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Editorial

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Publishing the first issue of IJHSD Green Lines Institute accomplishes a first goal in its scientific international journals editorial policy. IJHSD was created under the aim of publishing original scientific contributes in the field of heritage and sustainable development, making these two sometimes separated subjects a common object of analysis and research. The innovative approach IJHSD brings to discussion is the deep relationship between sustainable development and heritage, arguing that the last is not relevant without the first. Proper care and reasonable use of heritage are the very basis of its sustainability, therefore from scientific research on heritage should necessarily emerge scientific concern with its sustainability. In order to open the discussion on this vast theme, IJHSD defines as its main areas a) heritage and sustainable economics, b) heritage and governance for sustainable development, c) sustainable preservation of natural heritage, d) sustainable preservation of cultural heritage, e) heritage and communities development, f) heritage and sustainable tourism and g) sustainable preservation of built heritage.

In this first issue a number of articles reflect some of these areas, putting forward field research and theoretical analyses on heritage and sustainable development.

Chris Landorf in its article entitled "Governance in historic urban environments: A theoretical review" argues that governance is a vehicle for sustainable development and that the state plays as a facilitator enhancing the role of communities in, for example, the management of heritage sites. He analyses current heritage management models focusing on their problems and explores the concept of social sustainability, mainly in historic urban environments.

This thematic is particularly relevant for the reading of Christian Frost's text, on the "Changing Salisbury: an argument for a return to poetic ordering of urban space following three hundred years of objectification". In this article the Author focus on a specific example, the city of Salisbury, between tradition and change, combining preservation and alteration, even when the inhabitants of the city are almost excluded from participatory understanding of heritage.

The essential role of locals in the preservation and exploration of heritage is underlined in Stephanie Hawke's "Local residents exploring heritage in the North Pennines of England: sense of place and social sustainability". Again, the concept of social sustainability is brought to discussion, using in-depth interviews of individuals engaging with heritage in the rural northern uplands of the UK. Another key-concept under analysis is "sense of place"; the Author argues that cultural heritage is essential to its construction and to the network of references that enable individuals to place themselves in the past and the present.

This connection between past and present is also found in the article of Manuela Piscitelli's "Preservation of paths for a sustainable tourism in the Amalfi coast". The Author emphasises the UNESCO recognition of the Amalfi coast mainly because of the combination of natural and human environment that constitutes a cultural landscape. The old paths are being now transformed into tourist routes and the ancient use of the land transformed by the urge to receive tourists.

The fragile balance evidences the need to sustainable use of this territory, as also enhanced by Anna Goral in her paper on "Research on cultural tourism development in sacral and spiritual sites from the UNESCO World Heritage List". The effect of tourism on sacral and spiritual places classified by UNESCO is the core issue of this article. The danger of de-characterisation and the need to use tourism as a revenue source make the balance between preservation and destruction a very thin one.

A parallel problem is discussed in the paper from Myra Giesen, Aron Mazel, David Graham and Patricia Warke, when arguing on the "Care and Management of Ancient Stone Monuments during Environmental Change". These Authors claim that ancient stone monuments are under pressure, due to increasing anthropogenic exposure and changing climatic conditions. Being 'hard as a rock' will not save these monuments from degrading and in this paper some of the most accurate and up-to-date strategies to prevent such degradation are explored.

The final article of this issue is from Pam Hazelton and Anne Clements, on the "Historic and Environmental Significance of Ecological Communities in NSW, Australia". The colonisation of the New South Wales determined the almost destruction of some of the original vegetation, the remains of which became protected heritage since the 1890s. The case-study presented in this paper explains how environmental legislation was used to preserve natural heritage and to reduce the environmental footprints of urban growth.

The Editor wishes to thank all Authors who contributed to this first issue and hopes that its publication may contribute to a deep and significant discussion on heritage and sustainable development, seen as complementary faces of the same coin. The call for papers for the IJHSD is continually open and the Journal welcomes all original contributions to the theme.



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Governance in historic urban environments: A theoretical review

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Governance has become a vehicle for sustainable development policies and programs that target the social improvement of communities. The role of the state in such a model assumes that of a facilitator promoting localised partnerships and community participation. These developments are now reflected in policy implementation at a variety of levels, including the management of heritage sites. However, it is difficult to see how a governance model can succeed under current heritage management frameworks. This is particularly so where a site is an integral part of an active community, such as a historic town centre or cultural landscape. Heritage management models have traditionally separated historic and contemporary identities. This weakens the link between people and place which is considered to be a fundamental contributor to a socially cohesive and sustainable community. This paper explores some of the theoretical concepts surrounding sustainable development through governance with a particular emphasis on social sustainability. The need for institutional and procedural innovation is suggested if historic environments are to contribute fully to sustainable development. The paper concludes by presenting a framework for localised decision-making in historic urban environments.

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Keywords: governance, historic urban environments, socially sustainable development

Introduction

Since the 1990's, governance has become a significant vehicle for policies targeting the social improvement of communities and the implementation of sustainable development programs (Chhotray and Stoker, 2009; Taylor, 2002). In particular, urban regeneration programs, including heritage-led regeneration programs, have become associated with a broader governance agenda (Colomb, 2007; Pendlebury, 2009). Critical to this agenda is the assumption that the mobilisation of 'social capital' from local networks and associations through new systems of governance positively influences democratic participation and transparency (Bull and Jones, 2006; Middleton et al., 2005). The role of the state in such a model assumes that of a facilitator promoting localised collaborative partnerships and more active community participation (Bevir and Rhodes, 2003). Governance theory is now reflected in the policies and programs of global and regional institutions, such as UNESCO and the European Union (Chhotray and Stoker 2009), as well as at a national level (Gallent 2008; ODPM 2005) and the level of individual heritage sites (DCLG, English Heritage and DCMS, 2010).

However, it is difficult to see how a governance model can succeed at heritage sites under current management frameworks. This is particularly so at more complex heritage sites, such as historic town centres and cultural landscapes, which remain largely integral to the daily activities of contemporary communities. Western models of heritage management have traditionally separated historic and contemporary identities as part of the process of establishing heritage significance. Considerable attention has been given in the literature to the ways in which national and regional identities have been selectively articulated and legitimised through heritage, and the symbolic value of heritage in giving a material reality to identity (see, for example, Graham and Howard, 2008; Hobsbawm and Ranger 1983; Lowenthal, 1998; Smith, 2006). This process of identity construction requires the definition of a temporal framework, a historic period in time associated with customs and events that are the most symbolically representational and politically meaningful. While a foundation of Western heritage management practice, such historic

delineations can serve to weaken the link between people and place, a link which is assumed in much of the literature to be a fundamental contributor to a socially cohesive community (DCMS, 2004; Kearns and Forrest, 2000; Kennett and Forrest, 2006; Robinson, 2005).

This paper commences with a theoretical exploration of some of the concepts surrounding sustainable development through governance. Particular emphasis is given to the effectiveness of current frameworks for the delivery and assessment of social sustainability in historic urban environments. Drawing on recent policy and academic literature, the paper illustrates the need for institutional and procedural innovation if historic urban environments are to contribute fully to sustainable development. The paper concludes by presenting a theoretical framework for the implementation of more localised and democratic decision-making in historic urban environments. The framework is derived from McCann's (1983) social problem solving process as part of ongoing case study research into the sustainable management of industrial World Heritage sites. While research into the practical operation of the framework is continuing, as a theoretical conceptualisation the framework has relevance to other complex historic environments such as historic town centres and cultural landscapes.

Definitions and theoretical foundations

The dimensions of sustainable development

In recent years, the social aspects of sustainability have gained increased recognition as a fundamental component of sustainable development. This is reflected in the political and academic literature and the sustainable urban regeneration discourse (Colantonio and Dixon 2010). While there has been a shift toward a more integrated approach to economic, environmental and social issues in sustainable development policy, there is little agreement on what social sustainability is (Bramley and Power, 2009). Research on the practical outcomes of poverty eradication and urban regeneration strategies, the primary policy initiatives associated with social sustainability, is also limited (Colomb, 2007). However, despite the lack of conceptual clarity and evidence as to their effectiveness, strategies aimed at delivering greater social equity and socially inclusive urban environments have been in place since the mid-1990's in Europe (the European Commission's *Urban Community Initiatives*) and in the UK (the 1998 *New Deal for Communities* and the 2001 *National Strategy for Neighbourhood Renewal*).

In attempting to frame a working definition, the World Commission on Environment and Development (WCED) report *Our Common Future* suggests that social sustainability seeks to preserve the environment through economic growth and the alleviation of poverty (WCED, 1987). While practical strategies to bring this about are vague in the WCED report, *Agenda 21*, the publication stemming from the 1992 United Nations *Conference on Environment and Development*, provides a more definitive approach to social sustainability based on strategies such as security of land tenure, small business development and trade liberalisation, as well as enhanced social equity and the active participation of individuals in community activities (Johnson, 1993). However, the subsequent literature that focuses on social sustainability, as against social equity, remains ambiguous. This ambiguity is evident to a lesser degree in the associated concepts of social inclusion, social cohesion and social capital. Given the overlapping nature of these four concepts, Bramley and Power (2009) suggest that the identification of any common threads can support a better understanding of social sustainability.

Stemming from the concept of social capital most notably developed by Bourdieu (1985) and Putnam (2000), the four concepts share an underlying premise that socially sustainable communities require individuals to work together in social networks. These concepts also recognise the vested interest individuals have in society, and the collective responsibility society has to the equitable distribution of social benefits to individuals. They share a further common concern with cultural identity and values, a sense of belonging, and feelings of safety and trust that come with the positive side of social order and institutional stability. With this understanding, three dimensions of social sustainability can be detected. The first two are described by Bramley and Power as 'social equity' and the 'sustainability of community', which is referred to in the following section as social coherence. The third dimension is the satisfaction of basic human needs without which the first two dimensions would be difficult to achieve.

The first dimension, social equity, is concerned with 'access to services, facilities and opportunities' while the level of access is mediated by political processes framed within a 'distributive notion of social justice' (Bramley and Power 2009:32). For this to occur, a further condition of social equity is required, the stability and flexibility of the institutions that facilitate access. Institutional stability provides an enabling framework for long-term and holistic planning that might not otherwise occur within a decision-making process driven by political power and vested interests alone. Institutional flexibility is required because no single organization has the knowledge or resources to tackle sustainable development unilaterally.

The second dimension of social sustainability, social coherence, refers to the strength of the social networks that facilitate community cooperation, and the level of formal and informal participation in community activities. Social coherence also relates to how strongly individuals identify with a community. The argument here is that the level of an individual's identification with a particular community will affect their desire to contribute to that community which is in turn reflected in the level of social cohesion

(Bramley and Power, 2009; Forrest and Kearns, 2001). A further condition of social coherence is empowerment. For communities to actively engage in a political process there must be a realistic expectation that they can influence the outcomes of that process and, conversely, be held accountable for their actions.

The third dimension of social sustainability relates to the satisfaction of basic human needs. These are objectively measured issues, such as food, shelter and education, as well as subjective perceptions related to quality of life, such as health, well-being and safety (Landorf et al., 2008). A distinction is made between social equity, which measures the level of equality in the way resources and opportunities are distributed in a community, and the satisfaction of basic needs, which measures the level of resources and opportunities available to the community as a whole. For example, a community may be living equitably but for some reason such as drought, war or recession, may not be satisfying basic human needs. The three dimensions of social sustainability and their characteristics are shown in Table 1.

Table 1. The dimensions of social sustainability

Dimension	Characteristics
Social equity	Access to services, facilities and opportunities Level of institutional stability and flexibility
Social coherence	Strength of networks, participation, identification and tolerance Level of empowerment and accountability
Needs satisfaction	Satisfaction of objective quality of life measures Satisfaction of subjective quality of life measures

Finally, consideration needs to be given to the evaluation of social sustainability. With no clear concept of what constitutes social sustainability, it is no surprise that there is little agreement on the methodologies and indicators that should be used to measure the social outcomes of sustainable development strategies (Brandon and Lombardi, 2005). Even so, the emerging approach acknowledges the undesirability of imposing indicators and evaluation methodologies from above. Significant opportunities exist for community empowerment and capacity building through the development of locally based sustainable development evaluation processes (Roberts 2006). However, there is a need for some form of overarching and universally agreed indicators if the three dimensions of sustainability (economic, environmental and social) are to be prioritized at a local level and integrated successfully into national sustainable development policies.

The principles of governance

The move from government to governance refers to the redistribution of decision-making away from centralised and hierarchical structures of government toward a more localised and collective approach. Chhotray and Stoker (2009) suggest there are various reasons why this shift has occurred including the belief that governance can provide greater flexibility in solving public problems, more effective use of resources and enhanced democratic participation. One of the practical impacts of governance has been the promotion of a more competitive, localised approach to the delivery of services otherwise provided by the state. Critics such as Bull and Jones (2006), and Swyngedouw (2005) argue this has had the effect of blurring the distinction between state institutions and civil society, allowing for the circumvention of traditional democratic channels of accountability. A further impact of governance has been an extension of community consultation and participation in decision-making. According to Lowndes and Wilson (2001), this has changed the traditional balance of power between competing interest groups, not necessarily resulting in an increased level of power for already disadvantaged groups. Finally, the promotion of governance has seen the responsibility for economic development move away from state policy interventions towards community-based frameworks (Jones, 2001). For Gallent (2008), this has resulted in a struggle to balance the devolution of responsibility to communities with the need for strategic oversight exercised by a central authority. Despite these and other criticisms, governance represents an attractive vehicle for sustainable development primarily because of its promotion of localised networks and community participation (Williams, 2006).

However, an inherent tension can be identified between the three primary principles of governance – effectiveness, legitimacy and participation (Davidson and Lockwood, 2008). In particular, where economic criteria alone are used to measure performance, effectiveness will tend to come at the expense of legitimacy and participation. There are two issues of concern here. The first is how to hold non-elected bodies accountable at the same time as ensure their legitimacy. The second issue is how to marry economic performance with environmental and social sustainability concerns. These issues are discussed briefly below in relation to each governance principle.

