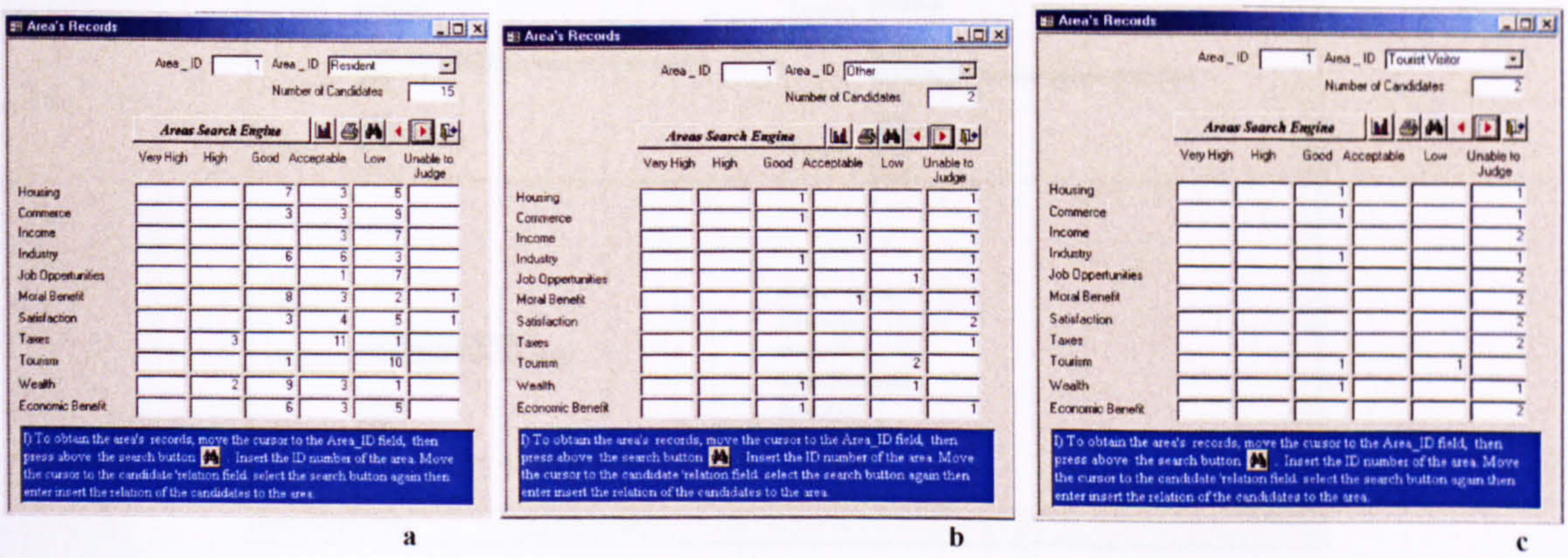


Figure 9.56: Medieval Tripoli's records obtained from candidates (Tabular presentation).

Figure 9.56(a) shows that out of the 19 candidates, 15 are residents of Tripoli. From these residents 7 state that the level of housing in medieval Tripoli is good, 3 say it is

acceptable while 5 consider that the level is low. Of the 15 residents, 10 stated that the level of tourism is low. Figure 9.56 (b) indicates that 2 of the 19 candidates are tourists. One of the tourists believes that tourism in Tripoli is good, while the second considers the level to be low. Figure 9.56(c) shows that 2 of the 19 candidates are neither residents nor tourists. These candidates believe that the level of tourism in Tripoli is low.

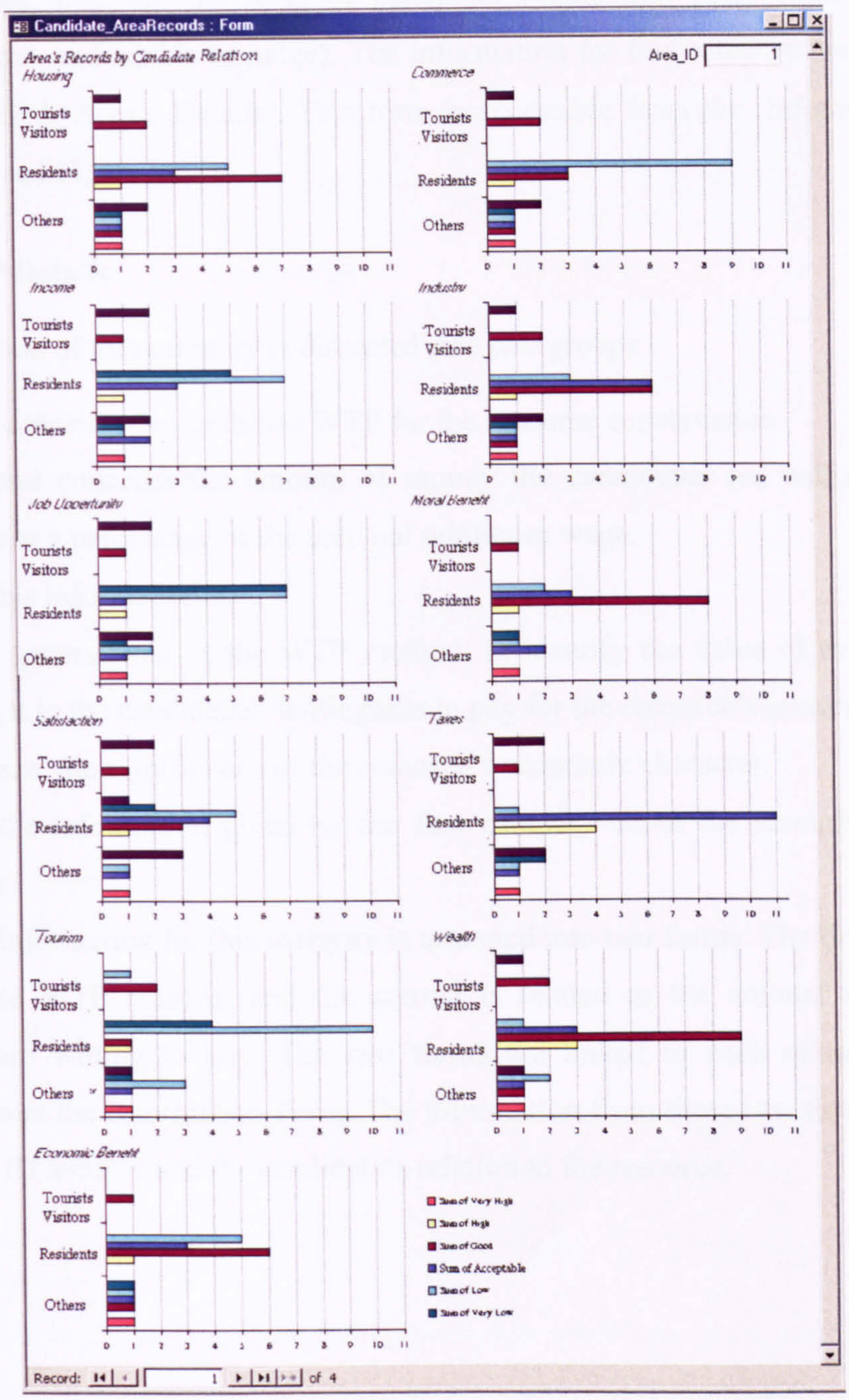


Figure 9.57: Medieval Tripoli's records obtained from candidates (graphical presentation)

The main role of this category is to check candidates' background knowledge about the appraised area. It is also a way of surveying their views about some of the area's facilities. Here the area's positive and negative aspects can be made clear.

The tabular information for this category is arranged by the area's ID number, candidate's relation to the area and the level of candidate satisfaction (very high, high, good, acceptable, low, and unable to judge). The information for this category are organised in one form, called 'Area's Details'. This form is accessible from the 'Information Form'. (Figure 9.56 and Figure 9.57).

9.4.7 WTP Details

The information of this category is dissected into two groups

- The first concerns the candidate WTP for the resource conservation
- The second concerns the amount of money the candidates are willing to pay by reference to a percentage of the national minimum wage.

The role of this information is:

- Like the general role of the WTP method, to identify the value of the resource by referring it to the candidates' willingness to pay for the resource's conservation.
- To measure the significance of the resource's economic character.
- To test the information given by the first category about the resource's economic character.

The tabular information for this category is arranged into two forms. The first is related to the candidate WTP reasons, and the second is related to the amount of money the candidates are willing to pay. The two forms are linked to each other. The first is accessible from the Information Form. The information from these two forms is arranged by resource ID number and the candidate's relation to the resource.

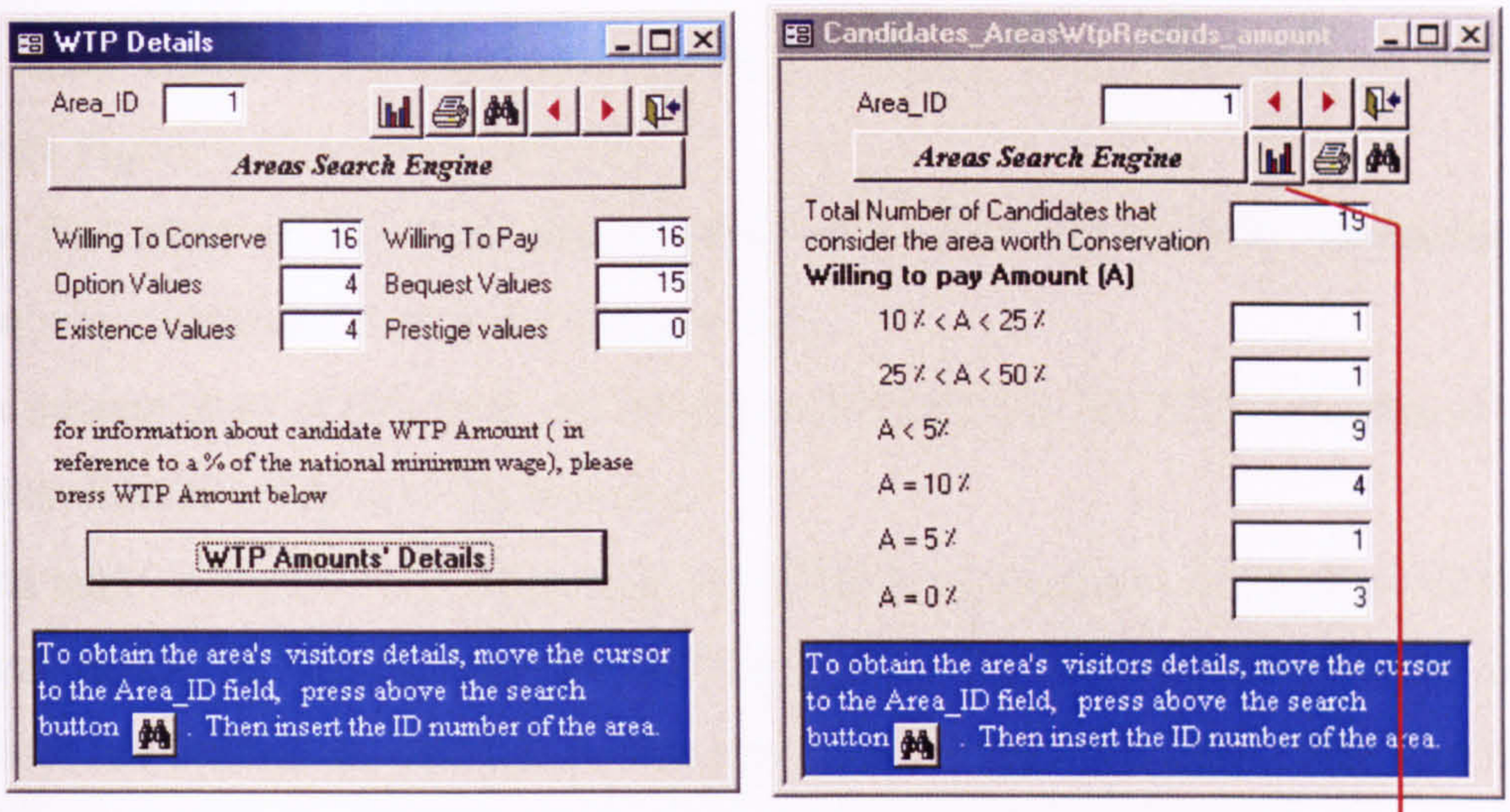


Figure 9.58: Medieval Tripoli's WTP records obtained from candidates (Tabular presentation)

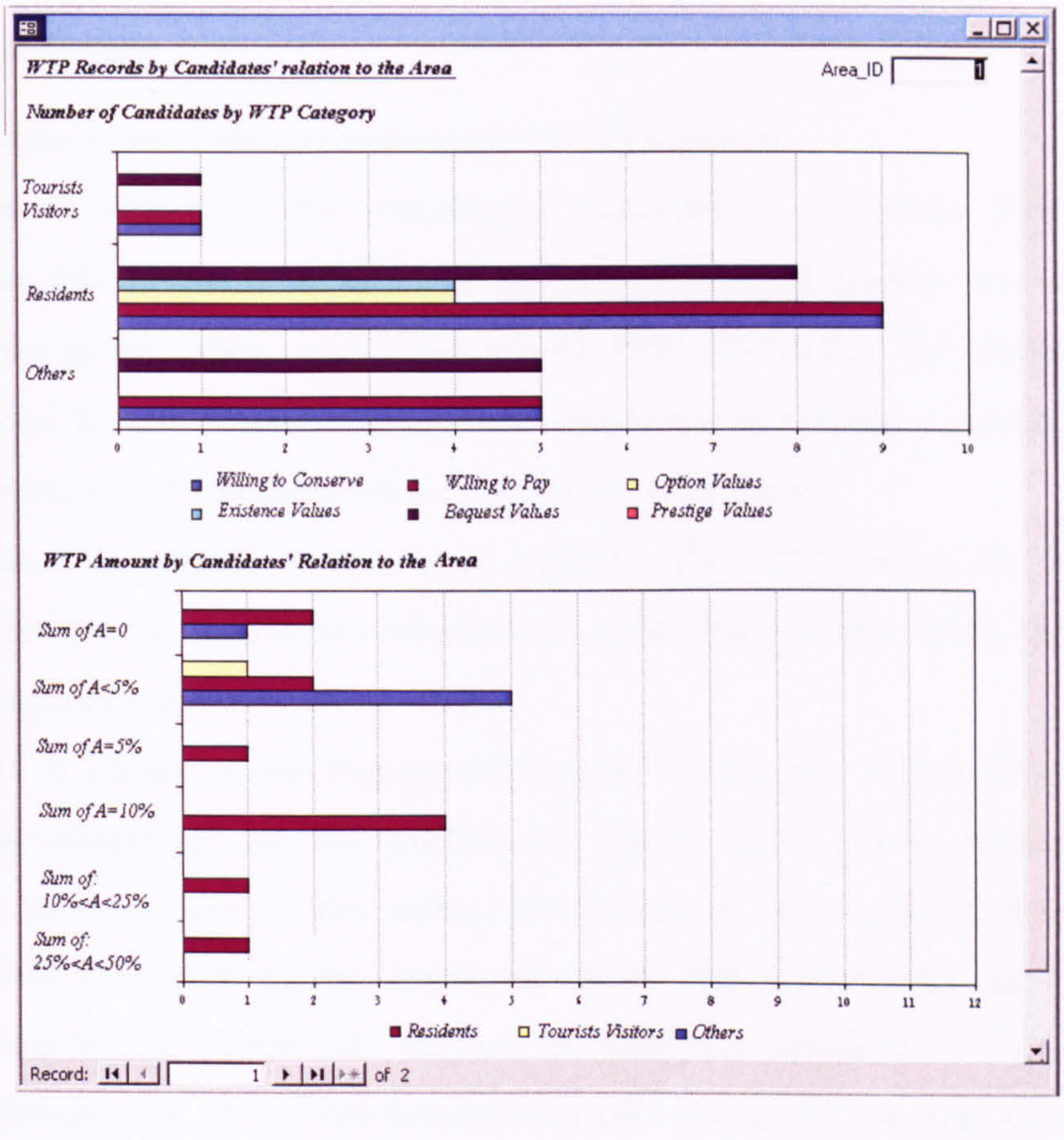


Figure 9.59: Medieval Tripoli's records obtained from candidates (graphical presentation)

The graphical information for this category is arranged in one form, called 'Willing to pay Record'. This form is accessible from the first tabular form described in the paragraph above. The form includes two charts. The first is related to the candidates count by willing to pay categories (existing value, prestige value, bequest value, etc). The

second chart concerns the candidates count by willing to pay amounts (A =5%, 10%, etc.). See Figure 9.58 and Figure 9.59)

- The first chart of this form can be adjusted to identify the WTP categories of the area's by candidates' relation to the resource.
- The second chart of this form can be adjusted to identify the WTP amounts of the area by candidates' relation to the resource.

The first table of Figure 9.59 shows that out of the 19 candidates, 16 wish to conserve the medieval centre of Tripoli and are willing to pay for its conservation. 15 of these candidates are willing to pay for its bequest value, 4 for its option value and 4 for its existence value. The second table show that of the 19 candidates, 9 are willing to pay less than 5% of their annual salary for conserving the area's heritage significance.

9.4.8 Visits Details

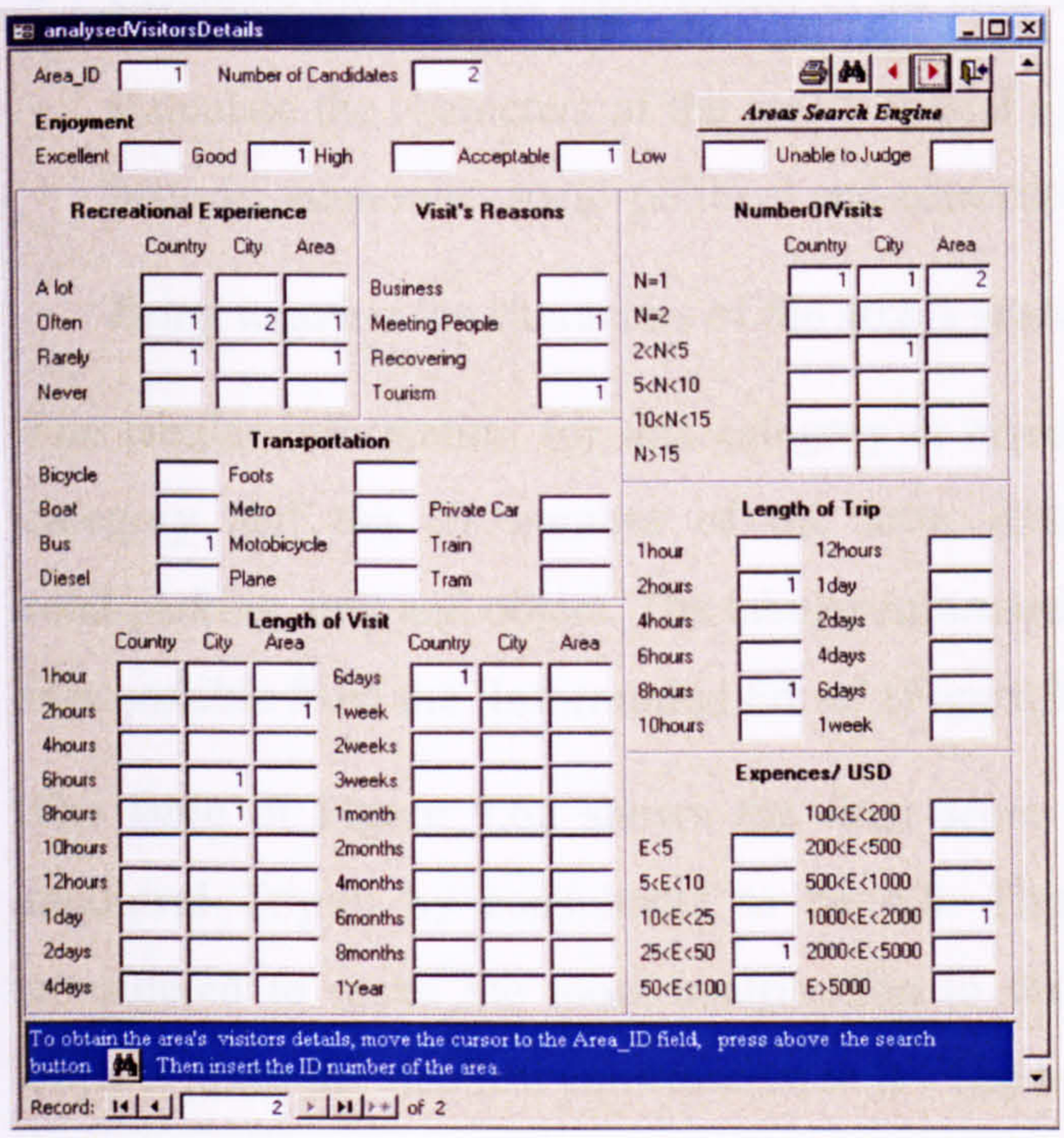
The information in this category is divided into eight groups:

- The first is related to the recreational experience of visitors. The information regarding this group is categorised by the number of visitors for each level of experience (a lot, often, rarely and never). The information for this group is also categorised by candidates' recreational experience in visiting a similar resource or similar area, city and country where the resource is located.
- The second is related to the visit reasons. The information for this group is categorised by the number of visitors for four visit reasons (Business, meeting people, recovering and tourism)
- The third is related to the transportation used for the trip. The information for this group is categorised by the number of visitors using eleven transport facilities (bicycle, boat, bus, diesel, foot, metro, motorcycle, plane, private car, train and tram).
- The fourth is related to the length of visits. The information for this group is categorised by the number of visitors for each visit period (1, 2, 3 etc hours, day, Week, month, year, etc). Here the period-spent visiting the resource is also compared with the period spent visiting the city and the country.
- The fifth is related to visitors' level of enjoyment. The information for this group is categorised by the number of visitors for each degree of enjoyment (excellent, high, good, acceptable, low, unable to judge).
- The sixth is related to the number of visits. The information for this group is categorised by the number of visitors for each group of visits numbers (I, 2 visits etc.)