The first governance principle is effectiveness. Improving the effectiveness of regional development policies is one of the key motivations for contemporary participatory governance. However,

as Davidson and Lockwood (2008:645) point out, effective governance should embody 'capacities for ongoing reflection and negotiation, the production of long-term outcomes and strategic direction, productive conflict management, reconciliation of divergent spatial and temporal perspectives, and the art of cooperative dialogue'. The implication is that effectiveness is more than simply functional efficiency measured in terms of economic indicators. Effectiveness, conceived in this manner, needs to be deliberately incorporated into any new institutional design for governance.

The second governance principle is legitimacy. With the emergence of governance through networks and partnerships between public and private institutions, and voluntary organisations, ensuring their legitimacy through democratic means has become problematic (Davidson and Lockwood, 2008). The alternative is formal regional government which lacks the flexible boundaries and single agenda focus of informal agencies. Newman (2000:907) sees the legitimacy of new institutions of governance being dependent on 'their ability to break out of short-term electoral politics and how well they can establish consensus around wider regional goals'. In the context of legitimacy, the imperative to achieve and maintain economic success will generally favour arguments for efficiency over legitimacy. In an attempt to understand this dichotomy, Davidson and Lockwood (2008) consider legitimacy in terms of two constituent parts – accountability and transparency. The perception of accountability afforded by democratic processes is a key dilemma for governance. Even where the policy-making stage is subject to democratic accountability, technical experts, who increasingly contribute at this stage, are generally not held democratically accountable. This signals the need to accompany new institutions of governance with diverse and innovative accountability mechanisms. Like accountability, decision-making transparency has been an important element of democratic legitimisation. Transparency is one means to overcome declining public trust while attention to community consultation and participation are also likely to afford a legitimacy to governance that is not otherwise available through the voting process.

The third governance principle is the active participation of stakeholders in decision-making, widely supported in the sustainable development literature as essential to combating the accountability and transparency problems associated with systems of governance (see, for example, Chhotray and Stoker, 2009; Simpson, 2001; Williams, 2006). Stakeholder participation is also widely assumed to be necessary for the development of social capital (Putnam, 2000) and a valuable tool for the promotion of social inclusion and social cohesion (DCMS 2002; Bramley and Power, 2009; Forest and Kearns, 2001). Without adequate mechanisms for accountability and transparency, it is suggested that decentralised decision-making runs the risk of either being undermined by powerful actors or developing strategic options based on narrow technocratic worldviews (Davidson and Lockwood 2008:646). The three principles of governance and their characteristics are shown in Table 2.

Table 2. The principles of governance

Principle	Characteristics
Effectiveness	Efficient resource use
	Effective negotiated strategic outcomes
Legitimacy	Diverse accountability mechanisms
	Decision-making transparency
Participation	Broad participation scope and influence on decision-making
	Continuous participation in implementation and evaluation

Partnerships as institutional vehicles for governance

Partnerships are one of the new institutions of governance that have featured significantly in Europe, the UK and more recently in Australia. Partnership approaches are particularly evident in urban regeneration and neighbourhood renewal projects, including so called 'heritage-led' regeneration projects, but also in the provision of public services, such as the education and health care sectors (Osborne and McLaughlin, 2002; Pendlebury et al., 2004). Partnerships can be described as collaborative relationships between government and non-government bodies, formalised by agreement and organisational structure (Lowndes and Skelcher, 1998). They are perceived to be an effective way to facilitate coordination, reduce duplication and manage uncertainty, particularly in situations that require the cooperation of multiple actors across multiple sectors and policy fields (Davidson and Lockwood, 2008; Williams, 2006).

Despite their rapid adoption during the 1990's, critics point to several essential flaws with the conceptualisation of partnerships as self-organising networks that enhance democratic participation. These include the propensity for economic goals to overshadow environmental and social goals (Davidson and Lockwood, 2008; Edwards and Onyx, 2007), the failure of partnerships to guarantee widespread democratic engagement (Bull and Jones, 2003; Davies 2002; Jones 2001), and the potential for embedded inertia and existing power structures to impose constraints on innovation and entrepreneurship (Harriss and De Renzio, 1997; Lowndes and Wilson, 2001). These criticisms all have the capacity to accentuate

social exclusion (Bull and Jones, 2006) or, alternatively, to promote 'turf wars' between strongly cohesive communities and fragment their allegiance to the broader national community (Hipp and Perrin, 2006; Kennett and Forrest, 2006). The fact that partnerships are consistently argued to be coherent with neoliberal ideology further suggests that they are being utilised to compensate for a contraction in the public sector. Much attention has been given in the academic literature to the political agenda underlying the use of partnerships as a result (see, for example, Considine and Giguere, 2008; Davies, 2002; Hastings, 1996; Lowndes and Sullivan, 2007).

Sustainable development and the historic environment

So, how is the historic urban environment exploited within the policies and programs that target the social improvement of communities? The shift in emphasis from property development to people empowerment has brought with it three significant challenges for historic areas. The first challenge is with the utilisation of historic areas in social policy and the tendency to separate the physical reality of a place from the constantly evolving process of meaning and memory making. For example, the Department for Culture Media and Sport (DCMS) publication *People and Places: Social Inclusion Policy for the Built and Historic Environment* 'aims to raise awareness of the links between social inclusion and the built environment' in the UK (DCMS, 2002). The document highlights the importance of 'tapping the economic and social potential of the historic environment', primarily through the sustainable use of heritage buildings and greater acknowledgement of cultural diversity. However, the historic environment does more than represent an interpreted past. Even broadening that past to include diverse ethnic identities and social groups does not equate to social inclusion. Heritage also affects current experiences and perceptions. For a place to have a currency of meaning, it should not only provide a geographical anchor but also allow for social identity and cultural belonging to be continuously negotiated (Smith, 2006). A significant problem then is the emphasis, in conventional heritage practice, on the conservation of heritage values which are primarily understood to be embedded in historic fabric.

The second challenge for historic environments is that community engagement initiatives are generally enacted through the process of heritage management. *People and Places* states that 'historic buildings can help build confidence in community involvement in local decision-making' and the use of partnerships at new World Heritage sites in the UK is practical evidence of this approach. This is despite the criticism noted earlier about the effectiveness of partnerships in enhancing democratic participation and power sharing. A further factor limiting community engagement is that, historically, heritage has been managed by professionals with a tendency to represent non-experts as passive recipients of rather than active participants in the heritage process (Smith, 2006). As suggested by Sullivan (2004), this professional hegemony can result in communities losing ownership and responsibility for their own heritage and, eventually, resenting the heritage experts and the heritage itself.

The third challenge for historic environments is the active use of heritage for the purposes of constructing national identity. Here, *People and Places* asserts that historic environments can 'help connect people to their culture, both past and present'. There is certainly significant national pride derived in the UK, for example, from being the 'birthplace of the industrial revolution'. While the inscription of five industrial World Heritage sites in the UK since 2000 suggests World Heritage status has been sought as a strategy for economic regeneration in otherwise deprived regions, it can also be seen as a state sanctioned legitimisation of industrial heritage as a construct of national identity. However, this has the potential to homogenise otherwise diverse local experiences and associative values.

Therefore, in addition to possibly isolating heritage places from the evolving process of contemporary identity making, and the uncertain value of partnerships in enhancing local participation in the management of heritage places, there is a tendency for social policy to appropriate local heritage for the purposes of constructing a national identity. This subsequently has the potential to limit the exploration of diverse and often traumatic local experiences in favour of more accepted expressions of national unity and innovation. Having explored the key issues surrounding the challenge of governance in historic urban environments, the following section presents a framework for the implementation of a more localised and democratic decision-making process.

A framework for decision-making in historic urban environments

Policy framing, implementation and coordination

The preceding discussion has established that governance represents an attractive, though much criticised, vehicle for sustainable development. This is based on the assumption that systems of governance can promote local collaborative networks and enhance democratic participation, both of which have been identified as conditions for sustainable development. In Europe, the UK and Australia, partnerships have emerged as an important administrative and institutional structure in the governance agenda. This is despite criticism that partnerships have been utilised primarily as vehicles for the market driven delivery of public policy rather than as agents for sustainable development. Even so, partnerships have come to affirm for many the active implementation of sustainable development policy as evidenced by enhanced political participation and power-sharing.

Also suggested previously, the shift toward new forms of governance, and specifically the use of partnerships, has received significant academic attention. In the UK in particular, partnerships have been associated with urban regeneration and social inclusion programs since 1997. While government rhetoric continues to link partnerships to enhanced political participation and local networking, Davies (2002) has argued that partnerships have in fact increased rather than decreased central government control. This has occurred as a result of increased central government control over the resources for collaboration and the absence of a culture of community activism amongst private sector organisations.

A study by the Joseph Rowntree Foundation (JRF) provides further insight into the issues facing governance as a medium for sustainable development (Williams and Thomas, 2006). The study focused specifically on Wales which has a unique statutory duty to promote sustainable development. As has been widely established in the literature, there is a significant variation in the meanings attributed to the concept of sustainable development (Simpson, 2001; Williams, 2006). The JRF study found such definitional challenges had impeded practical progress toward the framing of sustainable development policy both within and between organisations. Despite this, the study found that sustainable development was broadly accepted as a framework that needed to underpin the way organisations operated.

Three key implications for policy implementation can be summarised from these findings. The first implication is that definitional ambiguities and the complexity of inter-organisational coordination are a significant challenge for any system of governance. The second implication is the need to balance a wide variety of competing issues that might otherwise constrain the effectiveness of an emerging system of governance. These include the need to balance inter-organisational cooperation with competition, operational flexibility with standardised efficiency, and democratic openness with manageable boundaries (Williams, 2006). Stemming from these two implications is the need for administrative and institutional innovation. While the literature suggests that partnerships will persist as the primary vehicle for social and development policy implementation, and urban and regional development programs will continue to be associated with a social agenda, the persistence of traditional management thinking, organisational structures and political models will limit the effectiveness of such initiatives.

A framework for the sustainable development of complex historic environments

For governance to succeed as a vehicle for sustainable development in historic urban environments, a decision-making framework is required that recognises the heritage significance of a place and provides for meaningful and extensive stakeholder engagement in relation to its management. This requires the negotiation of limits of acceptable change amongst multiple stakeholders, all of whom have varying perceptions attached to their own legitimacy, varying outcomes that they want pursued, and varying values attached to those outcomes. The following framework is based on a process developed by McCann (1983) for social problem solving and inter-organisational collaboration. A social problem is assumed to be a dynamic issue with no clear boundary or strategy for intervention. Inter-organisational collaboration is assumed to be the most effective way to deal with social problems because they are beyond the scope of any individual stakeholder to tackle on their own. Table 3 incorporates McCann's three stages of social problem solving with the various additional processes required for the sustainable development of complex historic sites.

Table 3. A framework for the sustainable development of complex heritage sites

Stages	Developmental process
Problem setting	Define the problem and identify legitimate stakeholders. Assess the heritage significance and physical condition. Define sustainable development and the key issues.
Direction setting	Agree on a shared vision and common direction for action. Define a statement of heritage significance and determine the limits of acceptable change. Agree on the essential, supportive, neutral and negative sustainability factors.
Structuring	Designate roles and responsibilities, design coordinating structures. Determine the structures for effective, legitimate and participatory management. Determine the evaluation methodology and indicators within an appropriate contextual and temporal perspective.
Implementing	Implement, monitor and evaluate performance. Evaluate performance against regional and national requirements.

Firstly, McCann's problem setting stage describes the events and interactions among stakeholders needed to reach agreement about the definition and membership of the problem domain. This 'legitimises the claims of stakeholders by building social recognition of the problem's existence' (McCann 1983:179).

The success of this stage can be constrained by limited or illegitimate stakeholder participation, politicisation of the process and differences in opinions amongst stakeholders as to the nature of the problem, and a lack of awareness of the larger context. Two elements have been added to this stage. The first element relates to an assessment of heritage significance and physical condition. This establishes the foundation for later discussions about limits of acceptable change. The second element requires the development of a common definition of sustainable development and key local sustainability issues amongst stakeholders

Secondly, McCann’s direction setting stage is described as the process of agreeing on a direction for action by stakeholders. Not only does a ‘desirable state’ need to be negotiated but what must be done to achieve that state needs to be determined. This involves setting goals, developing actions plans and enacting legislation. The process also attempts to resolve an approach to institutional accountability and transparency that will deliver satisfactory end state legitimacy. Without this, sufficient resources may not be allocated and any proposed direction for action can lack the necessary feasibility to have a lasting impact. To this stage has been added the definition of a statement of significance, based on the earlier heritage assessment, and an agreement on limits of acceptable change. Limits of acceptable change are agreed following a negotiated process that weights the key sustainability issues identified in the first stage as essential, supportive, neutral and negative for local sustainable development.

Thirdly, McCann’s structuring stage relates to the functional viability of any problem solving intervention. This concerns who assumes the roles and responsibilities defined by the direction for action. It also concerns the design of the institutional mechanisms used to manage relationships amongst stakeholders. As with the previous two stages, several factors that might impact on the quality of the structuring process are noted. These include an over-reliance on inflexible bureaucratic structures and the inequitable allocation of roles and responsibilities. This stage involves the development of a management structure for the historic environment that is effective, legitimate and participatory in addition to a methodology and indicators for evaluation.

An additional fourth implementation and review stage has been added. This develops McCann’s three stage process into a heuristic model where organisational learning, achieved through the social problem solving process, is integrated back into the system to continuously strengthen the overall approach. The expanded model is cyclical in that any problem intervention is assumed to change the original problematic situation and start the process again. The fourth stage provides for the articulation of progress toward desired ends at a planning level and the review of performance at an operational level. Such a heuristic social problem solving model provides the opportunity to implement corrective action within an already defined historic sustainable development domain and to re-define the issues and stakeholders as required. To further explain how the theoretical model might be implemented, Figure 1 illustrates the interaction between the expanded four stage model for sustainable development and the three levels of problem intervention originally defined by McCann, conceptual, planning and operational.