- The seventh is related to the length of the trip. The information for this group is categorised by the number of visitors for each length of trip (1, 2 hours, day, week).
- The eighth is concerned with visits expenses. The information of this group is categorised by the number of visitors for each amount of visit expenses (5$, <5$, <10$, etc.)

The role of this category is:

- Like the role of travel cost, to gather the significance of the resource through studying the visits made to it and the cost the visitors are willing to pay to visit the resource.
- Studying the resource's economic character.
- Studying the resource's attractiveness, the number of visits to it, the quality of its visitors, etc. The aim is not only to study the tourism opportunities of the resource but also to estimate the level of threat that visitors might pose.



Form Description: This form shows that 2 of the 19 candidates were visitors. One of these visitors was a tourist, while the second was visiting Tripoli to meet some people. One of the visitors greatly enjoyed his/her visit, the second considered their level of enjoyment to be acceptable. One of the visitors had rarely visited a country and area such as this, so he/she had little recreational experience of such visits etc

Figure 9.60: Medieval Tripoli's visits records as obtained from visitors.

The tabular information for this category is arranged in one form called 'Visitors Details'. This form is accessible from the 'Information Form'. The information on this form is arranged by the resource's ID number and the reason for the visits.

No graphical information exists for this category.

9.4.9 Context Details

The information of this category is divided into three groups:

- The first is related to the area's significance.
- The second is related to the area's characters.
- The third is related to the area's spatial significance.

The role of this category is to:

- Bring together the heritage significance of the appraised area and the heritage significance of the resources that constitute its spatial context.
- Bring together the significant characters of the appraised area and the significant characters of the resources (Districts, buildings, lots, etc.) that constitute its spatial context.
- Calculate the heritage significance of the area's spatial context.
- Calculate the characters of the area's spatial context, including its aesthetic, cultural, historic, economic, socio-political and educational characters.
- Bring together the characters of the area's spatial context.

The tabular information for this category is organised by scale of scoring, candidate's category and the ID number of the area, district, lot, building, garden/landscape, road/parking, unit and object. The tabular information is organised in one form. This form is accessible from the 'Information Form' (Figure 9.61 and Figure 9.62).

The table of Figure 9.62 shows the final score given to the heritage significance of medieval Tripoli by consultants to be 6.8. This table also notes that buildings are considered to make the most contribution to this significance, while roads and other objects make the smallest contribution to it. The table shows that the historic character of the area, and its buildings, make the most contribution to its heritage significance. These findings are valid for the reason mentioned earlier in the findings from the other tables; but what are not valid in this table are the findings for roads and parking. The observations about medieval Tripoli, and the interviews with the candidates showed that the pedestrian roads in this area have a critical role in its heritage significance.

The graphical information is organised into one form. The form contains six charts. The first chart identifies the aesthetic character of the area and the aesthetic character of the resources that constitute its spatial context. The others identify respectively the cultural,

historic, economic, socio-political and educational character of the area, and the aesthetic characters of the resources that constitute its spatial context.

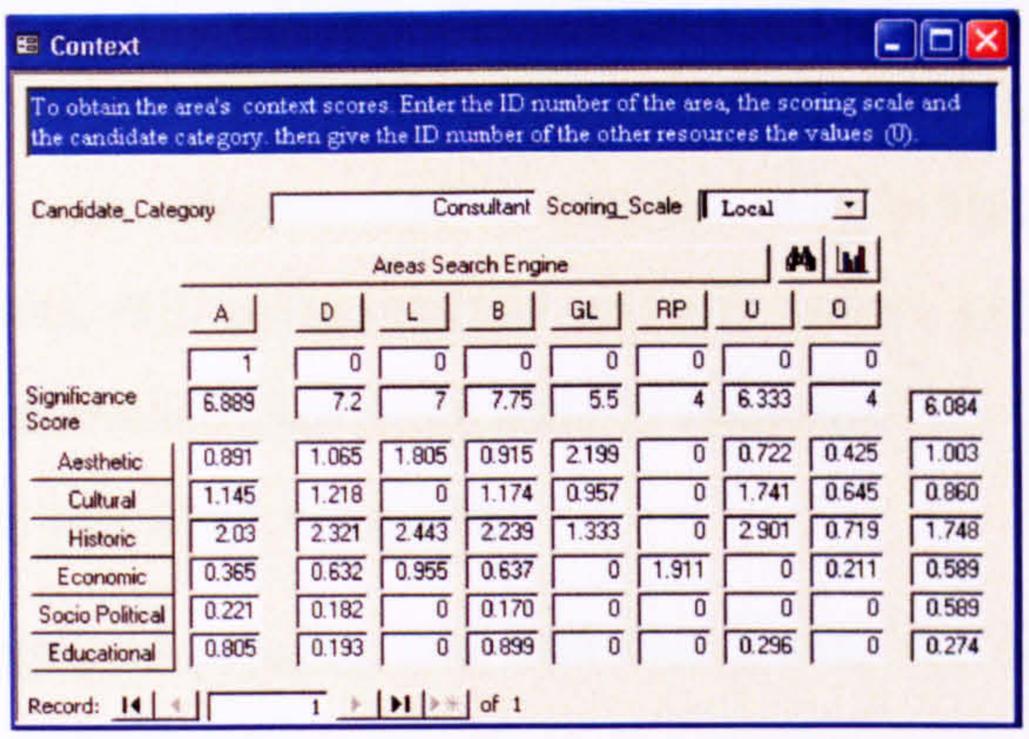


Figure 9.61: Medieval Tripoli's character final scores by candidates' category and scale of measurements

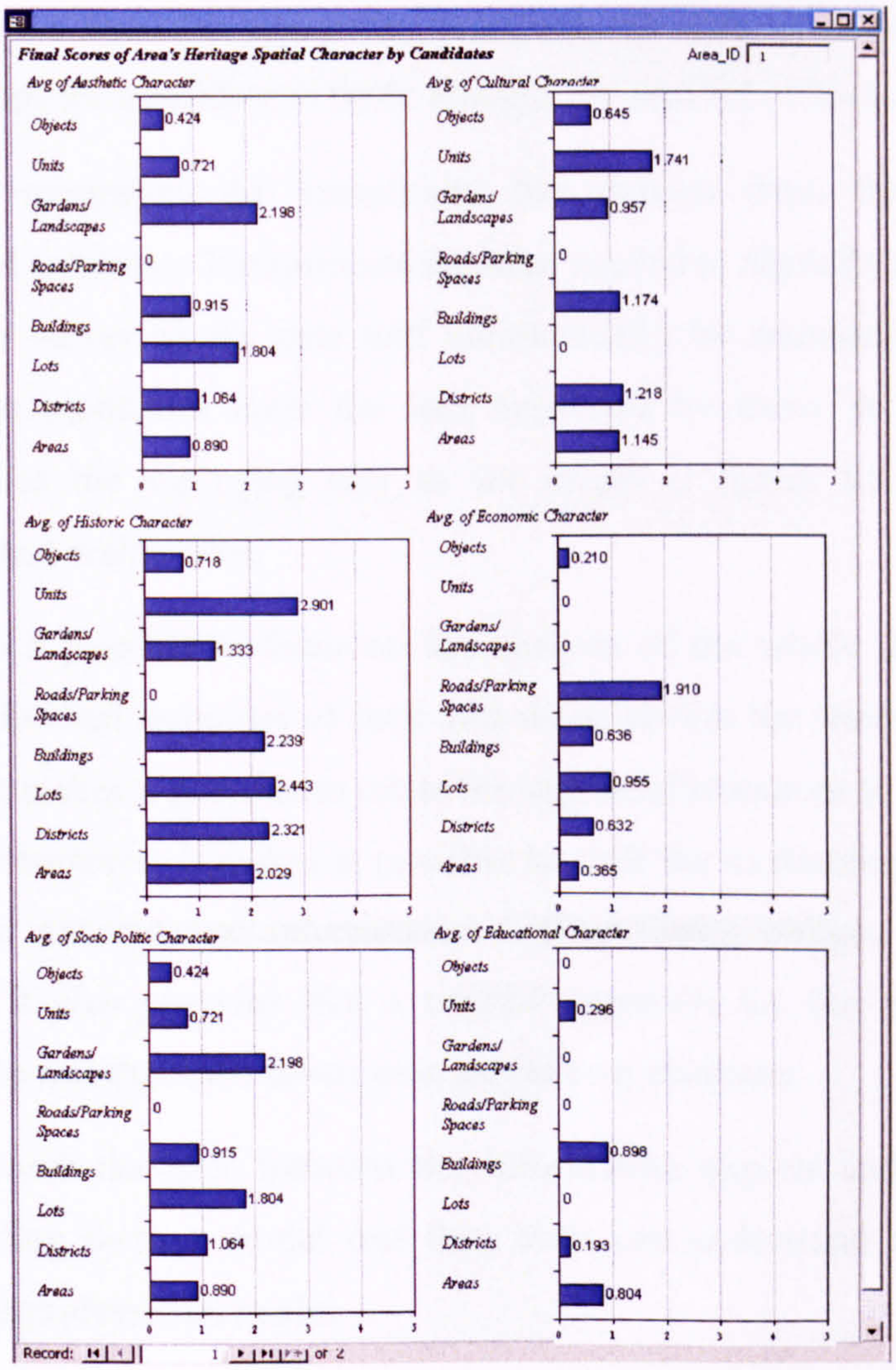


Figure 9.62: final scores of Medieval Tripoli's heritage context by candidates' category and scale of measurements

9.5 Advantages and Disadvantages of the Model

The model has a number of **advantages**. It provides a unified categorisation of the urban heritage stakeholders followed by a unified categorisation of the urban heritage resources and values, it identifies each category and its concept, then it begun to involve the urban heritage stakeholders with this categorisation and the names given to each. As such it indirectly teaches the stakeholders upon the kind of language that can be used to describes an urban heritage area or any of its resources

It divides the urban appraisal process into different levels of complexity, helping each local authority to choose the level it can afford and guiding each stakeholder to the level of information he/she is qualified to provide. It minimizes the complexity of the urban appraisal process by applying the hierarchical concept on all the stages. It also minimizes the biases that derive from the researcher existence, the lack of instructions, the short memory, etc. It helps the candidate to think thought the conflict of his/her answers

This model also minimizes the complexity that derives from the lack of proper documentation and archiving. It minimises the time needed to digitally document the data gathered from the survey as the data will automatically be documented in the proper locations once the candidates enter the data requested by them. It can also link the visualisation tool to the surveying tool as the model is linked to existing drawing, pictures, 3d or virtual reality files.