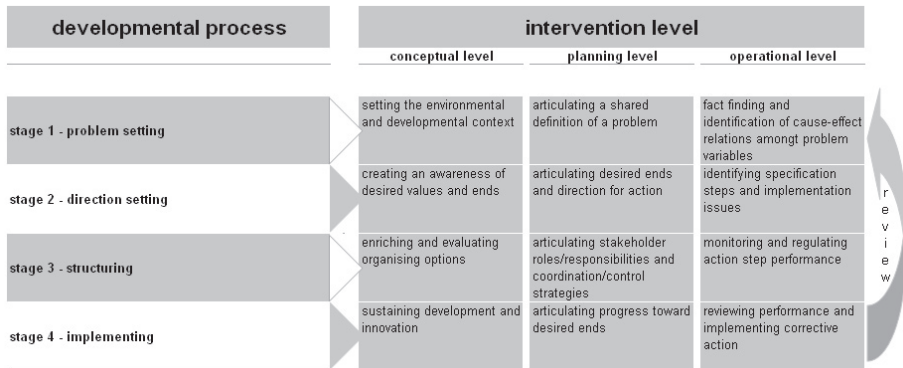


Figure 1. A heuristic model for governance in historic urban environments (adapted from McCann, 1983)

Conclusions

In relation to the sustainable management of complex historic environments, the preceding discussion invites several reflections. Firstly, the contested nature of sustainable development is likely to give rise to a variety of opinions as to what the issues are and how they should be addressed at a local level. In response to 'the influence that framing exerts on problem identification, causality, prognosis and mobilisation' noted by Williams (2006:264), enhancing the frame awareness of key stakeholders is important to fostering collective and coordinated action. Also important is managing the credibility and legitimacy of different stakeholders. For historic urban environments, achieving an effective balance between professional heritage managers and local community participation has already been highlighted as a significant issue.

Secondly, the management process will be tested by the breadth of stakeholder concerns and complexity of inter-relationships between them. The challenge for any system of governance 'is to act in a coordinated and consensual fashion, and for a plethora of actors to agree interventions over different spatial levels and timescales'. This paper assumes that historic urban environments will increasingly be managed within policy frameworks aimed at strengthening participatory governance and social cohesion at a local level. A further issue is that sustainable development is dependent on balancing development at local, regional, national and international levels over time. This is problematic given the need to balance a long-term inter-generational timeframe against short-term political or economic imperatives.

Thirdly, there are several strategic dilemmas that may constrain the effectiveness of sustainable development through governance at historic urban environments. These include the need to balance cooperation and competition. Too much of one will result in a lack of innovation and adaptability while too much of the other will result in the promotion of the interests of the more powerful stakeholders (Williams 2006). Another dilemma involves managing openness and closure in terms of stakeholder membership. A further dilemma concerns the need to balance prescribed rules and systems with the need for flexibility and adaptability. Sullivan (2004:51) describes much of contemporary heritage management as 'structured, bureaucratic and rigorous' which has the capacity to limit the adoption of sustainable development at historic sites.

Finally, adherence to traditional heritage management approaches will be tested by the need to link between organisations and policy fields. To shape effective sustainable development, management competencies will require networking skills and the ability to be informational negotiators and entrepreneurs. Conceptualising the sustainable development of complex historic environments as a social problem, therefore, highlights the need to review the skills of heritage managers as well as the relationships and structures that they operate within. As suggested at the outset, this paper proposes a theoretical model for sustainable development through governance in historic urban environments. Research into the practical operation of the framework is continuing. However, as a means to conceptualise the process, it is hoped that the framework will provide useful insights for other complex historic environments.

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Changing Salisbury: an argument for a return to poetic ordering of urban space following three hundred years of objectification

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This article is concerned with the process of heritage and tradition in relation to urban modification and highlights the current tendency to objectify the past. It looks at significant alterations to the urban conditions of Salisbury since its foundation in the thirteenth century, many of which have concealed and undermined the original relationships structured within, and beyond, the city walls. It suggests that this evolving situation has been governed by differing philosophical ideas rooted in the time when the various additions and demolitions have been undertaken with little regard for the relationships already established within the city, or the needs of the citizens. In order to evaluate the consequences of these changing urban situations, the paper outlines the original intentions behind the foundation and planning of the medieval city and then charts various plans overlaid onto the original layout. This leads to a discussion on the diverse ideas behind the different plans—including issues related to ornament—and thence, a section on the possibilities of reconciliation presented when a more participatory understanding of heritage is utilized: where change and preservation can be facilitated at the same time as accommodating the traditions which underpin much urban space.

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Keywords: Salisbury, ornament, decoration, picturesque, poetic space, medieval, planning, urban space.

Introduction

Salisbury has been a successful English city for about eight hundred years. The original thirteenth-century plan of the city has been subject to many interpretations, the most recent of which suggests that the primary relationships within the medieval city were closely linked to the processional rites of the cathedral during the rogation period (Frost, 2009). However, following the gradual retreat of the church from urban life during the later Middle Ages, this ordering appears to have become less significant for the citizens of Salisbury with the result that, by the time the first major alterations to the cathedral and city were undertaken in the late eighteenth century, this medieval ordering survived only as a latent characteristic. Change is necessary, and indeed essential, if cities are to adapt to the shifting demands of their citizens. But in recent times, not only in Salisbury, this evolutionary process has often stifled the life of the city because the justifications for change have been based on limited, instrumental knowledge. By that I mean that the selection of criteria which have been seen as essential when evaluating a place have also declared the limits of their participation in the world and thus the process has imposed unnecessary hegemonies upon the place being evaluated (see Vesely, 2004). As a result of this process, rich territories of mediation established over centuries have often been overwritten and the meaning of landscape reduced to a fraction of its original potential. However, unlike the history of manuscripts and palimpsests where small, unrelated patches of writing are sometimes visible below new layers of script; in the urban realm each succeeding layer which leaves a trace has a coherence linked to the evolving traditions of the city underpinned by concrete relationships. Therefore, it is difficult to apply new ordering structures on top of existing conditions without resistance or reaction from these preceding layers and the people they accommodate. It is the thesis of this paper that the value of heritage and space within a city is less to do with how you see it and more to do with how it is used. Consequently, in the preservation and development of existing places, there is an implicit duty upon the designer to question whether these

layers of history can begin to inform future developments and, through a better understanding of continuity and tradition, offer more complete environments for the habitation of future generations. In order to examine this issue with respect to the history of Salisbury this article is divided into four parts; Section two contains a brief history of some important moments in the urban planning of Salisbury—good and bad; this leads on to section three—an evaluation of the picturesque planning theories which have driven many of these changes; then section four which looks at the role of ornament in the medieval period and suggests that recent changes have not only created limited new possibilities, but also reduced the qualities of the pre-existing conditions; and finally, section five, which introduces a possible way forward that could accommodate the changing nature of urban life within broader cultural horizons by investing in a better understanding of its use (as in the Greek *praxis*) as poetic space.

The History and Alteration of Salisbury

The medieval foundation and eighteenth century changes

The city and cathedral of Salisbury were conceived as one entity and built at the beginning of the thirteenth century on land owned by the bishop in a valley below the town of Old Sarum. The new town had all of the basic characteristics of a medieval town; a recognizable street system; a religious centre distinct from the civil centre; city governance was organized to benefit the wealthy burghers—in this case by the bishop; and an identity was established by the consistency of the architecture of the main buildings (Benevolo, 1980). This continuity was particularly clear in Salisbury because the whole city, including the cathedral, was constructed in one period from *circa* 1220 to *circa* 1270. But in addition to the above characteristics, the city seems to have been structured using the processional rites of the cathedral, which annually circumnavigated the city in order to visit the three urban parish churches (Frost, 2009).

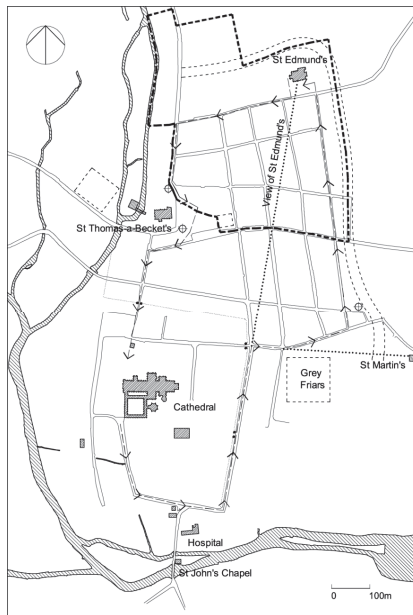


Figure 1. Plan of Salisbury showing the likely route of the third rogation procession on the Vigil of the Ascension in the thirteenth century.

Apart from the addition of the spire in the fourteenth century, the cathedral and city remained relatively untouched by cultural shifts and population growth until around the end of the eighteenth century when the first major restoration and 'conservation and heritage' makeover of the cathedral was undertaken by the architect James Wyatt at the instigation of the then Bishop, Shute Barrington (Dale, 1956). Wyatt began to survey the cathedral and Close around 1787 and handed his final report over to the Dean and Chapter in 1789. The agreement reached with the Dean and Chapter following this report is documented in the *Chapter Acts Book* dated 26th August and itemizes some of the works undertaken while Wyatt was in control of the site – albeit *in absentia* for much of his tenure. The list included:

- To varnish and make new canopies to the stalls.
- To build a new pulpit and bishops throne.
- To put new iron rails to the Communion, with a new coping and new blue stone floor.
- To put two wainscot Screens across the aisles.
- To lay new blue stone paving in the Lady Chapel (cut from old grave stones).
- To enrich the side walls to Wyatt's design.
- To clean and color the church.
- To fit up the Morning Chapel.
- To make a new screen to the organ loft to Wyatt's design.
- To remove the beam in the choir.

Much of this list probably formed the basis of Wyatt's initial brief for the works to be done at Salisbury but it also included some of his own suggestions for the 'improvement' of the design and its structural integrity. However, in addition to all of this, some more dramatic changes were also undertaken:

- The north and south porches of the cathedral originally brought down from Old Sarum were taken down.
- The south door near the verger's house was stopped up and another opened near the chapter vestry.
- The chapels in the transept were opened out.
- The choir and the Lady Chapel were joined by the removal of the wall behind the high altar.
- The removal of the Hungerford and Beauchamp Perpendicular Gothic Chapels flanking the Lady Chapel.
- The removal and replacement of some of the stained glass windows (although not all of the changes to the glass took place whilst Wyatt was attached to the cathedral).

These more radical alterations to the cathedral may have been undertaken at the direct request of the bishop following consultations with William Gilpin, Vicar of Boldre in the New Forest, or at the suggestion of Wyatt. Gilpin held great influence over the bishop's artistic and architectural opinions and described his own area of expertise as 'Gothic architecture ... relative to picturesque beauty' (Dale, 1956). He was considered an authority on the subject at the time and, as a canon of the cathedral holding the Prebend of Beaminster, had donated a considerable sum from his own pocket to assist in the development of the cathedral. His initial comments on the alterations seem to have led Wyatt to the idea of opening up the Lady Chapel—both men expressing their enthusiasm for the 'very beautiful piece of perspective' afforded by any view from the choir to the Lady Chapel that would result from these works. However, the removal of this wall necessitated the rearrangement of nearly all the significant tombs in the cathedral into rows underneath the arches of the nave. Even today, this remodeling appears rather heavy handed but it is interesting to note that as late as the nineteen-fifties, Antony Dale, Wyatt's biographer, refers to this 'rearrangement' of the tombs as 'a very reasonable and tidy measure', thus expressing a sympathy for the philosophical ideas of the eighteenth century which tended to judge buildings and artifacts on purely aesthetic grounds.

This 'new' aesthetic, practical and picturesque interpretation of the Gothic style championed by Wyatt and Gilpin also resulted in the destruction of the two perpendicular chapels at the east end, either side of the Lady Chapel, because although they were important historical artifacts, aesthetically the perpendicular was considered a debased kind of Gothic and their dilapidated state—following some destruction during the civil war—meant their renovation was considered unjustifiable. Although it appears that all the various authorities controlling the alterations were in agreement regarding the destruction of these chantry chapels, the move was not universally praised. During the latter part of the eighteenth century, because of the increasing numbers of city dead, there was a move away from churchyard burials to internment in large cemeteries outside the city boundaries involving the removal of some existing tombs and the exhumation of human remains (Worpole, 2003). This was controversial and although, at the time, the preservation of funerary monuments was considered to be an important duty of any age, practical solutions to difficult problems required many taboos to be broken.

The fact that all of these alterations were planned and undertaken with little or no sense of the original ordering of the cathedral and its setting is interesting and disappointing. The same could also be said of the demolition of the campanile, which stood in the Close half way between the north portal of the cathedral and the main gate leading to the city. The tower, in this critical location, offered a significant opportunity for the clergy to represent the temporal ordering of the medieval city as a whole—allowing the measurement of time to be seen as distinct from the main body of the cathedral, and hence separate from the rule of the bishop and canons (see Frost, 2009). At a time in the medieval period when the urban landscape was beginning to adapt to the requirements of the emerging merchant classes, this symbolic separation of the measurement of time from the cathedral cannot be underestimated. Again, no repairs had been undertaken since the civil war and the two upper stages, made from timber, had been removed in 1758 following a chapter meeting when the whole building was considered 'neither useful nor ornamental'. So in 1790 they moved the clock and the bells into the cathedral and demolished the remaining parts of the bell tower in order to open up the north-west view of the building within its newly planned 'picturesque' setting.



Figure 2. View of the cathedral across the picturesque Close

Wyatt did improve some aspects of the site, introducing proper drainage and resurfacing the paths, but overall his involvement suggests the first major remodeling of the cathedral and its setting was orchestrated using the ideals of the day with little regard for the underlying order or surviving traditions related to the site. Here, an attitude to conservation and heritage can already be discerned where reliance on the interrogation of buildings as objects was prioritized over an understanding of architecture seen as a part of a broader cultural setting. If, as it seems, that the active clergy at the time were in philosophical agreement with the forces for modernization then it suggests that there will always be moments in history when such alignments, allied with political power, can lead to regressive preservation and wholesale destruction. The next question to be asked is whether later alterations have resulted in equally limiting results.

Contemporary Alterations

The arrival of the railway in the nineteenth century did affect the overall landscape of the city, but because of the distance allowed between the new tracks and the old centre (including one railway tunnel in the northern approach to Salisbury) it had little impact on the primary city spaces preserved from the medieval period. However, the development of the main roads within the boundaries of the medieval city have harmed the atmosphere of city as a whole even though the initial plans for a ring road were based on sound planning judgment. The problem was that much of the traffic on the main through route from London to the South West came through the centre of Salisbury and in 1947, the time of the first road development plan, this was seen to be a situation which could only worsen. But also—perhaps bolstered by the new opportunities presented by the bombsites of postwar Britain—planners at the time felt comfortable in driving solutions to containable problems right into the heart of cities. So, rather than skirting Salisbury with a new ring road built at a safe distance from the city centre, the plan directed the traffic onto large new roads cut through the historic centre. In the end this radical scheme was avoided, but an inner ring-road was eventually constructed between 1962-69. Again, I am sure this can be justified in rational terms but its impact on the spaces of the city has been critical.