The model makes it possible to focus on the analysis of the whole urban area and the analysis of the individual resources of such area using always the same approach and the same languages. It makes it possible to relate the appraised resources to their context or to their alternatives resources. It makes it possible to shift the evaluation process from the local scale to the national and international without being obliged to repeat all the appraisal stages. It also provides like a unified approach for the appraisal of urban heritage despite the fact that each urban area has its own character

The model can break the gaps between the information experts and the conservation experts by providing them a model that they both can understand and discuss while developing a more professional model

The model provides as well a unified presentation of the result of an urban heritage appraisal. It can be used by the decision makers to easily represent on smart board the data gathered from the model to a wide group of stakeholders for discussion

The model gives a kind of objectivity to the urban appraisal and it shows how quantitative methods can be used for measuring the values of urban areas. However it also gives the opportunity to the candidates to give some qualitative interpretation despite the quantitative aspects of the model. It also minimises the complexity and the confusion that usually derive from any attempt to build critical queries.

It establishes the basis of building the database that serves the requirement of proper spatial analysis as it relates each appraised resource to its location via the proposed geographical model

The model has however, a number of **disadvantages.** The complexity of the model concerning the data input, analysis, output and documentation still needs to be clarified and the different complexities separated. This can be accomplished by involving different groups of heritage experts, decision makers in the testing and amending of the model and by involving a big number of candidates in the appraisal process. This can also be accomplished by applying the model to appraise the heritage value of different urban areas and resources.

Another disadvantage of the model derives from the statistical 'black box' used by the study for correcting and calculating the scores given by the candidates. The decision makers will have no opportunity to change the scoring concept. Despite the information that the model provides about the criteria applied to calculate and disaggregate the score and the final scores of the appraised resources, decision makers might get confused or might have their judgement on the accuracy of the scores' calculation.

The model is still time consuming of data input. Different information must be entered to the model to help the candidates who are charged to appraise the urban resource to search for the data that help them checking, revising and justifying their evaluation.

The model is based on a theoretical framework that needs further investigation, to be more representative of the broad theories that discuss the subject of values. Different theorists are to review the related theories especially those working in the heritage and the urban planning fields.

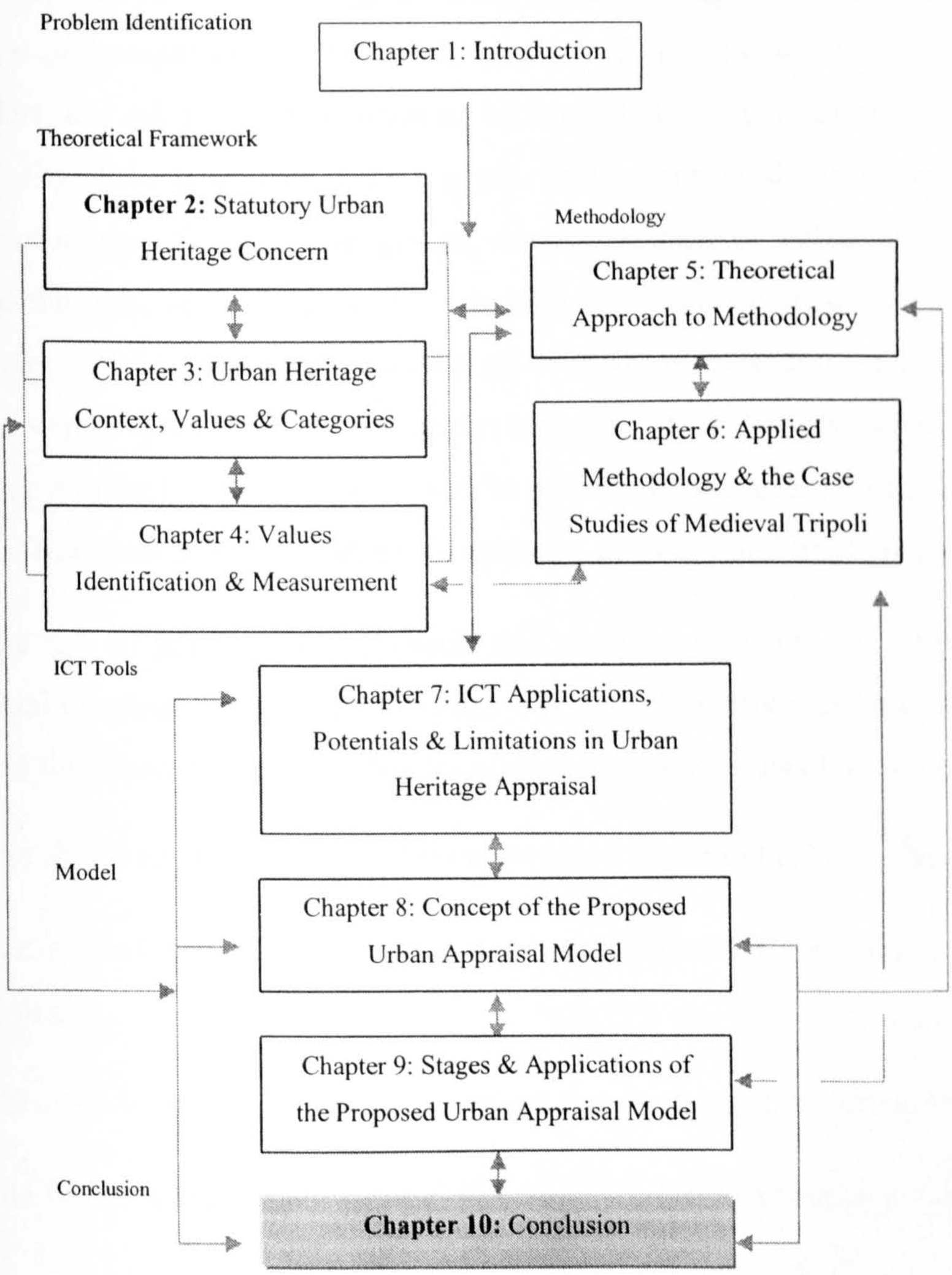
The model is based on a documenting system that needs further adjustments in relation to metadata and interoperability. The model can have a better metadata and interoperability concept. The experience of the specialists in data documentation is essential in this concern.

The model is based on a spatial concept that still needs to be clarified. This study relates all the resources to their spatial context but the analysis it considers is yet very basic. There is a need to show how the data given by the model can be spatially analysed and displayed in GIS.

The model is based on an electronic survey, as such it is limited to a specific group of people and places (refer to 5.3). The model is also based on democratisation process that might cause a number of problems. Some people might use it to falsify the truth, create and increase heritage management conflict and socio political clashes. However this difficiency is not only limited to this model. Voogd (1983) has mentioned that most if not all assessment models have such ability.

The model is build on a very basic ICT technique and still needs to build on more advanced ones. ICT experts might suggest a number of ICT techniques that minimize the complexity of the proposed appraisal process.

The model relies on very simple scoring and weighted summation equations and still need to rely on the equations that more efficiently calculate the factors of uncertainty and errors. Mathematicians and other experts can help to provide a more accurate scoring and weighting systems, such as the scoring and weighting techniques proposed by Voogd, lichfields and others.


Problem Identification
Chapter 1: Introduction
Theoretical Framework
Chapter 2: Statutory Urban Heritage Concern
Methodology
Chapter 5: Theoretical Approach to Methodology
Chapter 3: Urban Heritage Context, Values & Categories
Chapter 6: Applied Methodology & the Case Studies of Medieval Tripoli
Chapter 4: Values Identification & Measurement
ICT Tools
Chapter 7: ICT Applications, Potentials & Limitations in Urban Heritage Appraisal
Model
Chapter 8: Concept of the Proposed Urban Appraisal Model
Chapter 9: Stages & Applications of the Proposed Urban Appraisal Model
Conclusion
Chapter 10: Conclusion

10. Conclusion

10.1 Introduction

This chapter concludes this study, and describes its history. It offers an overview of the subjects discussed for proving its hypothesis, and then provides a number of recommendations that may be useful for future urban heritage conservation research.

10.2 History of the Study

Recent plans for conserving the areas of urban heritage in Lebanon have faced a significant level of criticism. A response like this is never formulated in a vacuum, and those opinions reflect the dangers facing urban heritage in the country. The Directorate General of Antiquities (DGA) is making great efforts to conserve this heritage; however, its efforts are still inadequate given its little political weight, unreliable resources and the immensity of the task. This study suggests that an appraisal model capable of integrating different ranges of heritage categories, values and data, as well as the views and interests of stakeholders, could help in the selection and assessment of alternative intervention strategies in urban heritage areas. An ICT-based database and geographical information system would appear to be useful in this situation. It has valuable applications for each of the four principal procedures involved in preparing management plans for urban heritage areas. These procedures are research, analysis, response and implementation.

For the task of proving its hypothesis this study investigates the problems affecting the appraisal of urban areas, procedures that can provide better appraisal, and the role of ICT tools in the process. The study has found that the problem has four aspects:

- The first is related to the legislation involved in urban heritage conservation.
- The second is derived from the meaning of heritage, and the nature of its values system.
- The third is seen in the methods applied for assessing those urban heritage values.
- The fourth is concerned with the ICT tools used to assess such a values system.