Aside from these traffic management debacles, the retail planning policy has led to the construction of three inner city shopping centers; Old George Shopping Centre built in 1965 and extensively upgraded in the mid 1990s; then CrossKeys Shopping centre; and most recently the Maltings, built in an old fifteenth-century grain mill. All of these shopping centers have taken business away from some more visible locations of the city with the result that overall street activity has been reduced and many retail premises in key positions are vacant.

In the latest bid for change, the Dean and Chapter held a competition for the development of a Magna Carta museum within the Close itself. The initial competition resulted in no clear winner and after further consultation, UK architects Dixon Jones were appointed to develop a scheme to the south of the cloister. In Dixon Jones' own description of the aims of the project they list nine points:

- To house Magna Carta in an appropriate manner.
- To have an exterior with a low visual impact on the highly sensitive surroundings.
- To realize the benefit to the public of the south view of the cathedral.
- To have an interior that compliments the adjacent Cathedral interiors.
- To provide suitable context for the exhibition material.
- To respond to the need for public facilities.
- To reflect the cathedral's education program.
- To provide long term flexibility in use.
- To make the most of low energy efficiency.

On the face of it all of the points are very reasonable, but one could argue that they are also inane. By turning every sentence into a negative we find that most of the points are self evident—why would you choose to house Magna Carta in an 'inappropriate' manner or not 'respond to the need for public facilities'? Only two points suggest an architectural strategy: that of a 'low visual impact' and the 'opening of the south view of the cathedral'. The latter can be undertaken without reference to the building but the former appears to be completely at odds with the attitude towards all the renovation and 'improvements' undertaken since the eighteenth century up to and including the imposition of the ring road in 1969. But is it really any different? Both suggest that the cathedral should be understood as an object, framed and placed within a very particular landscape; a landscape immortalized by Constable, among others, over the past two hundred years (for example in Constable's *View of Salisbury* 1823).

This new and apparently tender attitude, which underpins the structuring of the landscape by organizing key views, appears to be as close as all these projects get to the articulation of an urban environment and, as a result, the urban environment itself has become objectified: understood as distinct from its everyday usage. Within this situation the heritage industry buys its buildings, maintains them, charges admission and thereby accentuates the dislocation between the everyday world and the built object—now similar to an object in a museum but in this case still present in the heart of the city. And, because of this difficult juxtaposition, the landscape surrounding the object is inevitably designed to reinforce the prejudice of the object rather than create a more differentiated situation similar to the ambiguities present in the rest of the city.

But one can go further. This tendency towards objectification is not sympathetic to the way that these buildings were originally conceived or built. It is not the way that they were used, nor does it suggest a way in which we can begin to foster a better love and respect for our environment and our past. Why couldn't the museum at Salisbury have a high visual impact within the surroundings? Why are the surroundings seen to be more sensitive than anywhere else? Do we really think that all of the architects involved in the competition for the new museum at Salisbury would not have enhanced the setting of the medieval cathedral which currently remains isolated in an artificial, picturesque, eighteenth-century landscape? In the end good architecture and good heritage will always depend on good judgment; and it is this trust in good judgment that is so often lacking in the way we currently address the landscapes within which we live and work. The problem is that although it is easier to judge a piece of heritage once it has been separated from its contemporary context—both spatial and cultural—in objectifying the building or place concerned the whole idea of value itself is inadvertently questioned at the same time. To describe this problem in Salisbury more directly we need to evaluate the ideas of the picturesque in the eighteenth and nineteenth century which underpin the intellectual basis for most of the planning changes outlined above.

Salisbury and the Picturesque

The emergence of the idea of 'style' itself as a way of categorizing the complicated theoretical horizons of the eighteenth and nineteenth century is a topic beyond the scope of this paper. Nevertheless, it is important to note that the emergence of the picturesque style during this period was a direct response to the rationalizing tendencies of the Enlightenment. The more mankind used reason as the primary measure, the more there emerged a need for a different set of measures which dealt with the other facets of life not subject to the laws of reason. As a result, emotion and beauty, two key facets of this unreasoned world began to be described in terms of taste and the sublime (Bergdoll, 2000, Harries, 1998. Vesely, 2004).

It has been argued that the rapid development of the Picturesque in urban design first emerged as a response to the growing disapproval of the rectilinear street plans of the Renaissance (Kostof, 1991) which were also perhaps viewed as an example of the implementation of reason on the lived world. Edmund Burke, the philosopher of the Picturesque, writing *A Philosophical enquiry into the Origin of our Ideas of the Sublime and the Beautiful* in 1757, articulated this dissatisfaction by describing his preference for the Gothic Style in all things suggesting that its key qualities of 'gloominess, roughness, and daunting scale [were] key spurs to sublime emotion'. In the early years of the movement this romantic association suggested an order where personal mood and expression, moderated by good taste, could substitute for

any form of communality not based on reason. Although Wyatt's work at Salisbury coincided with the early stages of the Gothic Revival (both Fonthill Abbey—designed by Wyatt—and Strawberry Hill were built in the latter half of the eighteenth century) it was not until later, particularly in the shadow of a vast church building program during the nineteenth century, that the picturesque developed into a reaction against the idea of modernity itself and began to gain real momentum in the planning sphere. By the 1830s, what had been a simple stylistic preference became less a personal or local preference and more a matter relating to definitions of national and local identity (Bergdoll, 2000).

The new town of Bournemouth, begun in the 1830s, was an early example of this transference of picturesque ideals of beauty, composition and the sublime to the urban environment, where the planner utilized curved streets and understood the landscape as an object to be viewed. Decimus Burton (1800-1881), the architect of the town after 1842 wrote: 'The wooded valley through which the Bourne runs to the sea is and must always constitute the principal object of the landscape ... As a general principle in designing a building plan for Bournemouth, formality should be carefully avoided' (Aston & Bond, 1976).

The use of these picturesque asymmetries as a way of making townscape became even more clearly defined in the twentieth century when such layouts were often described as embodying a form of 'non urban imagery' (Kostof, 1991)—an association almost unthinkable for a medieval burgher of Salisbury for whom the order of the city was the image of civilization. Medieval man saw no distinction between the world he inhabited and the spiritual world, 'reality was not that the heavenly world was as real as the earthly world, it was that they formed one world, in an extricable mixture which caught men in the toils of a living supernatural' (Le Goff, 2001). It was, therefore, within the artifice of the urban environment that meaning and order in the medieval world were most clearly manifested. In contrast to this deep understanding of order, the Picturesque movement saw only aesthetic relationships and thus it was their preference for asymmetry rather than the meanings inherent in the medieval landscape that drew them to the Gothic instead of the regular structures of the Renaissance.

These factors all combined to create the theoretical setting for the alterations which took place in Salisbury up to and including the twentieth century. On the one hand there was the evolution of 'picturesque urban planning' with its curved streets and 'anti-urban' imagery, and the other, a medieval city with a pre-existing exemplar of Early English Gothic ready for the planning make-over. In 1947 Thomas Sharp writes in relation to his new road plan for the city within the curtilage of the old medieval city defenses:

Although the great spire of the cathedral dominates the city in a hundred views, it is nearly always seen rising sheer over a broken sea of golden roofs. There are no monumental vistas; there are even very few direct views. This is as it should be. But one new direct view is suggested in this plan, for dramatic effect ... a view down the suggested road running towards New Street from the proposed square in Fisherton Street. This view will be far wider than any at present in the city: but with the curve of the streets and the river flowing beside the roadway, it will still be entirely informal and in character with the rest of the city'.

Within this statement all the prejudices of picturesque planning are clearly stated in support of a new orderliness which is planted on an unsuspecting city without recourse to the meaning or identity of the existing place. Sharp attempts to justify the interventions using a language he claims has arisen from the city itself and then, in the book, presents a perspective utilizing a raised viewpoint which bears no relation to the possible vistas realized within the planning strategy itself. His own history of town planning, published in 1936, glosses over the medieval period referring only to economics and patronage as critical factors affecting urban development with little sense of the way the spaces were used—generally or ceremonially. This disengagement with the actual condition of the city and its inhabitants allowed him later to revise his views on town center planning, suggesting that 'the only private traffic permitted within a town-center should be traffic associated with the permanent occupancy and the functioning of the buildings and utilities within it' (Sharp 1968). Luckily for him his earlier plan for Salisbury had not been implemented. But on a broader level, can we even say that his observations clear and irrefutable? Is Salisbury 'informal'? Is it true there are no 'monumental vistas'? Can a singular view from a space of no civic value be classified as 'dramatic' purely by reference to its scale?

This article does not set out to describe every aspect of the city plan of Salisbury, nor is it an inventory of the expansion which took place in the nineteenth and twentieth centuries. But it is already clear from the changes described that there is an underlying attitude towards the urban identity of Salisbury which has engaged only with certain facts evident within a limited horizon. In contrast to the modern plans and alterations described above which wish to determine all aspects of participation from the basis of a limited rational discourse, the medieval plan concentrated on establishing a primary participatory order for the city and then allowed other agencies to develop secondary relationships to help configure the remaining aspects of the city plan (Frost, 2009). Of course suburbs have grown up around Salisbury, each relating to different economic classes and different spatial ideas, but aside from this, the planners of the modern city seem to have missed a real opportunity to evolve and develop the primary order originally established in the medieval period. This processional order was grounded in the idea that a city was not just a grouping of buildings that can be evaluated as objects independent of their setting but a body of people (*civitas*) who constantly participated in the revelation of their identity through the activities which were undertaken in and around the city. Everything from the stocks and the pillory placed in the town square; to the parish and city boundaries beaten with birch and willow; to the supplication of

the clergy for a good harvest and a divine blessing for the forthcoming year—testified to this reciprocity between place and action: between occupation and belonging.

But before alternative methods of evaluation can be presented which incorporate these issues, the effect of new ideals on the extant 'objects' themselves needs to be evaluated because the limited horizons of the picturesque can also be seen to affect much of the latent identity of the existing fabric of the city. In its most embodied form, the dialectic of 'occupation and belonging' which underpinned the spatial ordering of the city discussed above was also evident within the ornamental programmes of the cathedral and, due to the extensive processions which often went beyond the boundaries of the cathedral Close, extended into the city as a whole. It is difficult to know exactly how this transition from cathedral to city was understood or articulated during these processions, but it is clear that ornament, like the buildings, was altered by objectification.

Ornament and Engagement

Much of the language of the picturesque suggests a thorough and significant understanding of the role of ornament, both in buildings as well as in ideas of urban planning. But this confidence is misplaced. It has already been suggested that the way medieval burghers would have experienced their city was different to that of the nineteenth-century citizens. This variance is similarly evident in the difference between ornament and decoration—words that are commonly used interchangeably but describe quite different conditions. In *The Ethical Function of Architecture* Karsten Harries offers a concise description of the difference which suits the purpose of the discussion here: '... I shall call decoration that articulates a communal ethos *ornament* and decoration that we experience primarily as an aesthetic addition to a building *decoration*. So understood, *decoration is the aesthetic analogue to ornament*' (Harries, 1998). It is this communal ethos inherent to ornament which was so critical to the ideas concerning representation in the Middle Ages.

Treatises on the uses of ornament/decoration in architecture go back to the classical world and, like so many other issues that were significant during the Middle Ages, key comments can be traced back to Plato. Although he did not address the use of ornament in architecture *per se*, his discourses on the use of rhetoric were seen to be relevant to the debate. Plato believed that true rhetoric is dialectic itself, but rhetoric used to serve its own ends, particularly by the Sophists who used it without recourse to ethos or justice, had no value. In the *Gorgias* he develops this argument equating the arts that care for the body (gymnastics and medicine) with the political arts which care for the soul (legislation and justice). He continues: 'Sophistic is to legislation what beautification is to gymnastics, and rhetoric to justice what cookery is to medicine' and that if the 'soul' defers decision making to the 'body' in these matters then eventually the understanding of the difference will be lost (*Gorgias*, 464c-465e). This description of the aim and root of rhetoric also describes the difference between ornament and decoration as understood in the Middle Ages. Even in Vitruvius' Ten Books, written in the first century BC, the notion of *decorum*, borrowed from Cicero's *De officiis*, led to descriptions of the correct procedures and appearances for different building types where ornament was not seen as a separate entity from the other aspects of building. However, by the beginning of the Renaissance with Alberti the beginning of a movement away from this sentiment can already be seen (Alberti, 1965). Alberti divided structure and decoration into separate chapters, with ornament and beauty (*pulchritudo et ornamentum*) being covered in Book VI. 'Before Alberti there was no hint of the separation between structure and ornament. For Vitruvius and other writers, a building had been an integrated whole from the finest carving on its surface to the unformed rubble of its core' (Onians, 1988).

This new approach to decoration did not totally replace the earlier ethical ornament—particularly where the ornament related to a person and a community and their way of dwelling—but placed it within a competing field which lasted several centuries until the final flourishes of ornamentation were evident in the designs of the Baroque (Vesely, 2004). After this, decoration reigned supreme. As Harries states: 'When we call and understand the philosophy of art first of all as aesthetics, we are the heirs of a quite specific approach to art, one that, even though its long prehistory goes back to the Renaissance and indeed to antiquity, triumphed only in the eighteenth century, over an older approach that would not grant autonomy to art, instead assigning it a religious, a social, or an ethical function. Think to a medieval altarpiece' (Harries, 1998).

In the medieval period it was not just that the iconography was recognisable and used didactically but that the core ontological meanings of the culture were embodied in the structure and ornamentation of these great edifices. The aim of the whole work was not to create an aesthetic object but to attempt 'to address humanity's deepest concerns' (Harries, 1998). At Salisbury, the argument for a the interpretation of a processional ordering of the city and cathedral relates to the articulation of some of these concerns, particularly insofar as the processional enactments can be seen to reveal Augustine's threefold explication of time as experienced—*memoria, contuitus and expectation* (Frost, 2009). This threefold structure of the experience of time can be paired with the representational horizons of time as a whole thus linking processional temporality with that inherent to ornament. Peter Carl describes these three horizons thus: The 'three horizons of time [are]... the temporality of origins, time orientated as regeneration (the permanence of temporal succession and renewal), and the dramatic time of human events in history (conceived as re-enactment). ... ornament [being] the most familiar vehicle by which these relationships are articulated' (Carl, 1992).