To give a wider verification of its hypothesis, this study investigates the identified aspects of urban heritage appraisal in five phases. In the first phase the study studies the deficiencies in statutory legislation. The study shows that the problem is not only limited to Lebanon, but also to the developed nations as represented by England. The study illustrates that the deficiencies in legislation derive from the ambiguous identification of urban heritage resources and values, the diverse qualities of urban areas and the commitment of local authorities to the appraisal process, including the quality of the appraisal and its form of presentation. Based on these findings, the study addresses the need for a clear identification of urban heritage resources and values with a standardised model for the appraisal of urban heritage areas, a model that is flexible enough to accommodate the diverse qualities of urban areas and their varied local contexts and resources.

In the second phase, this study reviews the urban heritage context. The study illustrates how the context is closely related to the general heritage context, which has been expanded to a confusing point. In this phase the study shows the need to analyse the urban heritage context in relation to its history, culture and authenticity, and also the motives for heritage conservation. The study illustrates the need to develop a unified typology for heritage values, which can guide conservation officers and others to the theories and methods that will establish a better understanding and measurement of urban heritage values.

In the third phase, this study identifies the ambiguous understanding of urban heritage values and the variables that give these values their significance. For this, the study investigates the variables of heritage values derived from theories. The study outlines the categories of stakeholders that must be involved in its assessment. The study concludes this part with a theoretical framework for the assessment of heritage values in urban areas.

In the fourth phase the study outlines the deficiencies in methods used to assess the values of urban heritage areas. For this, the study discusses the methods and the tools that suit the assessment of each heritage value. The study then illustrates the methodology that can be applied to assess urban heritage areas, and the methods that can be used to test the validity of such methodology.

In the fifth phase, the study reviews the problems related to the use of ICT in the heritage field. It starts this investigation with an identification of the role of ICT tools in recording, documenting and analysing urban heritage. This is accompanied by a description of the potential (and the limitations) of these tools, with a focus on the role of GIS. The study shows that the virtual and augmented reality efforts made so far in this domain are not particularly flexible, nor easily affordable. The section illustrates the need for a flexible GIS, data structure, information flow and fruitful coordination between information specialists and heritage experts. In this part the study also gives a number of recommendations for the proper use of ICT in the urban appraisal field.

After investigating the four aspects of the urban appraisal problem, the study goes further in proving its hypothesis. The study develops a prototype model that shows how the urban appraisal process can be improved with the support of ICT tools. The study explains the way the model is designed and tested, and the way it works. To this is added some ways of improving it.

10.3 Discussed Subjects

In proving its hypothesis this study discusses a number of critical subjects for urban heritage conservation, and provides a number of recommendations. These subjects are:

- Restoration of Beirut Central District
- Deficiencies of urban heritage legislation
- The concept of heritage and its conservation motives
- Typology of urban heritage values
- Evolution of heritage values and their theoretical framework
- Methods of assessing urban heritage values
- The heritage significance of medieval Tripoli
- Advanced ICT techniques in the urban heritage field
- An ICT model that supports the appraisal of urban heritage areas.

10.3.1 Restoration of Beirut Central District

This study introduces the case of Beirut Central District, whose restoration has met significant criticism. The study offers this introduction in Chapter One, recommending that:

- Conservation plans and heritage legislation need to recognize that heritage is never a fixed entity, but is open to a diversity of interpretations. Heritage needs to constantly reinvent itself before its destruction, making certain changes inevitable.
- The future of heritage, and whether to preserve it or not should not be the sole responsibility of a group of people and agencies that might destroy the identity of the urban heritage, or construct a fiction of the past to generate space for their purely economic vision.
- Conservation plans must enhance the tangible and intangible values of Lebanon's heritage, and must address the aspirations of the members of Lebanese society and the recovery of their identity.

10.3.2 Deficiencies in Urban Heritage Legislation

This study analyzes the deficiencies in existing urban heritage legislation, both in Lebanon and England. This includes the outline of some lessons that would be useful not only to advance the statutory concern in Lebanon, but also in England. Chapter Two offers a guide to this analysis, and sets out the proposed lessons. This study shows that Lebanese programmes lack systematic criteria or guidance for the selection of resources to be conserved. Heritage resources are listed for their historical, artistic and public interest, but there is no description of these interests in Lebanese legislation. The Lebanese programmes do not conform to the current views of heritage conservation, in that they focus on individual resources and do not deal with whole urban heritage areas. They do not provide guidance about the variables nor the methods that must be investigated, leaving the way open for conservation officers to select or omit whatever they wish, with no care for the democratisation of the appraisal process.

This study also shows that English criteria for the designation of urban area are in their turn facing most of the deficiencies listed in the Lebanese case. Despite being more efficient than in Lebanon, the English criteria for the designation of conservation areas still need to be:

- More concerned with recent views of heritage conservation, and with the kind of variables that must be reviewed when assessing each set of conservation values.
- More concerned with a standardised approach to certain aspects of conservation areas.
- More concerned with the democratisation of the urban heritage appraisal process.

The study shows that most existing appraisals are inconsistent. They may miss some issues or treat them less comprehensibly, and they have a varying degree of detail associated with the consideration of particular topics. The study proves that not all English local authorities are aware of the importance of the appraisal process, and more often they limit the appraisal to areas faced with some particular development. Meanwhile those who are aware cannot always afford the lengthy and ambiguous process of conservation area appraisal.

Heritage legislators need to develop specific programmes for urban heritage conservation, and they must not isolate their concern to specific buildings and their surroundings. The legislation should declare that appraisal must immediately follow any attempt to designate an urban heritage area; first, to justify such designation, second, to recognise what resources, variables and elements give the area its heritage significance, and third, to decide upon the focus of its problem analysis, development control statements and design guidance. Heritage legislation must also standardise the appraisal procedure, and not just rely on developing appraisal guidance. Such standardisation is the first step towards fully effective area designation, conservation and management. The proposed standardised appraisal model should be obligatory, involving conservation officers with those variables that must be appraised and included in the appraisal document. The appraisal model must present conservation officers with a standardised form for presenting the findings of the appraisal. The model should also be flexible enough to accommodate the peculiarities of different local contexts.

10.3.3 Concept of Heritage and its Conservation Motives

This study introduces urban heritage as a concept that has been developed in relation to heritage theories, and has expanded along with the expansion of the meaning of heritage from being a record of the past, to its industrialisation and regeneration. This study argues that heritage is not necessarily a product of the past, nor wholly authentic; it might

include resources that are considered unhistorical or inauthentic. It includes a sense of cultural identity; however it is not identical to culture, but it uses parts of culture, nature and history to save, experience and develop it. This thesis notes that by studying the motives that established conservation, heritage concepts, resources and the values placed upon them by different stakeholders can be more precisely understood and addressed. Accordingly, this study identifies the stages that established the conservation motives, and depicts the relationship of these stages to the modern heritage concept, values and resources. Few researchers have defined the stages in the chronological development of heritage conservation motives. Most of the efforts in this direction have compressed many stages into one, relegating the motives that established them to a secondary position. Chapter Three describes these stages, and shows the way these stages have been used to identify the modern heritage concept, values and resources.

This study concludes that heritage conservation today might be inspired by all the motives described in all the stages it has identified. Heritage can include all kinds of resources, mentioned in any of the stages. Any urban resource can be listed as heritage, whether it is natural or a man-made resource. However this study notes that urban heritage sites must not be part of a museum. They must remain as cultural places that can be experienced and developed.

10.3.4 Typology of Urban Heritage Values

This study shows that most of existing typologies describe the same set of heritage values, but subdivide them in subtly different ways. This indicates that most of the current typologies of heritage values are confusing; they do not provide sufficient justification for the proposed categories of heritage values, nor the nature of the sub-values that come under each category. Chapter Three offers this description, and shows that the development of a standardised typology for heritage values is a useful means to promote efficiency in the urban heritage process. In this chapter the study indicates that future typologies of heritage values should describe their concept, identify the scope of the proposed categories and provide connections with the associated philosophy and theories. The study then identifies the typology of urban heritage values that relates the subject of urban heritage to other fields. This study departs from Capon's categorisation, and the categorisation proposed by the other theorists and international organisations, to propose

six categories of heritage values. These categories are: aesthetic, cultural, historic, economic, socio-politic, and scientific.

Chapter Six of this study presents the typology of heritage values proposed by this study in relation to the typology concept, and practices inside and outwith the heritage field. In this chapter the study concludes by showing the strengths and weaknesses of the typology suggested. It also presents the methods required for developing and testing typologies.

10.3.5 Evolution of Heritage Values and their Theoretical Framework

This study shows that successful heritage conservation depends on the quality and depth of the investigative approaches brought to the definition and measurement of heritage values. Therefore it suggests reaching out to other fields and disciplines which have already gained some experience in assessing the contextual issues of values, bringing more rigour to this engagement. In Chapter Four the study discusses this matter and shows that a theoretical framework for the identification of heritage values is a useful means to identify the variables to be reviewed when appraising urban heritage areas. The study argues that such a theoretical framework is also a useful means to guide practitioners' choice of appropriate assessment methods for a wide range of urban heritage values.

This study then builds a theoretical framework for the identification of heritage aesthetic value, cultural value, historic value, economic value, socio-politic value and scientific value. It studies the meaning of each set, its chronological perception, the conflict involved in its judgment and the variables used by different fields for its measurement. This proposed framework is a new form of assistance and support for urban heritage appraisal. The framework has a number of advantages:

- First, it gives a more theoretical basis to the urban appraisal process.
- Second, it shows the variables that must be measured when evaluating the heritage values of an urban area in a concise manner.
- Third, it shows the relationship that exists between conservation theories and those of other fields.

- Fourth, it offers a framework of terminology that can be used to develop a kind of unified language using terms that might be used to describe the values of urban heritage.

The theoretical framework is identified through the evolution of each category of heritage value in relation to the motives, the people and the movements that established its conservation process. A graph is set out to illustrate this identification, and is new of its type in the heritage field. Chapter Four gives an overview of the history used to create this graph.

10.3.6 Methods of Assessing Urban Heritage Values

This study shows that urban appraisals are frequently conducted by local authorities based on limited personal expertise and experience. Their methods are qualitative, subjective and inefficient. This study calls for the use of different methods, in order to achieve better evaluation of heritage values and to overcome problems of bias and validity. For the task in hand, this study offers an overview of existing value assessment methods, and some of the challenges that arise when integrating the traditional tools of these with others. Such methods include those discussed in Psychology, Anthropology, Histography, Economy, Social Science, Planning and Sustainability studies.

What is special about this study is that it identifies the methods that suit the assessment of each heritage value, before deciding which of these methods suit the assessment of urban heritage as a whole. This study also offers insights into experimental psychology, image-based and narrative based pathway work, GGS, visualization and MCE methods.

This study calls for involved parties to:

- Aggregate the urban appraisal process into different levels, depending on the quality of the appraised urban resources, the categories of stakeholders and the level of complexity that the various local authorities can afford.
- Match the heritage significance of an urban area to its physical resources, arguing that mapping techniques are useful in this regard.
- Develop focus groups to identify the stakeholders and resources that must be involved in the urban appraisal process, arguing that focus groups democratize the urban appraisal process.

- Apply SP tools of CM, and the rating tools of economic methods to identify the values and variables that give the urban area its heritage significance; and to introduce a sense of priorities that some heritage resources and some heritage values have over others.
- Survey the views of stakeholders concerning the heritage resources and the heritage characters of the urban area that must be conserved.
- Integrate cognitive methods to the values in survey questionnaires.
- Weight and score the heritage interest of the stakeholders, to identify what kind of values and resources are most important to them.
- Consider a pilot study to test the validity of the model's concept before getting fully involved with it.
- Apply case studies to test the validity of the model proposed for the appraisal of urban heritage resources.

This study does not simply name the methods that suit the analysis of each set of heritage values, it also investigates the advantages and disadvantages of each method. It is rare to find publications that investigate the appropriateness of such methods from the urban heritage perspective. Chapter Five offers this investigation.

10.3.7 Heritage Significance of Medieval Tripoli

This study shows that medieval Tripoli is an area rich in urban heritage, that may be seen as relevant to the testing of any urban appraisal model. Tripoli has very rare heritage resources and characters, which are continuously deteriorating under the pressure of modernisation and improper conservation plans. The chapter indicates that the problem of Tripoli is no longer, as it used to be, the lack of conservation interest, nor the lack of information and funding. This chapter proves that the Tripoli municipality could easily adopt an ICT model for appraising its urban heritage areas.

10.3.8 Advanced ICT Techniques in the Urban Heritage Field

This study presents ICT as a determining factor for municipality processes, with increased public participation. They would provide new, explicit approaches to automatic heritage recording and management. They incorporate the accumulated knowledge and understanding of the past, and enhance creativity for the future. They allow the diffusion

of heritage ideas and the sharing of information, experience and resources at a speed never before experienced, jumping country frontiers and time barriers. However, most ICT applications in the field of urban heritage have focused on the physical aspects of the heritage resources. Little effort has been made to relate resources to their socio-cultural and environmental context. This study calls for greater awareness by heritage researchers of the potential of GIS in this regard, arguing that GIS has the potential to extend urban heritage analysis from the physical aspects of the resource context. GIS is useful not only for recognising the location, form and geography of urban heritage, but also to identify its context. GIS integrates technology to analyse images, create statistical models and analyse spatial components, the networks for efficient routes or paths, terrain and other aspatial data. The way in which data is entered, stored and analysed within GIS makes it a powerful process for making decisions.

The study goes on to look at methods of overcoming the limitations of GIS, by studying some successful GIS projects and benchmarks for good practice. This study also highlights factors affecting the development of successful GIS, including data accuracy, form and age, lack of vision, lack of long term planning, lack of support by decision makers, lack of system analysis, lack of expertise and lack of access for users. This study mentions that these factors might make GIS an unsuccessful tool for managers; if they cannot keep it running, or do not give it the opportunity to replace existing analogue approaches based on manual work. This might lead to inappropriate selection or misuse of GIS hardware and software, and might leave the users feeling less responsible if their training has not been well organized or if they did not participate in the project at the initial stage.

Despite all the advantages of GIS, this study does not suggest turning to it at once. It suggests that GIS should be considered as a target, thence to begin to rely on its concepts for arranging available and future data so that any future step toward full involvement with GIS can be more easily achieved. The reason for this suggestion is that experience has proved that not all local authorities are ready to apply full and proper GIS. Local authorities are short of funding and human resources, and they are also short of time. The study suggests using packages that are available within most local authorities to build a system that will prepare them for the future shift to GIS. The packages that this study suggests include DBMS, that can effectively handle a large amount of aspatial data input, analysis and output; graphical software that successfully manages photos and pictures;

virtual modelling software that can represent various kinds of urban heritage resources, etc.

As yet no book has focused on the scope of ICT techniques for the survey, visualization and analysis of urban heritage. Existing publications are mostly conference papers or reports that focus separately on each of these interrelated subjects. Chapter Seven offers an analysis of ICT techniques in the urban heritage field. In this chapter the study calls for well-defined standards and guidelines for the level of recording, documentation and archiving. It also asks that Article 16 of the Venice Charter be promoted, and also heritage recording statements from other charters. The study also describes the importance of the access terms including terminology, metadata and interoperability. A number of recommendations are offered by the study in this chapter. The proposed recommendations are evolved from the English case, and the study of international efforts in this area of work.

The study calls for the revision of existing policy, in a manner that:

- Increases access to national heritage datasets.
- Gives clear identification of heritage categories.
- Results in controlled responsibilities between record-holding and conservation organisations.
- Increases awareness of other departments' initiatives.
- Provides methods for checking the degree of quality assurance and provision of validated data.
- Decreases the tensions between notions of organisational territories and ownership of markets in the emerging trend for shared information resources.
- Increases coordination between the authorities and organisations involved with interlinked and overlapping responsibilities for data creation, storage, dissemination and re-use at local, national and regional levels.
- Provides a team representing all authorities and organisations with interlinked and overlapped responsibility when communicating with ICTs providers, informing them about the range of views, procedures and interests.

- Provides a new kind of professionals, who are not only expert in heritage matters but also in communication and information systems. Such experts are to play the role of negotiator.
- Raises conservation officers' awareness of the definition of an electronic record, the types of record which are worth long-term preservation, and of their own roles and responsibilities regarding the implementation of the strategy.
- Improves conservation officers' skills through conference attendance, training courses, networking and by formal or informal collaboration with other heritage teams and external organisations.
- Provides strategic government investment in information systems for urban heritage.
- Increases awareness about the importance of providing investment in heritage recording.
- Develops good communication and training regarding the levels of recording, and how low- and high-cost tools can be integrated in long-term conservation planning.
- Develops an enhancement loop between specialist and generalist systems by:
  - Providing positive communication between the two groups,
  - Defining terminology,
  - Recognising the different main types of providers,
  - Recognising and specifying the range of users and the user community,
  - Identifying all parties who will use the project data; the immediate team, partners and others in the conservation field, plus anticipated future users, and
  - Improved training for providers (conservation) and users (surveying and recording technology).

10.3.9 An ICT Model that Supports the Appraisal of Urban Heritage Areas

This study develops a prototype model for the appraisal of urban areas and their resources. The proposed model is evolved from a developed theoretical framework. Chapter Eight describes the concept of this model, and Chapter Nine shows its different stages. In this chapter the study considers a number of issues that underline the choice or

construction of models to suit the assessment of urban heritage values. These issues underline the models' ability to take account of the various community resources, purposes of the appraisal, stakeholders' professions and qualifications. The issues also include the system that will combine together all the tools that suit the evaluation of differing urban heritage aspects. These chapters note that the efficiency of this system must be studied with respect to the quality of the urban resources, the levels of evaluation and accuracy, the level of information that stakeholders are qualified to provide, the ICT packages that suit flexible data input, analysis and output, and the procedures that will help in testing the validity of the model.

The chapters describe the concept of the proposed categories of urban heritage resources; urban heritage stakeholders, heritage significance and appraisal levels. The chapters also show the flexibility of the proposed data input, analysis and output stages. The chapters end by describing the advantages and disadvantages of the proposed model.

In these chapters the study recommends that relevant parties should:

- Use different levels for the urban appraisal process. This chapter calls for local authorities to consider the level of appraisal they can afford, and thence to offer guidance to their officers, members of the public and the experts about the level of information they are qualified to provide.
- Use automation techniques, and provide a unified presentation of the results of an urban heritage appraisal. The aim is to minimise the complexity of the task placed on the decision makers.
    - Link the appraisal of urban heritage resources to existing documented files.
    - Provide unified categorisations of urban heritage resources, values and stakeholders.
    - Link the appraisal of an urban heritage area to the appraisal of its resources.
    - Give some kind of objectivity to the appraisal of urban heritage.

10.4 Recommendations for Future Research

Research in the field of urban heritage is still focused on certain limited attributes of heritage resources. However heritage is constantly changing, subject to the influences of technology and society. Sadly, there has been a lack of academic research about the issues from which have evolved the modern concept of heritage and the movements that have established its concern with conservation. There is also a lack of theoretical research about those variables that contribute to the heritage significance of urban heritage areas. It is therefore suggested that future researchers would do well when studying urban heritage, to have regard for those particular aspects. They will need to investigate the different aspects of heritage value in relation to theories of value that have been developed in other fields. This study has opened up a new theoretical front for research in this area of work. It has demonstrated that the study of the heritage concept, its conservation motives and relation to the theories developed in other fields will lead to:

Better identification of urban heritage values, resources, and stakeholders;

Better identification of the variables that contribute to each heritage value.

Existing research in the field of urban heritage has ignored the diversity of heritage values, resources, stakeholders and variables, when studying the efficiency of existing statutory programmes. Researchers have also ignored them when developing ICT models for urban heritage areas; existing research is still focused on methods of using ICT for recording, documenting and analysing the minor attributes of heritage values. This study calls for the study of statutory conservation programmes, and ICT models for urban heritage with respect to its diverse values, resources, variables and stakeholders. This study has shown how such tasks can be accomplished. It has demonstrated that such concern can lead to better statutory appraisal of urban areas, a better use of ICT in this regard, and greater benefit from the methods used in other fields for assessing the values attaching to things. The study has shown how these benefits can be gained, and how to gather from these methods the tools that suit the assessment of heritage values. This study has also shown how to bring all these tools together in an ICT model that serves the appraisal process. However, the study has also revealed certain disadvantages in the model it has developed, and it therefore calls for future researchers to increase the reliability of such models. This study would ask such researchers to:

- Conduct further investigation into the urban heritage values proposed by this study, at both the theoretical and methodological level.
- Improve documentation that relates to heritage appraisal, as well as to metadata and interoperability.
- Clarify the possible spatial analysis that might be conducted using the heritage database proposed by this study.
- Minimise the biases and disadvantages of electronic surveys in the heritage field.
- Further investigate conflict management in urban heritage conservation.
- Evolve the prototype model developed by this study for the appraisal of urban area into a more advanced and effective one.
- Develop better scoring and weighting methods for the measurement of urban heritage interests, resources and values.