The ornamental program evident within the cloister at Salisbury Cathedral was clearly a part of this tradition where the natural stone foliate bosses established a tension with the temporal variation of nature within the cloister.

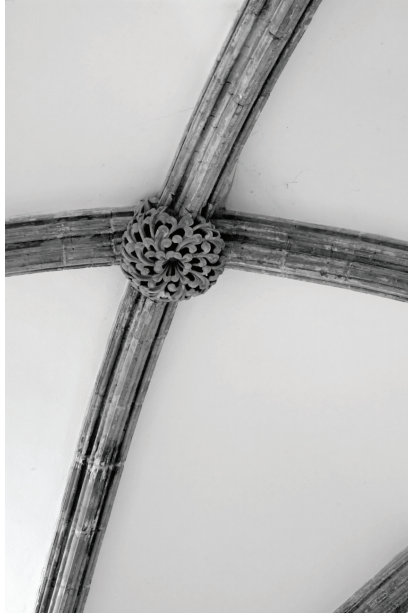


Figure 3. View of foliate bosses on the vaults of the cloister at Salisbury

The square cloister—representing the quartered universe and the four rivers of paradise—was linked to the physical world and thus to the first creative act. On the one hand, the formality of the garden was related to the perfection of Eden, but on the other, it stood for the realm of creativity—the garden as gift associated with the inconceivable act of creation itself (Frost, 2009).

But one could also argue that this type of ornamental understanding could be extended to the architecture in relation to the city. Throughout the processions, the cathedral and the three main city churches were periodically seen and then obscured. The views were not constructed to establish the primacy of sight in ways familiar to the articulation of Renaissance urban space, but rather as moments of orientation which fell in and out of sight in the same way that they only occasionally engaged the other senses. To see the ecclesiastical architecture as ornaments to the urban setting is perhaps the best way to describe the relationship between these two experiences (city and cloister). It also explains why it has been relatively easy to ignore the deep layers of articulation inherent to the place when much of the later philosophical understanding of ornament had reduced all such endeavors to aesthetic decoration. For Kant, writing in the mid eighteenth century, ornament could be experienced without these layers of meaning purely as an aesthetic object (Harries, 1983). However, if 'the architectural function of ornament is ... bracketed, and ornament is understood as an abstract art *sui generis* ... [as] it casts off its servitude and becomes absolute ... ornament ceases to function as such: it dies as ornament only to be reborn as art for art's sake'. (Harries, 1998) And, as Foucault describes: 'if we limit ourselves to this type of always partial and local inquiry or test, do we not run the risk of letting ourselves be determined by more general structures of which we may well not be conscious, and over which we may have no control?' (Foucault, 1984)

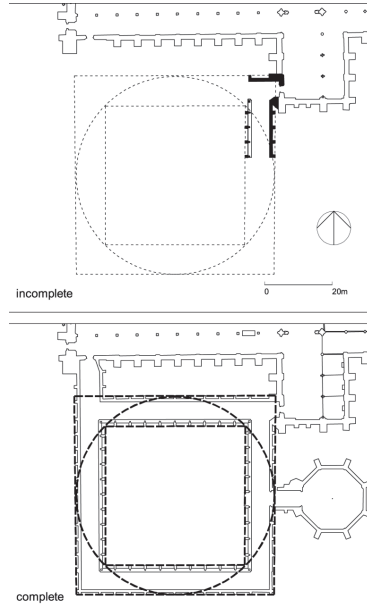


Figure 4. Plan of Salisbury Cathedral cloister with key dimensions and relationships indicating the final size and shape of the cloister from the first stages of the construction

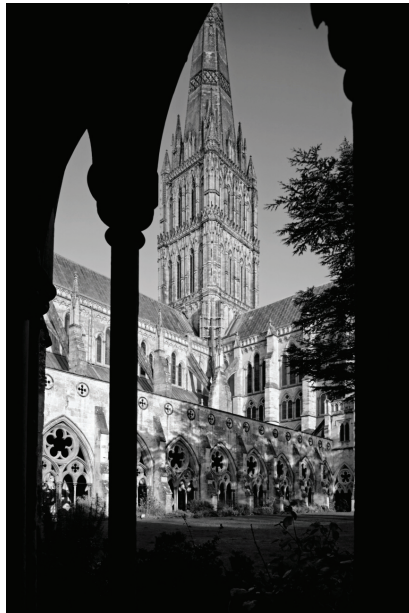


Figure 5. View of the Salisbury Cathedral cloister from the western range

It is not the purpose of this paper to attempt to fully describe the meaning or the theory behind the nature of ornament in the Middle Ages and its critical relationship to temporality ignored during later alterations to the city. But it is worth reiterating at this point that the capacity for ornament 'to attract the genetic numerologies and geometric sequences of *anologia/proportio* or *logos/ratio*, and the speculation which attends that work, could only sustain itself within a fundamental concern for the embodiment of temporality, manifest as a structure of mediation between origins and oriented time, between eternity and the possibility of history'. (Carl 1991) Therefore, it must be acknowledged that any attempt to reintroduce particular ornamental regimes conceived and presented as a tradition reduced to a series of aesthetic rules is by definition, doomed to failure. Ornament is a manifestation of cultural ethos, it cannot create one.

I am not arguing here for a return to a more embodied use of ornament—although that would not necessarily be a bad thing—but for the recognition that the changes undertaken in the eighteenth and nineteenth centuries reduced even existing examples of ornament to mere decoration. And, even more worryingly, as time went on, the full depth of the representational field offered by ornament was no longer accessible at all because the understanding of the relationship between ornament and communal ethos lost.

The point of this relationship is that it is not static; it evolves. The additions to medieval cathedrals during periods where ornament was valued as a manifestation of communal ethos did not challenge the order of the initial ornamental programs but added to them; older traditions are still visible beneath or beside the new ones—Canterbury's Trinity chapel (1220) added to the earlier Norman cathedral; or Westminster Abbey's Henry VII Lady chapel (1509) testify to this phenomenon. A phenomenon to a certain degree denied in Salisbury Cathedral as a result of the demolition of the chantry chapels and the radical reworking of the interior perspective by Wyatt; and in the Close by the demolition of the campanile and the reduction in height of the churchyard wall. In the same way that the removal of the choir screen changed the way the building is used and ultimately challenged the communal representational possibilities of the cathedral as a whole, the remodeled exterior reduced a great monument of the people to an object for contemplation set outside its festive origins. It can no longer be used in the same way; the objectification of the building reduces its cultural impact to the same degree that it increases its aesthetic potential. It is perhaps then unsurprising that the prevailing interpretation of the architecture of the Middle Ages is one of tectonic clarity and technical bravado where the underlying meaning of the work is deemed secondary to the realization of a vast technological project. In reality, however, the cathedral embodies complex relationships: it is not itself a complicated object.

In the light of this discussion one can understand why the poverty of thought underpinning much modern development has produced so much poor architecture, but it is perhaps more difficult to forgive the associated tendency which has reduced past greatness to current mediocrity. Any attempt to find a new way forward out of this situation must, therefore, begin to address some of these complex issues. It will not necessarily result in a new ornamental program as complete as has been experienced in the past, but it must begin to address aspects of being-in-the-world which acknowledge a greater part of our humanity and allow the ethos of the community to present itself. In the last section of this paper this question will be addressed in relation to inhabitation and use which form the basis of a possible reconciliation of belonging and building, described by Heidegger as 'poetic creation', which lets us dwell, and is a kind of building (Heidegger, 1971a). But in looking at this discussion it must be borne in mind that 'Poeticalness is not a supplementation of discourse with rhetorical adornment but a total re-evaluation of the discourse and of all of its components ...'. (Jakobson, 1960)

The Use of Poetic Space

Although much of the philosophical writing on poetics, like ornament, relates to the use of language it is clear that the main issues also apply to spatial relationships and more particularly to the idea of the creative act in general. There are numerous philosophers who have written on this idea of poetics related to space, notably Heidegger (1971, 1967), Gadamer (1975, 1986), Bachelard (1969) and Merleau-Ponty (1962) to name but a few. But the discourse can be traced back to Plato who suggests in his Symposium that '*every kind of artistic creation is poetry*' (*Symposium*, 204b). Aristotle appears to agree with this sentiment when he defines the work of art as '*mimesis of praxis*'—as a representation of people doing or experiencing something (*Poetics*, 1450b3-4). Heidegger confirms this: 'Making is, in Greek *poiesis*', but he continues with a word of caution: 'This does not mean, though, that the poetic is merely an ornament and bonus added to dwelling. Nor does the poetic character of dwelling mean merely that the poetic turns up in some way or another in all dwelling. Rather, the phrase "poetically man dwells" says: poetry first causes dwelling to be dwelling' (Heidegger, 1971a).

But this definition of the poetic the act of creation is not without its difficulties and over the centuries there have been many instances when the tension present within the making, or interpreting, of particular situations has been reduced in scope to enable more concise evaluations and conclusions. The primary issue is that we are within the very experience we are trying to evaluate—linguistically, historically and spatially. As Gadamer says: 'We are always within the situation, and to throw light on it is a task never entirely completed. This is also true of the ... situation in which we find ourselves with regard to the tradition we are trying to understand' (Gadamer, 1975). So the first concession that must be made in attempting to evaluate places poetically is that conclusions will never be complete, they can only ever be

approximations to the actual situation. The key question therefore, is what are the primary aspects which should form the basis of any poetic evaluation?

Over the course of the alterations to Salisbury the urban space appears to have been analyzed using certain limited references, or, more precisely, by using closed systems which did not offer meaning beyond their immanent context or 'sense', i.e. they offered little more of the city or the world as a whole beyond the limits of the original conception itself. These artificial 'limits' premiated within the rational discourses consigned all other factors relating to the place as either subjective or emotional and therefore of lesser value. That there may have been some aspects of reality which could be shared and defined, but were not facts or things described by facts, was missing—as was the recognition of the relationship between the author of the space who 'intended' it and the viewer who 'interprets' or 'uses' it. A more poetic evaluation prior to the implementation of any changes would not have had this limiting effect because it would have resisted the obliteration of the other references by preserving them within a more ambiguous framework. In doing so, this broader shift in priority would have led away from a multi-valency—where all meaning is lost in the relativism of the idea of subjective interpretation—towards a 'fusion of horizons'—where creator and viewer first recognize their primary relationship to the world as a whole—with its specific, shared, cultural horizon. It is upon this ground that poetic space can be communicated, understood and shared because fundamentally, 'understanding is an inter-subjective process' (Ricoeur, 1977). This way of thinking about space is not new and was present, in different forms, in the Middle Ages and particularly in the eighteenth century where 'the unity of Baroque space [for example, was] established by the metaphorical structure of space, which has the capacity to hold together different arts and at the same time meet all the important conditions of practical life, decorum and ethos' (Vesely, 2004).

Accepting, then, that the evaluation of the situation at hand can only ever be partially completed, and that the primary relationship of the spaces to be evaluated is to the world as given, it is the first task of the designer to evaluate the existing conditions of the spaces in question and to try to reveal something of their latent qualities—qualities which form the deep background of the natural world but often lack explicit articulation. The suggested processional ordering of Salisbury (Frost, 2009) would have allowed these latent qualities of the urban space to be manifested through liturgical rites within the cathedral and on the streets of the city. But to ascertain whether the themes present in these rituals can be reconnected within the contemporary city, where the population is primarily secular and the processions no longer pass through the streets, this theological context must be reinterpreted ontologically.

To begin first with the theology, John Cassian (360-435) established a fourfold structure for biblical exegesis which he adapted to include spatial relationships:

Jerusalem can be taken in four senses: historically [literally], as the city of the Jews, allegorically as the Church of Christ [in the sense of the institution rather than the building], anagogically as the Heavenly City of God 'which is mother of us all' (Gal. 4:26), tropologically, as the soul of man, which is frequently subject to praise or blame from the Lord often under this title'. (Cassian in Wace 1894)

Paul Ricoeur, writing more recently on metaphor, suggests that there are four modes of discourse; the scientific, the poetic, the religious and the speculative (Ricoeur, 1977). These two configurations can be associated relatively clearly where; literal meaning becomes scientific discourse; tropological meaning becomes poetic discourse; allegorical meaning becomes religious discourse; and anagogical meaning becomes speculative discourse. As we have seen already, the literal/scientific interpretation does not reveal the full depth of the situation. But this simple matching of pairs also reveals that the tropological/poetic interpretation cannot complete the analysis. However, it does suggest that there is something common, or shared, in this tropological/poetic mode of discourse and that it is here that the artist/poet can begin to reveal the fullness of meaning embodied in all four modes.

In the *Rule of Metaphor*, Paul Ricoeur discusses the role of poetics in language and suggests that

poetry does not seek to prove anything at all: its project is mimetic; its aim ... is to compose an essential representation of human actions; its appropriate method is to speak the truth by means of fiction, fable, and tragic myths' (Ricoeur, 1977).

By that he means that good poetics is rooted in metaphor where relationships are understood through an 'intuitive perception of the similarity in dissimilars' (Aristotle, *Poetics 1459a7*) and thus the observer is forced to see the thing again in a new context without ever suspending his belonging to the world. This type of experience is both the means by which meaning is developed and nurtured as well as the source of meaning in the first place. But the engagement of mimesis in this process — this live transference of meaning — is also dependent on some 'making'. In making, suggests Dalibor Vesely,

mimesis reveals the mystery of order as a tension between its potential and actual existence, which ultimately always points toward the ultimate order—the cosmos. It is in this sense that the re-enactment of cosmic order can be seen as a primordial form of making. Mimetic making, which precedes the formation of technē, takes place most often in the domain of ritual' (Vesely, 2004).

Therefore, poetics can only exist where there is a 'mimesis of praxis'—the imitation of an action—when things are understood in a state of activity, and the communicative nature of place is both centered in what it is (in relation to the actual action in the world) but also what it is not (in relation to that which it imitates or re-enacts).