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Appendix I: Capon's Categories of Architecture

Primary Categories

Categories one: words relating to Form

Form, Shape, Volume, Surface, Line, Pattern, Boundary; Quantity. Size, Dimension,

Unity, Plurality, Simplicity, Complexity; Number, Mathematics, Geometry, Structure, Ratio, Proportion; Harmony, Symmetry, Rhythm, Axes, Grids, Syntax; Sense, Colour, Beauty, Awareness, Contemplation, Perception, Aesthetics; Objectivity, Impartiality, Justice, Judgement, Balance; Disjunction, Opposition, Contrast, Articulation, Juxtaposition, Adjacency; Existence, Space, Being; Formalism, Minimalism, Mannerism, Structuralism

Category two: words relating to Function

Function Variables: Function, Purpose, Reason, Cause; Use, Utility, Practicality, Pragmatics, Work, Activity, Motion; Needs, Requirements, Ability, Means, and Ends; Effect, Satisfaction, Convenience, Comfort, Pleasure; Exchange, Interaction, Efficiency, Economics, Costs, Values; Systems, Planning, Services, Heating, Ventilation, Energy, Psychology, Sociology, Behaviour, Response; Morality, Goodness, Ethics, Principles, Aims; Functionalism, Utilitarism, Brutalism, Rationalism, Systems, Theory.

Category three: words relating to Meaning

Meaning Variables: Resemblance, Imitation, Likeness, Difference, Comparison, Association; Classification, Typology, Category, Doctrine, Theory, Knowledge; Style, Fashion, Taste, Propriety, Dreams, Fantasies; History, Historic

Styles, Periods, References, Customs, Beliefs, Religion, Philosophy, Myths, Anthropology; Meaning, Significance, Signs; Meaning,Significance, Signs, Symbols, Semantics, Codes, Analogy, Metaphor; Quality, Properties, Attributes, Characteristics, Essence, Perfection; Integrity, Truth, Honesty, Sincerity; Historicism, Academicism, Postmodernism, Symbolism, Semiology, Surrealism.

Primary Categories

Category four: words relating to Modality (Construction)

Modality Variables: Materials, Substance, Content, Purity, Homogeneity; Process, Change, Growth, Flexibility, Adaptability; Construction,, Craftsmanship, Technology, Manufactured, Production, Machines; Maintenance, Life-Cycle Analysis, Recycling, Cleaning, Corrosion, Demolition; Modules, Coordination, Standardization , Joints, Detailing; Design, Methodology, Creativity, Imagination, Art, Drawing, Expression; Education, Experience, Wisdom, Teaching, Research; Property, Wealth, Identity, Pride, Responsibility, Duty, Self- Respect; Constructivism, Arts And Crafts, Organic Theory, Neo-Gothic, Metabolism, High-Tech

Category five: words relating to Comtext

Context Variables: Context, Site, Surroundings, Region, Environment; Composition, Townscape, Landscape, Place, Movement, Mass, Spaces; Nature, Communion, Internal/External, Ground, Sky, Plants, Trees; Communication, Light, Sun, Views, Vision, Sound, Privacy; Ornament, Decoration, Poetry, Music, Dance; Scale, Humanism, Anthropomorphism, Animism, Bodily States; Feeling, Community, Sympathy, Empathy, Regard, Love, Sentiment; Age, Nostalgia, Past, Memories, Old-World, Quaintness; Contextualism, Regionalism, Neovernacular, Picturesque, Humanism

Category three: words relating to Will

Will Variables: Will, Motivation, Ambition, Overcoming, Persuasion; Politics, Government, Legislation, Radicalism, Professionalism; Power, Strength, Energy Levels, Intensity, Grandeur, Vastness; Emotion, Sublime, Spirit, Enthusiasm, Excitement, Passion; Attitude, Mood, Humour, Audacity, Shockingness, Optimism, Nihilism; Confidence, Conviction, Courage, Strength of Purpose; Choice, Freedom, Partiality, Likes, Dislikes, Prejudices, Decision; Originality, Novelty, Newness, Future, Modern, Utopia; Modernism, Futurism, Utopianism, Radicalism, Avant-Garde.

Appendix II: Assessment of the Completed Conservation Areas Appraisals

Assessment of the content of completed conservation area appraisals

Key areas for appraisal	London Borough of Bexley	Cambridge City Council	Cherwell District Council	East Herts District Council	East Northants District Council	London Borough of Harrow	London Borough of Richmond upon Thames	Salisbury District Council	Southampton City Council	Stroud District Council	Winchester City Council
Origins and development of topographical framework	**	***	**	*	**	***	**	*	***	**	***
Archaeological significance and potential (plus AMs)			*			***		*	***		***
Intrinsic interest, quality and character of buildings, listed and unlisted	*	**	**	*	*	***	**	*	**	**	***
Character and hierarchy of spaces, and their townscape quality	*	*	**	*	*	**	*		**	**	***
Prevalent and traditional building materials	*	**	***	**	**	***	*	**	*	**	***
Contributions made by green spaces and other green elements	*	*	*	*	*	***	*	*	*	**	***
Prevailing (or former) uses and influence on plan form/building types	**		*	*	*	**	*		**	*	***
Relationship of built environment to open countryside/landscape	*	*	**	**	*	**	*	*	**	***	**
Extent of loss, intrusion of damage, i.e. negative factors	**	*	*	*	*	**	***		**	**	***
Existence of any neutral areas			*						*		
Local details			*						*	**	**

* Limited, superficial detail; ** some detail, but not comprehensive; *** comprehensive, very detailed.

Appendix III: Assessment of the Quality and Status of Appraisal Documents

Assessment of the quality and status of appraisal documents

	London Borough of Bexley	Cambridge City Council	Cherwell District Council	East Herts District Council	East Northants District Council	London Borough of Harrow
Title and length of document(s) reviewed	Statement of Character 6 page leaflet.	Conservation Area Appraisal 22–30 pages.	Conservation Area Appraisal 20 pages.	Character Statement 5–20 pages.	Conservation Area Resurvey 10 pages.	Conservation Area Policy Statement 65 pages.
Presentation/ use of illustrative material	Basic presentation. No illustrations other than map identifying the areas boundary and listed buildings.	High-quality presentation with extensive illustration. Useful, well-referenced photographs and sketches. Clear and detailed maps.	Extensive text, though high-quality plans and photographs included at the end. 'Photopanels' particularly useful to illustrate detailed aspects of character.	High-quality materials and presentation. Numerous clear photographs. A3 map showing much detail.	Very basic presentation with no photographs or sketches. Basic plan showing boundary only.	High-quality materials and presentation. Excellent photographs, sketches and diagrams. Useful, detailed maps.
User-friendliness	Directed into clear sections with numbered paragraphs. Language relatively straightforward.	Set out in columns and divided into numbered paragraphs. Monotonous and repetitive street-by-street analysis.	Written in report form, divided into numbered paragraphs for each criterion. Language not too technical.	Text in columns with small number of separate headings. Additional street-by-street analysis monotonous. Language technical in places.	Divided into clear sections. Straightforward, user-friendly language.	Very clear and user-friendly. Criteria separated into numbered paragraphs with sub-titles. Language easy to read.
Degree of prescription	Following a brief description of area character, general issues relating to the potential for new development and enhancement are discussed.	Main focus is on describing the special character of the area. Features which could be improved are identified within the description. Policies to preserve and enhance the character of the area form a separate, shorter section of the documents.	Describes character, then goes on to identify opportunities for presentation and enhancement.	Main focus is on describing form and visual qualities. The principal 'areas of opportunity' are also identified.	Main focus is on describing character, though very general opportunities for improvement and enhancement are identified.	Largely descriptive, though opportunities for improvement and enhancement are identified.
Status	Not clear. Any association with the development plan not identified.	Clearly defined as supplementary to the development plan, to be used to guide the future development of the area.	Used as the basis for a review of the boundary of the conservation area. Beyond this, status not clear.	Not clear.	Prepared as part of a programme to identify new conservation areas in connection with implementation of development plan. Document to be used as the basis for conservation area designation and subsequent enhancement work.	Defined as supplementary to the development plan.

Continued

.	London Borough of Richmond	Salisbury District Council	Southampton City Council	Stroud District Council	Winchester City Council
Title and length of document(s) reviewed	Conservation Area Study A1 piece of paper folded into A4.	Conservation Area Assessment 3 pages.	Character appraisal 7 pages.	Conservation Area Policy document 28 pages.	A technical assessment 41 pages.
Presentation/ use of illustrative material	Excellent presentation. Well-labelled photographs and sketches. One large, clear and comprehensive map summarising appraisal.	Very basic presentation with no illustrations. One plan with little detail.	Good-quality, clear presentation. Useful photographs and plans.	Bland presentation. No illustrative material. Several plans included as appendices.	Good-quality materials and presentation. Many photographs and illustrations within text. Detailed plans.
User-friendliness	User-friendly language. Clear sub-headings and points within them.	Straightforward language with sub-headings.	Clear text using straightforward language. Columns with sub-headings.	Academic text, technical and detailed language. Clear division into sub-sections.	Text divided into columns with clear sub-headings. Language not too technical.
Degree of prescription	Contains general description, though goes on to identify quite specific opportunities for improvement and enhancement on plan.	Seeks to assess those elements that contribute to the special character of the conservation area. Some careful analysis of the importance of features. No prescription.	Intends to define 'what is special' and key issues to be addressed. Further policies and guidance will be pursued in the future dealing with presentation and enhancement.	Describes character and appearance, then goes on to analyse and prescribe specific policies and guidance for presentation and enhancement. e.g. helps determine the need for an A4 Direction.	Seeks to describe special qualities as a basis for suggesting a number of enhancement measures.
Status	Not clear.	Not clear.	Relationship to development plan not identified. Seen as a basis for public discussion and debate.	Seen as supplementary to the development plan: defined as the instrument through which the provisions of legislation and the plan are applied to day-to-day planning decisions affecting the area.	Has been subject to public consultation, and is to be used as supplementary guidance, though relationship to development plan not clearly identified.

Appendix IV: Focus Groups Members

Member	Qualification	Position	Case Studies Selection	Candidates Selection	Model Testing
Saeed Al Saeed	Archaeologist	Director of the public library and Keeper of the archive center of medieval Tripoli	*	*	*
Rawiyah Majzoub	Art Historian	Head of the restoration department / Lebanese university of Tripoli	*	*	*
Musbah Rajab	Architect	Lecturer / Lebanese University	*	*	
Nazeeh Raeed	Engineer	Pre_ Head of the Engineer Directory	*	*	
Al Ameed Minkara		Pre_Mayor	*	*	
Samir Sheranee		Mayor	*	*	
Assem Al Wallee	Engineer	Head of the Water Resources and Drainage Directory	*	*	
Rabee Al Ahdab	Employee	Private Sector	*	*	
Mahmood Mostafa Abbas	Employee	Private Sector	*	*	
Abedallah al Danee	Business men	Private Sector	*	*	
Moutasem Zahra	Technical Engineer	Public Sector	*	*	
Jalal Abbas	Planner	Member of the municipalty	*	*	*
Ismate Iwaydah	Engineer	Public Sector	*		
Ibrahim Tahoun	Historian	Lecturer (Egypt)	*	*	
Noha Kayal	Sociologist	Lecturer / Lebanese University	*	*	
Khaled Ziyadeh	Philosophy History	Lecturer / Lebanese University	*	*	*
Omar Tadmouri	History	Lecturer / Lebanese University	*	*	*
Asaad Seif / Badawi	Archaeologists	Department of Antiquity	*	*	
Fadia Hamendi	Sociologist	Teacher			*
Barbaraa senkwe	Planner	Researcher			*
Sawsan Saridar	Architect	Researcher			*

Appendix V: Selected Candidates

Candidate Category	Gender	Age	Marital Status	Religion	Political Identity	Social Class	1st Nationality	2nd Nationality	City of Birth	District of Residence	City of Residence	District of Birth	Certificate
Consultant	Male	40	Single	Muslim Suni	None	Capitalist Class	Lebanese	Canadian	Tripoli	Mina	Tripoli	Mina	University
Conservation Officer	Female	50	Widowed	Muslim Suni	None	Capitalist Class	Lebanese	None	Tripoli	Azmi	Tripoli	Haddadine	University
Conservation Officer	Male	50	Maried	Muslim Suni	None	Capitalist Class	Lebanese	None	Tripoli	Zahriyah	Tripoli	Suiqah	University
Consultant	Male	60	Maried	Muslim Suni	None	Middle Class	Lebanese	None	Tripoli	Tall	Tripoli	Tall	University
Consultant	Male	60	Maried	Muslim Shiite	None	Middle Class	Lebanese	French	Tripoli	Kobeh	Tripoli	Kobeh	University
Conservation Officer	Male	40	Maried	Muslim Suni	None	Capitalist Class	Lebanese	None	Tripoli	Abu Samra	Tripoli	Zahriyah	University
Consultant	Male	50	Divorced	Muslim Suni	None	Middle Class	Lebanese	None	Tripoli	Kobeh	Tripoli	Kobeh	University
Consultant	Male	50	Maried	Muslim Suni	Democrat	Capitalist Class	Lebanese	None	Tripoli	Maraad	Tripoli	Maraad	University
Consultant	Male	50	Single	Armanian Orthodox	Democrat	Capitalist Class	Lebanese	None	None	None	Beirut	None	University
Consultant	Male	40	Single	Christian Orthodox	None	Capitalist Class	German	None	None	Sokak AL Blat	Beirut	None	University
Consultant	Male	40	Maried	Muslim Shiite	None	Capitalist Class	Lebanese	None	Akkar	Al Zahriyah	Tripoli	Al Dineyeh	University
Consultant	Male	50	Maried	Muslim Suni	Democrat	Capitalist Class	Lebanese	None	Tripoli	Mina	Tripoli	Haddadine	University
Consultant	Male	50	Maried	Muslim Suni	Democrat	Capitalist Class	Lebanese	None	Tripoli	Mina	Tripoli	Haddadine	University
Expert Public	Male	50	Maried	Muslim Suni	None	Middle Class	Lebanese	None	Tripoli	Nouri	Tripoli	Suiqah	Middle School
Expert Public	Male	40	Maried	Muslim Suni	None	Middle Class	Lebanese	None	Tripoli	Nouri	Tripoli	Nouri	Elementary School
Expert Public	Male	40	Maried	Muslim Suni	None	Middle Class	Lebanese	None	Tripoli	Kobeh	Tripoli	Kobeh	Elementary School
Expert Public	Male	40	Maried	Muslim Suni	None	Working Class	Lebanese	None	Tripoli	Abu Samra	Tripoli	Nouri	Elementary School
Non Expert public	Female	40	Maried	Muslim Shiite	None	Working Class	Lebanese	None	Beirut	None	Beirut	None	University
Non Expert public	Female	30	Single	Christian Catholic	None	Working Class	Italian	None	None	None	None	None	University
Expert Public	Male	40	Maried	Muslim Suni	None	Middle Class	Lebanese	None	Tripoli	Abu Samra	Tripoli	Haddadine	Elementary School

Candidates: Saeid al Sayed, Amer Hadded, Rawia Majzoub, Abdlefatah Kabara, Omar Tadmouri, Mahmoud Afyouni, Jalal Abas, Abdlekhani Imad, Diran Harmandian, Stefan Weber, Atef Attiyah, Khaled Ziyadeh, Abdlatif Ziyad, Mohamad Dihni, Mohamad Awad, Badr Hassoun, Sana Sinou, Claudia -, Mohamad Ratah.

Appendix VI: GIS Softwares

- **MapInfo** Professional: MapInfo Professional is produced by MapInfo, and has a wide user base. It is predominantly used in English SMRs. MapInfo is included in the SMR and HBSMR software produced by exeGesIS SDM Ltd., which is used by more than half of SMRs, 37% of SMRs use MapInfo as part of SMR or HBSMR (Newman, 2002).

- **ArcView/ArcInfo** ArcView and ArcInfo are produced by ESRI as part of their ArcGIS software family, and have a wide user base. ArcView is a slimmed-down version of ArcInfo, which has wider functionality. Its wide use by SMRs is in part due to the fact that it is the alternative (to MapInfo) GIS in the SMR and HBSMR software produced by exeGesIS SDM Ltd., which is used by more than half of the SMRs, 12% of SMRs use ArcView or ArcInfo as part of SMR or HBSMR (Newman, 2002).

- **GGP GIS** was designed from the outset around OS Data, and the British National Grid. Its main concern is to meet the needs of Local Authorities including links with other Local Authority software products such as Land Terrier, Planning and Waste Management applications. Its functionality includes normal map management for hard copy output, Spatial Analysis, as well as a full range of drawing, editing and CAD tools. Gazetteers, Reporting, Hot Spot analysis, Thematic Mapping, Development Tools and all the translators necessary to support the Service Level Agreement are also built into the product.

- **GenaMap** comprises a suite of GIS products produced by GenaWarehouse (GenaCell for raster and cell processing, GenaRave for raster-to-vector data conversion, and GenaCivil for civil engineering solutions and the User System GENIUS for providing a graphical user interface for developing menu-driven applications). Loral customized GenaMap applications to develop a prototype called the Geographic Related Information System (GRIS) to meet Army terrain evaluation needs. Both the SMRs using GenaMap have in-house systems (Newman, 2002).

- **Geographic Data and Management Solutions (GDMS)** was established by Autodesk to provide CAD & geographic information systems, relying on software

such as for instance Autocad, 3dstudio, Autodesk Map 2000i and others. SMRs use this package with an in-house Access 2000 based system (Newman, 2002).

- **Axis 2000** provides generic, open-GIS functionality, map management and production (both raster and vector formats), integration of textual and graphical data, and a development platform through which applications may be constructed. Axis 2000 is produced by Assist Applications Ltd., and has a number of applications specifically designed for local authorities. One Axis user has the HBSMR system. The other has an in-house system (Newman, 2002).

- **Cartology DSI** is a GIS package produced by Innogistic Software plc, and is aimed at local authorities. The SMR using this package does so with an in-house Access 97 based system (Newman, 2002).

- **WINGS GIS** is produced by Systems Options Ltd to work with any ODBC compliant database in a Windows environment. The SMR using this package uses it with an in-house, Access 2000 based system (Newman, 2002).

- **AutoCAD Map** is produced by Autodesc Inc. It is designed to combine CAD functions with GIS analysis.

- **SPANS** (SPatial ANalysis System) from TYDAC Research Inc. based in Canada was written in 1986 as a PC-based GIS. SPANS is modular and is available as a complete system or a combination of modules. In every case the user gets an integrated system with all functions combined in a uniform menu surface. Besides the basic module there are single modules for terrain analysis, point interpolation, modelling and cartographical output. Aside from the data model, the particular capabilities of the system are the resulting analysis potential (e.g. area statistics, three-dimensional presentation, diffusion, cell modelling, network analysis, gravitation models) particularly the integration of data from different origins and in different formats. Despite its clear emphasis on grid data processing, SPANS is regarded as a hybrid GIS which is able to process grid data as well as vector data. The main part of the analysis function is located in the grid basis. SPANS uses the Quadtree-data structure as a special grid data structure. In version 6 it is possible to connect the database to Microsoft Access.

- **IDRISI,** developed by Clark Labs. IDRISI is a GIS and image processing programme running under Windows (also available under DOS). The program has the latest

geographical analysis tools and environmental modelling features. Due to the low price, IDRISI is found all over the world.

- **MicroStation** is a platform for design and engineering projects, and is the foundation of the V8 Generation of software from Bentley.
- **GRASS** (Geographic Resources Analysis Support System) is a GIS with raster, topological vector, image processing, and graphics production functionality that operates on various platforms through a graphical user interface and shell in X-Windows. It is released under GNU General Public License.

Appendix VII: List of Publications

1. Refereed Journal Papers

El Hassan R. (2000) The use of GIS to support conservation area appraisal in urban centres, the case of medieval Tripoli, Lebanon. *Forum*, 3(1), 31-35, University of Newcastle, UK.

2. Conferences

2.1 Refereed Conferences (International Conference Proceedings)

El Hassan, R. and H. ElKadi (2000) Development of decision support system for statutory protection in Lebanon using information technology, In Planning at the Turning Point, Brno, Czech Republic., 18th-23th July, 2000. Association of European Schools of Planning (AESOP), pp. 53.

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El Hassan, R. and H. ElKadi (2002) Information system application for conservation strategies, In World Heritage in the Digital Age Conference, (UNESCO), Alexandria, Egypt, 20th_ 23th October, 2002. UNESCO, Online Pubications.

2.2 Refereed Conferences (International Conference - Abstract only)

El Hassan R., H. Elkadi (2000) The role of information technology for supporting statutory protection in Lebanon, (Esri), Istanbul, Turkey. October 2000, Esri.

Appendix VIII: CD of the Proposed Model

Company : .....

Size **:** .....

Date **:** .....

Note **:** .....

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