If we employ this understanding in an evaluation of the ordering of the medieval city we find that the processions revealed both the boundedness of the city through the circumnavigation of the three intramural parish boundaries, and also its fundamental ordering based on medieval notions of temporality (Frost 2009)



Figure 6. Collage showing the hypothetical view as it would have been in the 13th century looking south down Minster Street towards the church of St Thomas-à-Becket with the cathedral and bell tower in the background

But 'boundedness' here must be viewed in its broadest sense; Heidegger reveals that boundary in the classical world is not a limit but '... as the Greeks recognized, ... is that from which something *begins its presencing*. That is why the concept is that of *horismos*, that is, the horizon' (Heidegger 1971b). Thus, for the medieval citizen of Salisbury, the ritual ordering at the heart of the urban plan revealed, among other things, the latent themes of foundation and origin, return and renewal, and purification and cleansing linked to a common perception of the horizon of being itself – here mediated explicitly by the rituals of the church.

This structure, built into the city but only revealed explicitly on the rogation feast days, was latent for the remainder of the year. That is not to say that it was not accessible at other times, only that the relationship was made explicit during these processions. The fact that this temporal ordering was the primary order of the city—relating back to both the creation of the city and the teleological horizons of Christianity—is significant and suggests that any development of the structure of the city should take this into consideration. But on a more important level, this suggestion has the effect of shifting the focus away from objects onto spaces and, more particularly, the use of spaces. If the cathedral space had been understood poetically then it is unlikely that the removal of the divisions of the cathedral by Wyatt would have been sanctioned because they would have acknowledged the fact that the Baptistery, Main Altar and Trinity Chapel formed the three basic elements of the Carolingian ecclesia (Erlande-Brandenburg 1994) and their unification would reduce the poetic reading of the cathedral—even if it did fulfill the contemporary ideas of 'picturesque gothic'. There would have been other ways to fulfill the requirements of any liturgical developments. The same is also true of the inner ring road which truncated many established intramural relationships and could have been executed in a more sympathetic manner.

Conclusion

This article has set out to explore some of Salisbury's current urban problems and, through a description of the poetic qualities of space, suggest that poetics could be a fertile ground for the future assessment and setting of situations—particularly ones where the existing ground appears loaded with meaning such as Salisbury. It has tried to realign the fourfold interpretive schema outlined by Cassin which led to the original ordering of the city with more contemporary ontological horizons to suggest that the preservation and upkeep of built heritage needs to relate to the contemporary situation so that value—in its broadest sense—can be attributed properly to the life-world. The success of such an operation used as a working method in other locations would rely on a thorough study of the existing conditions and activities within the city as well as the primary acceptance that movement, action and inhabitation are the best measure for preservation and enhancement



Figure 7. St Georges Day Procession, Salisbury 2010

In Salisbury, during their newly reconstituted civic processions on St George's Day, the town's mayor and retinue complete a meager procession in and around the market square whereas the towns folk retire to Victoria park to the north of the city for their own celebrations. Throughout the day the Close remains unsullied by all of the town's festivities and, as a consequence, at a time of civic gathering, is ignored by all the local people; it remains isolated, if still visited by the curious tourist. The path to re-engage the cathedral with the city is not a difficult one; it merely requires a more differentiated attitude to be ascribed to the value of our surviving heritage. Value must, in the end, rest in the ability of the building to connect with real issues of real people and in the possibility of reengagement with the everyday life of the city. In order to assess this potential, the latent poetic nature of every situation needs to be evaluated as an equal partner to any reasoned spatial analysis or preservation plan, even if there appears to be a consensus on the changes that need to occur—as happened in the development of the cathedral under Wyatt. Even now, such an analysis with respect to the housing of Magna Carta could result in a much bolder architecture in respect of the cathedral—possibly linked to a larger civic festival on St Georges Day. This is particularly interesting as the urge to construct the cathedral and write Magna Carta both emerged from a healthy respect for tradition married to an honest disdain for the very authority whose agreement was sought for their generation.

Ricoeur sums up this need for greater poetic understanding in all our endeavors when he says:

Poetic discourse brings to language a pre-objective world in which we find ourselves already rooted, but in which we also project our innermost possibilities. We must thus dismantle the reign of objects in order to let be, and allow to be uttered, our primordial belonging to a world which we inhabit, that is to say, which at once precedes us and receives the imprint of our works. In short, we must restore to the fine word invent its twofold sense of both discovery and creation'.

Therefore, in the future, if we wish to preserve our cities more successfully care must be taken in the evaluation of the buildings and places of the past as well as their poetic conditions (past and present) so that we can ensure that references, both evident and oblique, are utilized, preserved or enhanced in change.

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Local residents exploring heritage in the North Pennines of England: sense of place and social sustainability

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The aim of this paper is to explore how heritage contributes to 'sense of place' and how engagement with heritage can aid social sustainability. These are relationships tacitly accepted and little discussed in the literature. The paper draws on an analysis of in-depth interview data collected amongst individuals engaging with heritage in the rural northern uplands of the UK. The paper identifies within the environmental psychology literature a framework for investigating sense of place which is then used to analyse the interview data. Cultural heritage is found to contribute to sense of place as a source of pride and by supporting feelings of distinctiveness and senses of continuity across time. Engaging with heritage moreover develops belonging through forms of social capital thereby building stronger communities. The paper concludes that as a process of 'memory talk', as an expression of cultural distinctiveness or in its built or natural physical form, heritage contributes to sense of place by providing a network of references helping individuals place themselves in the past and the present. Using theories of social capital, it is possible to see that engaging with heritage can potentially aid social sustainability.

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Introduction and context

In the rural northern uplands of England, some residents are exploring 'sense of place' by engaging with leisure activities that explore local heritage. Community sustainability and sense of place are threatened in the North Pennines region by changing social and economic circumstances (Soane and Nicholson, 2005: 2-3) and this perhaps galvanises those with an interest in heritage to act upon it. Community sustainability is affected for instance, by limited opportunities for local employment (AONB, 2009), which have led to the out-migration of younger people. Simultaneously however, the region's wilderness charm and its designation by the government as an Area of Outstanding Natural Beauty, appeals to those with sufficient wealth to establish residence in the area. These 'in-migrants' either commute to urban centres for work, or are seeking to enjoy the countryside in their retirement years, a trend contributing to an ageing of the population (Ward, 2006: 129). The North Pennines region is therefore experiencing a period of social transition through which residents are navigating their identities. The data presented here, was collected during research conducted in 2008 and 2009 that asked: what constitutes sense of place for people in the North Pennines, why are people engaging with heritage, and what are the benefits of this involvement? This paper specifically focuses on the first and last elements of this question and examines the contribution of heritage to sense of place and the value of engagement with heritage in terms of social sustainability.

The paper first offers a rationale for employing the concept of sense of place and describes how the notion was used to inform methodology, giving a brief overview of the literature. A framework is identified within the environmental psychology literature that allows for the empirical exploration of sense of place. From this framework it is possible to begin to articulate the specific contribution that heritage makes to the phenomenon. Interview data are used to demonstrate that place supports self-esteem,

senses of distinctiveness, and the continuity of autobiography or 'life-story' that are components of self-identity. It is thereby possible to see heritage as more than a physical manifestation, but as a process of meaning making and an expression of cultural identity that contribute to and reinforce senses of belonging amongst communities in the changing social and economic circumstances of the North Pennines.

Exploring sense of place

Approaching an investigation of heritage through the notion of 'sense of place' allows for a view of heritage that integrates landscape and culture, the past and the present, the movable and immovable, tangible and intangible heritage in any analysis (Davis, 1999). However, despite frequent references to sense of place in the heritage studies literature, the contribution of heritage to this experience demands closer examination and more precise articulation. Sense of place can manifest through 'ordinary' features (Atkinson, 2007) such as hay meadows or dry stone walls, but also through the intangible cultural expression of dialect, music or festival (see Smith, 2006: 237-275), the meaning-making process of exploring sense of place as a community by producing exhibitions (2000, Dicks, 2003), and for example through the storytelling and the reminiscences that pepper everyday chatter (Degnen, 2005). By identifying such 'cultural touchstones' (Davis, 1999: 40) solutions to safeguarding the particularity or distinctiveness of the North Pennines can be developed to the benefit of economic and social sustainability. The type of engagement with heritage appropriate for inclusion in the study was informed by this understanding of sense of place, as the next section describes.

Heritage activity

Individuals in the North Pennines are engaging with heritage in order to explore their sense of place and they do so in a number of ways. Those interviewed were involved in heritage activities such as: collecting oral history; researching local history in order to write newsletters, pamphlets and books; creating local history exhibitions and heritage interpretation leaflets; and running volunteer-led museums. Some were interested in tradition: restoring traditional hay meadow flowers; reinvigorating the village show; teaching young people traditional music; or passing on skills such as dry stone walling and bee keeping. Interviews were also conducted with members of heritage trusts, societies and museum friends' associations. Uniting these diverse heritage activities was the common interest in safeguarding a cultural distinctiveness particular to the North Pennines: its sense of place. The next section describes the qualitative methodology used in this research.

Methodology

Twenty seven in-depth interviews were conducted in the North Pennines and these are referred to below as NP1 through to NP27. This approach allowed for a relaxed conversation with a clear purpose (Ritchie and Lewis, 2003:138) and also the flexibility to follow interesting veins of enquiry (Wengraf, 2001:32). Categories for analysis were not established at the planning stage (Punch, 1998:175) but themes and questions were developed in collaboration with the North Pennines Area of Outstanding Natural Beauty Partnership which then acted as a 'gatekeeper', suggesting the first three out of the twenty seven individuals to approach. From there a purposive or 'chain sampling' rationale (Schutt, 2009: 174, Silverman, 2005:21) was employed whereby respondents suggested others who were also engaging with heritage through voluntary or leisure-time activity. When data seemed to confirm the analysis, the sample size was felt to be enough (Denscombe, 2007:96). Interviews were transcribed and coded using NVivo 8 software following an approach inspired by the constant comparison method of grounded theory (Strauss and Corbin, 1997). The data analysis was informed by a survey of the sense of place literature, an overview of which the next section presents.

Literature

Sense of place is a shifting notion, consensus upon the definition or measure of which, the literature fails to achieve. It has been seen as 'genius loci': an intangible spirit emerging from the sum of topographical, man made and experiential features (Brandenburg and Carroll, 1995: 384, Stedman, 2003). On the other hand, some approaches give agency to the individual in creating meaning, sense of place created "between people and between people and place" (Pretty et al., 2003: 274). Environmental psychologists have examined sense of place through the lens of identity (Shamai and Ilatov, 2004, Shamai, 1991, Twigger-Ross and Uzzell, 1996, Kaltenborn, 1998, Proshansky et al., 1983) and their empirical research often subcategorises sense of place into three notions: 'place attachment' (Moore and Graefe, 1994, Altman and Low, 1992); 'place dependency' (2001, Jorgensen and Stedman, 2006); or 'place-identity'(Lalli, 1992, Proshansky et al., 1983). The specific requirements of these subcategories remain nebulous (Pretty et al., 2003) and attention has not been given to the manner in which they relate to one another in a hierarchy (Graham et al., 2009, Kyle et al., 2004). However, it is not the purpose of this paper to untangle such conceptual knots. Rather, the ideas put forth by environmental psychology, provide useful approaches to exploring sense of place in the North Pennines and more specifically, the contribution heritage makes to this phenomenon. The next section draws out from the literature a clearer articulation of this contribution.

Heritage and sense of place

Identification with place is part of one's personal identity (Proshansky et al., 1983). In the 1996 discussion of research findings from a study in Rotherhithe, London, (Twigger-Ross and Uzzell, 1996) place-identity was presented as a component of self-identity and it is a view largely accepted in the literature (Hernández et al., 2007: 311). Environmental psychologists, Clare Twigger-Ross and David Uzzell (1996) introduced an identity process theory adapted from the 1986, 1992 and 1993 work of psychologist G M Breakwell. The model sees place contributing to identity in relation to four factors: continuity across time, self-esteem, self-efficacy and distinctiveness. This paper will show that three of these factors: continuity across time, self-esteem and distinctiveness, are underpinned by forms of heritage. Discussion will now examine each of these three in turn, first with a presentation of data demonstrating the contribution of heritage to feelings of self-esteem, then distinctiveness, before moving on to the substantial data and literature supporting notions of continuity across time. The final part of this paper will discuss the contribution that this engagement with heritage and sense of place through voluntary and leisure activity can make to social sustainability.

Heritage supporting self-esteem

Environmental psychologist Kalevi Korpela has indicated that environment can support self-esteem (1989: 251) and rather than just through a positive evaluation of a place, self-esteem can be boosted by reference to a place, for example the sense of pride by association achieved through living in a historic town (Lalli, 1992, Twigger-Ross and Uzzell, 1996: 209). In the North Pennines, respondents explained the pride they experienced when describing their home to others. This resident of historic Blanchland - a village which is a conservation area and built of stone from the remains of a twelfth century abbey - said, "I think you are proud, I mean you do go away and... You like to boast about it" (NP23). Heritage in the form of industrial archaeology gave rise to feelings of pride in the skill of past-artisans: "I think you know the archaeology and the, just the industrial heritage is fantastic and that makes (me) proud. And finding out about the people, the kinds of people and the lifestyles that they had, you know the life they led and how hard it was for them... but they made a living and they survived... I think I'm proud of that as well" (NP04). For these respondents heritage supports their self-esteem and is a component of their sense of place. Twigger-Ross and Uzzell (1996: 207) went on to suggest that place could support the notion of distinctiveness and discussion now turns to the contribution that heritage made in the North Pennines to the sense of cultural difference.

Heritage supporting distinctiveness

As geographer Edward Relph points out, "Place, however else it might be interpreted, is unquestionably about difference..." (2008: vi). Association with the 'unquestionable difference' of place can aid an individual's sense of being distinct from other people in other places. In the North Pennines, respondents used physical heritage in the form of the natural landscape, to illustrate the individuality of their place:

... this area has significant landscape and it's quite, it's not unique but it's fairly unique, largely because of... the grouse shooting and the... preservation of the moorland... in a particular state to the grouse, means that you've had very little development during the whole of the last century...

(NP27)

Respondents referred to the natural heritage when describing the special qualities of place, but distinctiveness was also related to the legacy of humankind's interaction with the landscape, through the cultural heritage of grouse shooting described above for example and in particular the industrial archaeology that allows the landscape to be read as a palimpsest: "...and when I walk about and I see you know a (mine) shaft up the lane or I see deer going across the road past the (mine) shaft ...all these are experiences that I take in" (NP26).

Less tangible forms of heritage were also referenced by respondents as they described the distinctiveness of the North Pennines. Most notable were a number of references to a particular cultural heritage of isolation: "It's relatively isolated and so there's a stronger sense of identity amongst Teesdale people than probably in many parts of the country now" (NP15). Frequent reference was made to such intangible cultural heritage, expressed as a way of life - "there's a lot of that still goes on" (NP24)... "there's a tendency to be inward looking" (NP09) - in the discourse of place distinctiveness. For respondents then, heritage contributed to sense of place by providing distinctiveness in the physical form of natural and industrial heritage and also when expressed as a local cultural 'disposition'. The data show that heritage can contribute to sense of place by supporting self-esteem and notions of distinctiveness in the North Pennines. Following the model presented above (Twigger-Ross and Uzzell, 1996), the third factor of sense of place to which heritage contributes, is a sense of temporal continuity. Discussion now turns in detail to the way in which heritage supports such feelings of continuity across time.

Heritage supporting continuity across time

The place-identity model put forward by Twigger-Ross and Uzzell (1996) sees continuity across time broken down into two further subdivisions. The first subset is the notion of place-referent continuity,

whereby place provides reference points for an individual's past-self, acting as a physical aide-mémoire (Korpela, 1989). The second subset is that of place-congruent continuity, whereby a place presents generic features that can support an individual's self-image. Linking with ideas in sociology about 'elective belonging' (Savage et al., 2005), place-congruent continuity describes an individual's identification with place when it is found to be suitably in keeping with the type of person they perceive themselves to be: place is chosen because it represents an agreeable set of values (Twigger-Ross and Uzzell, 1996). These two experiences of continuity are now examined in more detail. The following discussion presents: the durable relationships of the born and bred as 'insideness'; the way heritage works as a process of placing self in past and present as 'memory talk'; the mnemonic function of landscape as 'aide-mémoire'; and the congruence of place for newer residents as 'elective belonging'.

Insideness

Sense of place has been linked to duration of stay (Hay, 1998). In the North Pennines, some residents have a durable relationship with place. Many are born and bred in the North Pennines, as one respondent explained, "I think there is still a much bigger proportion of people who have spent their lifetimes, and their ancestors lived in the North Pennines, than you get in any other part of the country" (NP07). These respondents talked about familiarity with the landscape, having their personal biography known, and knowing others in a process of social 'insideness' (Relph, 1976: 49) or 'autobiographical insideness' (Rowles, 1983: 302, Dixon and Durrheim, 2000: 457).

Geographer Graham Rowles describes social insideness as stemming from integration within the social fabric of a community over time (1983: 302) and many respondents referred to this feeling of belonging when describing their sense of place: "I feel quite happy going into pubs and I'll go into Langdon Beck anyway, because you always sort of know someone in the end" (NP11). Part of this notion of knowing and being known, is the idea of history; that not only is an individual known, but likewise their parents and wider family: "People know you and your history and the same with other locals, you know them, you know their history and you can go back over a lot of years sometimes..." (NP21). An oral historian and photographer captures this sentiment poignantly:

...it's like a three D network that you're joined into, these are real people (I'm) not just interested in, "oh I've got another picture of old Alston" you know "oh I've got 500 now." It's not like that. It's about how people look like one another as they come through time and you feel their character and you remember what it was like to be with them. And you know what it's like to be with their children and grandchildren now, so its part of belonging. It's integral, it's one thing, you know it's one complex thing.

(NP11)

Heritage, through the temporal depth of social relations, contributes to feelings of social insideness and the continuity of identity that is part of the experience of sense of place. Heritage can also serve as a mnemonic tool aiding continuity of identity, a notion which is developed in the following section.

Place as aide-mémoire

It is suggested that place can provide continuity of identity by acting as an aide-mémoire (Korpela, 1989), place-referent continuity provided by the unchanging physical characteristics of a place. This respondent explains how she uses the more constant natural heritage of place as an anchor for her identity in changing social and economic contexts:

The people change. The landscape doesn't tend to, not as quickly anyway. So I go up there and a lot of the people that I know in the village have died or moved out, there's still a few people that I recognise...but you know when you go on the fells, it's just timeless. And I know going back, way back it wasn't heather moors and all the rest...But you know, as long as I've known it, it's been like that. And it probably will be you know, for as long as I'm here.

(NP08)

Relph identifies a relationship between change and the way people choose to allocate heritage value: "...the persistence of the character of places is apparently related to a continuity both in our experience of change and in the very nature of change that serves to reinforce a sense of association and attachment to those places" (1976: 31). This argument is developed by the suggestion that place-referent continuity can be maintained even when the physical heritage of a place has changed beyond recognition. Through a process of 'autobiographical insideness,' individuals use the landscape as an aide-mémoire for remembered places, "of which the drab contemporary setting is but a remnant" (Rowles, 1983: 303). Place can therefore be seen, Atkinson eloquently describes, "as a topology of memories: as a sedimented, folded, undulating terrain of associations and memories – and as one continually reconfigured by new eruptions of memory..." (Atkinson, 2007: 523).

Heritage supports sense of place by providing a feeling of continuity across time. This can emerge from the experience of 'social insideness'; knowing others and being known within the local community, or through reference to physical heritage as an 'aide-mémoire'. The following section develops these ideas to examine how individuals place themselves in the landscape of memory through a process of 'memory talk'.

By conceiving the intangibility of heritage as a process, it is possible to further articulate the contribution that heritage makes to sense of place by reinforcing senses of temporal continuity.

Memory talk

In an ethnographic study of residents of Dodworth in South Yorkshire, England, sociologist Catherine Degnen (2005) was able to identify the process of 'memory talk'; references to people and places, past and present that threaded through the everyday interactions she observed. Degnen draws attention to social memory as more than just intentional commemorative practice, but as something 'part and parcel' of everyday interaction, helping individuals place themselves in the 'webs of relations' between people and places in the community (2005: 730). In this instance heritage is a process of people working to locate their identity within their cultural and historic context. Data from the North Pennines provides evidence that participants in heritage activities were engaged with this form of heritage manifested as a process. Respondents involved in presenting sense of place or collective identity to others through local history exhibitions, explained how these exhibitions became a tool for memory talk. This interviewee, describing her experience of organising local history exhibitions, reveals the 'memory talk' she took pleasure in overhearing:

...it's interesting to listen to people...I try to put names on (photographs) as much as possible, and people say "That's so and so," "No I don't think it is," "Are you sure, I think it's so and so." And it's just a friendly argument, if there's a person (in a photograph) with no name on you know, who is it? And that to me, once (the exhibition is) up...that's the interesting part about it, listening to what people say."

(NP25)

Local exhibitions sparked discussions that helped individuals place themselves within 'webs of relations' thereby producing, consuming and reproducing (du Gay et al., 1997) notions of belonging, identity and sense of place. For some respondents in the North Pennines however, their relationship with place was of shorter duration. The next section examines how heritage contributes to a continuity of identity for these newer residents or 'in-migrants'.

Elective belonging

Purposive sampling resulted in interviews with a number of respondents who were involved in heritage activity in the North Pennines, many of whom were not born and bred in the area. For these in-migrants - new residents for whom the area held particular appeal - heritage supported sense of place by offering 'place-congruent continuity' (Twigger-Ross and Uzzell, 1996: 208). This is a continuity of self-identity or 'life story' (Savage et al., 2005: 54) congruous with the persona an individual wishes to present. It is suggested that people are willing to move to a place that they feel is in keeping with their self perception. In an analysis of data pertaining to the nation's cultural involvement, sociologist Mike Savage (2009) has recently suggested that "People who are privileged on the cultural map can give eloquent stories about their sense of place" and that those privileged tend to be the more geographically mobile middle classes who can choose where to live and belong. The following respondent had moved to Weardale within the last five years and her comments indicate a strong interest in learning about the area, in order to articulate a 'satisfactory account' (Savage et al., 2005: 29) of her sense of place:

...you've got a real sense of... a real connection with the history of this landscape...if you know about it I suppose...I do know about it and I'm interested in it and I'm interested in researching it so you know, the landscape is very much a man made landscape and...I've got that feeling of...following on in the footsteps of all these other people who lived here, and made this place.

(NP24)

That newer residents are motivated to account for their belonging and articulate a sense of place is further explored in the comments of a local history society archivist:

...you get occasionally local people interested in their family trees. Surprisingly few, it's always people from outside. It's as if people are...like a kite that isn't tethered to the ground...they want to come and make that connection and think, "Oh phew" you know, "I'm still hanging on to my roots"...

(NP10)

In the same way a respondent who had investigated her family tree as an in-migrant, acknowledged that finding a distant ancestral connection could not replace having immediate family in the locality, "but it still does make (me) feel like I have some kind of investment in the area" (NP04).

For in-migrants, the North Pennines offered them place-congruent continuity, fitting neatly into the self-concept they wished to present. Place supported accounts of 'life story' for example being a 'countryside person': "I'm not a person that loves towns" (NP22), or someone with integrity in their environmental ethics, "(we) leave a lesser carbon footprint than we have in the past" (NP15). Some newer residents were eager to communicate their passionate sense of place: "I feel as though I've got a real interest and emotional investment in the area...I want to develop other people's interest in the place"

(NP24). In this way, in-migrants showed characteristics of 'elective belongers', choosing to belong in place congruous with their self-image (Savage et al., 2005) in a process supported by an exploration of heritage through local history and genealogy. This section has seen that heritage can support sense of place through reinforcing continuity over time. Heritage does this by offering notions of place that are congruous with an individual's self-concept, by supporting place-referent continuity in its tangible manifestation as natural or industrial heritage, and also through the intangible process of memory talk. Heritage has also been seen to contribute to sense of place by supporting the distinctiveness and self-esteem that are also elements of identity. The North Pennines is a region undergoing social and economic transition and the final section of this paper examines the relationship between engagement with heritage in these circumstances and notions of social capital.

Social sustainability

Claims have been made for the value of cultural participation by policy makers and strategic bodies interested in achieving goals such as regeneration, civic engagement, social cohesion, urban renewal and citizenship (Lewicka, 2005, Graham et al., 2009, Message, 2009) and these ideas are largely developed from theories of capital. The forms of capital conceptualised by French sociologist Pierre Bourdieu (1997) are used to explain the non-economic currency guiding the social world in relation to position and mobility.

Social capital is the notion that social networks are valuable in nurturing trust and reciprocity amongst members of associative groups. Though not an end in itself (Coleman, 1990: 302), a benefit claimed of social capital is that as a process, it develops group identity. Political scientist Robert Putnam claimed that social capital could take two forms: bonding and bridging, the former working as a sort of glue to hold members of a particular group (perhaps a family or shared ethnicity) together, the latter working like a lubricant, allowing people to socialise between groups and develop social mobility (2000: 22-23). 'Linking' social capital (Woolcock, 2001) was added to this list, a situation whereby individuals gain access to resources through networks with members of power-holding groups, those individuals or organisations that take or influence decisions.

The multidimensionality of the concept makes social capital difficult to measure. Instead, approximations of social capital are measured, such as membership of associative groups (Putnam, 2000, 1995, 1993). Frameworks have been developed to measure social capital that include: participation, social engagement and commitment; control and self efficacy; perception of community level structures or characteristics; social interaction, social networks and support; and trust, reciprocity and social cohesion (Blaxter et al., 2001). Satisfaction with living in a place has been directly related to social capital (Harper and Kelly, 2003). Whilst the need for wide ranging evidence to support claims about social capital in the North Pennines is acknowledged, the following sections suggest that engagement with heritage can contribute to building and maintaining it.

Maintaining social capital

When explaining how they came to be involved in heritage activity, some respondents referred to a mobilisation of existing social capital, whereby they joined a group as a favour to a friend, "it was just an interest in helping out a group of friends" (NP03) or had heard about membership recruitment through friends, "it was word of mouth" (NP10). Others indicated that heritage activity was a way to maintain social capital and of an annual local history exhibition this respondent commented:

...it's a time when people get together and now it's got to the stage where you think..."Oh, Mr and Mrs ----- haven't come from Bishop Auckland, I must give them a ring to see if they're alright" because they've come every year for years. And you look for people that you only see say once a year, that come...deliberately at that time of year

(NP25)

The event can be seen to strengthen ties, tightening loose stitches in the fabric of the social network. It was clear that a desire to maintain this sense of close knit community was the motivation for some respondents to get involved: "...you volunteer because you want to belong, but you volunteer because you want to help. I mean because we like the community, we want to see it keep going" (NP22). Here the respondent indicates that engagement with heritage can be motivated by a desire to belong or 'fit in' and involvement as a means to build social capital is an idea developed in the next section.

Building social capital

The interview responses then, support the suggestion that heritage can maintain existing networks. However some respondents were clear that their decision to get involved in heritage related activity was driven by their perception that it could build their network. For long term residents engagement with heritage through associative activity brought them together, but for newer residents, involvement was a way to gain acceptance within the community. Heritage can be seen as a channel through which new residents demonstrated a willingness to participate and engage socially. Where a distinction between 'insider' and 'outsider' (Strathern, 1982: 248) is perceived, in-migrants described how heritage involvement helped them to fit in: "Yeah we've got good relations with the, you know, even the people that's lived here

all their lives. We've fitted in extremely well...and maybe (it's) because we have volunteered" (NP23). The following respondent who was busy conducting oral history interviews and writing local history stories for the parish newsletter explained, "You just do what you want to do you know, contribute what you want to contribute and I think...that's helped enormously in... making us feel part of the community" (NP04). In such cases, involvement was as much a way of signalling a desire to belong as it was the expression of a passion for heritage: "definitely I mean that's definitely one of the reasons to do things really, is to actually meet people" (NP14).

For longer-term residents, heritage related activity brought people together and developed trust, evidencing participation, social engagement, commitment, interaction and support. One respondent explained how developing an exhibition about the history of the local Cooperative Store meant finding former workers and arranging to interview them. For her, one of the pleasures of this process was reuniting people:

...what the nice thing was, when it opened, the night before it opened, I got them all together, I've got a photograph and all the past workers together and, oh it was lovely because they were all there...it's like a school reunion. It...was really nice.

(NP25)

Another respondent, not born and bred, but a long term resident who was involved in collecting photographic images from the past, appeared to treasure the trusting relationships nurtured through his engagement with heritage saying, "My actual support comes from local people who say '(he)'s alright, he's doing a decent job. I'll lend him my pictures, you can lend him yours'" (NP11).

Engagement with heritage helps to build and maintain social capital for respondents in the North Pennines. Groups recruit through existing networks and some volunteers do so as a reciprocal gesture to friends. Such activity also helps to maintain social capital, strengthening bonds of friendship and community, developing trust and reciprocal relationships. Moreover heritage related activity can work to build social capital, helping newcomers to 'fit in'. It has been argued that the power of strong networks bridges the differences between groups (Putnam, 2000: 22-23) and levers in support (Woolcock, 2001) thereby aiding social sustainability. Perhaps it is possible to suggest that engaging with heritage as an associative activity allows individuals to contribute to strengthening their communities. It follows that access to social networks develops personal agency and an individual's belief that they can meet the demands of any given life-situation. Self-efficacy along with self-esteem, distinctiveness and continuity, is the fourth element of identity to which Twigger-Ross and Uzzell (1996) saw place able to support and this paper has begun to tease out the specific contribution made by heritage to this process.

Conclusion

This paper has shown that for residents in the North Pennines, engagement with heritage developed social capital thereby contributing to social sustainability. Moreover heritage supported sense of place by providing a source of pride and self-esteem, by contributing to the distinctive characteristics of a place, and by supporting continuity of identity through time. Heritage contributed to this continuity of identity by reinforcing 'insideness' (Relph, 1976) acting as an 'aide-mémoire', as a process of 'memory talk' (Degnen, 2005) and as a particular type of cultural heritage congruous with self-concept and therefore chosen by 'elective belongers' (Savage et al., 2005). The paper has traced the manner by which, in the North Pennines, heritage is manifested in ways beyond the physicality of landscape, object or site. Data have shown that heritage can take the form of a process, through the meaning-making activity of 'memory talk'. The paper has also identified the expression of cultural heritage as a 'disposition': isolation in the North Pennines leading to a particular 'way of being' that respondents tried to articulate.

In terms of the practical implications of the research, discussion of this data with members of the North Pennines Area of Outstanding Natural Beauty Partnership staff unit, cast a new angle of light upon the findings. These heritage professionals debated the findings of the research and noted the inadequacies of the existing heritage discourse to recognise some of the heritage values held by respondents. Approaches to heritage in the west, born of the positivist science of the Enlightenment (Waterton, 2005), have traditionally worked to validate heritage through the means by which it is protected (listed building, conservation area, museum object, World Heritage Site) (Davis, 2009). The heritage profession, as an outsider elite, remains limited in its capacity to understand and acknowledge notions such as 'insideness' and 'aide-mémoire'. Indeed, the ability of traditional heritage management, Smith's 'authorised heritage discourse' (2006: 4-5) to recognise the ways in which local people find expression for their heritage values is increasingly questioned (Waterton, 2005, Smith, 2006, Gibson and Pendlebury, 2009). The cultural turn experienced by the wider humanities and social sciences presents a challenge to this traditional heritage discourse. The emerging 'alternative heritage discourse' demands protection of heritage that democratically involves ordinary people and acknowledges their many ways of ascribing meaning (Howard, 2002:68). This nascent discourse acknowledges a heritage that is manifested as material object, building or site, but also as expression: a song, dance, regional dialect or culinary technique, and moreover as a process in and of itself: the experience of producing, consuming and reproducing heritage through interaction with it at festivals (see Smith, 2006: 237-275), exhibitions (2000, Dicks, 2003), and for example through storytelling and the reminiscence woven through everyday chatter (Degnen, 2005).

There are however alternative heritage paradigms from which inspiration and solutions may be drawn. This paper concludes by highlighting the potential of ecomuseology (see Davis, 1999) in acknowledging and safeguarding sense of place as it is experienced by local people (2007a, Corsane et al., 2009, 2007b, 2006). With an emphasis on engagement, pluralism, democracy and volunteer contribution, ecomuseology has been found to recognise and nurture the social capital that engagement with heritage can cultivate amongst communities (ibid 2007b). Those interested in integrated approaches to safeguarding sense of place through community engagement with heritage, are therefore urged to acquaint themselves with this literature.

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Preservation of paths for a sustainable tourism in the Amalfi coast

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The Amalfi coast, inscribed by UNESCO in the world heritage list, is an important cultural area, where the combined work of nature and man has produced a unique environment, intended as a cultural landscape. The mountainous conformation of the area represents one of the most picturesque aspects for the steep faces falling sheer to the sea, but caused at all times difficulties in the access. In the past, the whole area could only be reached by sea or by mule tracks or pedestrian paths. Even now, there is only one carriage road, very tortuous, which is one of the main causes of inconvenience during Summer, producing an unsustainable tourism for the environmental balance. Research carried out on the Amalfi coast focused on a deep pedestrian path network, marked for centuries by local inhabitants to connect the built-up areas, the main religious sites, the farms, and to carry goods from the hills to the sea. The preservation and reutilization of these paths could be the opportunity to preserve a heritage of inestimable historical and natural value, and to attract tourists proposing a sustainable use of the cultural and natural environment.

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Introduction

The history of the Amalfi coast is closely connected with the history of its accessibility. The mountainous conformation of the area caused, as in many other Mediterranean regions, an inevitable vertical development of urban centers, and consequently of the connection roads, prevalently constituted by steep roads, tortuous paths, mule tracks and stairways (Società di studi geografici, 2001). Until the Eighteenth Century, due to the absence of communications, the Amalfi coast was unknown to the Grand Tour travelers, who used to stop in Naples. In that time only the historic memory of the famous Amalfi Maritime Republic was left. At the half of the XIX century, overcoming many technical difficulties, was built the carriage road from Amalfi to Salerno across Vietri sul Mare.

The new carriage road and the cultural change in the concept of beauty in the landscape, enabled the Grand Tour travelers to "discover" the Amalfi coast. Strangers began to travel on the new road, admiring the sublime landscapes, corresponding to the romantic ideal of *locus amoenus*, as we can read in many travel descriptions of the Nineteen century. The old carriage road corresponds to the present State Road 163 Amalfitana, a tortuous route of about 50 Km. with one lane for each way. The road follows the coast from Vietri sul Mare, crossing all the cities, and reaches Meta di Sorrento, where it leads to the state road 145 Sorrentina. This is the only asphalt road for most of the cities, while the other streets are long and narrow steps, or paved roads interrupted by steps, so that it is impossible to use means of transport (Proto, 1992).

Unsustainable tourism

By "sustainable tourism" we mean a tourism which respects the rules laid down by the World Tourism Organization (WTO) starting from the First World Conference on tourism held at Lanzarote in 1995. On that occasion, it was affirmed the principle that "tourist development should be based on sustainability criteria, in the sense that it should be ecologically sustainable in the long run, economically convenient, ethically and socially fair for local communities" (World Tourism Organization, 1995).



Figure 1. The State Road 163 near Atrani.

No one of these principles is respected today in the Amalfi coast: tourism lasts only few months in few coastal areas, where the number of tourists is too high to be well managed, and causes damages to landscape, soil and vegetation, as well as acoustic and environmental pollution. It is difficult to provide for the supply of facilities such as fresh water or waste disposal. This is not economically convenient, since most stays last only one day, while for longer stays private houses are preferred. This is not fair for local communities, which are invaded without any attention and respect for their culture.

Another indicator of sustainable tourism concerns the choice of the means of transport. Also in this case, the present situation is quite critical, due to the excessive number of private vehicles on the single narrow route, also used by the population for commercial exchanges, with in addition the risk of landslides and fall of rocks and without any parking area.

To make tourist activities more sustainable it is not only necessary to control and manage the impact of tourist activity on resources and ecosystems but also to think of a new model of tourist enjoyment, where economic development and environmental safeguard integrate each other (United Nations Environment Program, 2005).

The pedestrian road network

Studies performed on the Amalfi coast show the presence of a very thick network of pedestrian paths, that are not well known and almost completely absent from the proposals of tourist enjoyment of the area. The idea is to use these paths to reconvert today's tourism, which is essentially oriented to bathing and "short visits", into a sustainable cultural tourism, in accordance with WTO's principles (UNEP and WTO, 2005).

The evaluation of UNESCO inscribing the Amalfi coast in the World Heritage List is about a cultural landscape, "combined work of nature and man". The pedestrian road network has been created by the combined work of nature and man, and represents the best way to reach the hidden clean places of the coast with a sustainable enjoyment and respecting the environment. It is a road network of more than 100 kilometers with various difficulties and a varied landscape, so that it is possible to find routes suitable for different necessities and interests.



Figure 2. View of Amalfi.

The classification suggested here, based on previous literature and on the prevailing use by the local population and observed through visits on the site, is essentially aimed at proposing specific offers to tourists, among which they can choose according to their own interests. In fact, all the paths might fall within the category of historic paths, since they had always been used in the past, and are sometimes used still today by local inhabitants (Camera, 1836).

3.1 Mountain paths

The mountain paths were used to connect with the terrace cultivation, the woods, the folds and the mountain pastures. The longest path is the Alta Via dei Monti Lattari, the only path really demanding for excursions. As it presents different accesses it is possible to cover the route just in part. The Lattari Mountains, which dominate the Amalfi coast, is a short dolomitic limestone chain with a series of deep valleys and precipices which plummet into the sea. Part of this territory is now included in the Lattari Mountains Park, founded with the aim to safeguard biodiversity and to promote a sustainable development according to the balance of an environment having lush vegetation. As it is a mountain route, the interest of this path is especially naturalistic, but as it is also a historical path there are many ancient architectures, like the little Church of Santa Maria del Castello, often used as the start point for the route. The Church is located on the site of an old fortification, used for centuries to control the pedestrian road to Positano and the Amalfi coast (WWF Penisola Sorrentina, 2007).

Parallel, at lower altitude, there is the Path of the Gods, the most famous route of the Amalfi coast. The path is less demanding, and hikers can enjoy marvelous views of the coast from Praiano to Capri. It is marked by the CAI (Club Alpino Italiano) so that it is easy to orient yourself. It is the most frequented path from excursionists, and is very appreciated by stranger tourists. The path is an ancient mule track crossing caves, pastures and terrace cultivation, ancient houses, woods and viewpoints, connecting Boomerano (Agerola) with the village of Nocelle, from where it is possible to reach Positano (Tippet, 1994).

3.2 Historical paths

Other paths are more interesting for their historical value, like the Via Maestra dei Villaggi, the ancient pedestrian path used by local people as the main coast road, to reach the hamlets and villages from Amalfi to Agerola. Even if the ancient path is interrupted by the new carriage road, it is still a path of high historical value, where you can find many ancient architectures. The tabernacles, chapels and churches, bridges and stone seats, the characteristic vaulted roofs, the terrace cultivations, the little balconies on the sea, were all points of references to move without a map or a system of road signs. This path was very

appreciated by the romantic travelers, and it represents still now a tangible and intangible heritage to be preserved, as memory of local traditions and identity (Pansa, 1724).



Figure 3. The "Path of the Gods".

3.3 Transport routes

There is a deep network of local roads used to connect farms with cultivated lands, and mule tracks and cattle tracks. Even if the roads have inevitably developed upwards, these paths are surprisingly wide, because since the middle ages these lanes have been the transport routes for goods and raw materials being taken from the mountains toward the sea (Capasso, 1846). Even today the tortuous lanes of the coast are trodden by mules with panniers carrying lemons or grapes, because many farms are situated in steep sites, impracticable by mechanical transports.

Another traditional way to transport goods is a rudimentary kind of telepherage, still used in the area between Positano and Nocelle. The village of Nocelle has been recently connected by the asphalt road, that ends out of the built area, which can be reached only by foot across stairways. The telepherages connect the farms with the main road to carry the goods.

3.4 Cultural landscapes

The characteristic feature of the whole coastal landscape is the terracing supported by dry stone walls, locally known as "macere", built by local laborers over the century to recuperate farmable land from the mountain slope. These cultivated terraces are the famous "lemon gardens of the Amalfi Coast", accessible only by way of steep steps. The lemon cultivation is documented since the Middle Ages, but in the XIX century it gained an economic and social value, and became a characteristic feature of the landscape. The species of lemon cultivated, the "sfusato", so called because of their elongated shape like a spindle, has obtained official European protected geographical indication branding (IGP) with the name of "Lemons of Amalfi Coast". The cultivations preserved the characteristic landscape, and also the local traditions, like the art to build a kind of coverage for the pergola, locally named "pagliarelle", using chestnut wood and straw. The wood comes from the local coppice, according to ancient balance between nature and man. The lemons come to fruit from November to June and it is for this reason that they are protected from the elements during the winter months by large, dark awnings. There are many paths to walk around the lemon gardens: one of the most picturesque descends from Villa Cimbrone at Ravello to Civita and Atrani (Douglas, 1909).



Figure 4. A telepherage near Nocelle.

3.5 Traditional handicrafts

Amalfi is also known for the traditional paper mills, where using rags, linen and hemp, artisans produced the famous handmade paper, repeating an Arabian technique. Visitors can see the old paper mills, factories and watermills walking on the path of the "Valle delle Ferriere". In the narrow valley between Amalfi and Scala torrents and damp sea breezes have created a particular sub-tropical microclimate, perfect habitat for fern species as old as the tertiary period such as the woodwardia radicans and the pleis. At the end of the valley, in the narrowest point, a waterfall for 40 meters creates magic effects of light and colors. This unique habitat is protected as a Nature Reserve (Gregorovius, 1861).

3.6 Religious routes

Chapels and monasteries were often built in isolated sites, and today are still connected only by pedestrian paths. For example, the Monastery of San Liberatore, on the homonymous mountain, dominates the gulf of Salerno and can only be reached by a tortuous mountain path. It is one of the most important religious centers of the area, usually visited by local people. The walk is very picturesque, and visitors can see the characteristic Mediterranean vegetation, in an absolute silence. Another route very popular for local people is the path connecting to the sanctuary of Avvocata on the Falerio Mountain. The path begins from Maiori, and goes across luxuriant woods, ilex groves, and Mediterranean flora, like myrtle, rosemary, walnut, capers, and offers great views on the coast.

Models of sustainable tourism

Cultural tourism is one of the widest market segments of European tourism, and is constantly evolving; however, the main risk of this kind of tourism is to propose similar cultural products in different areas, thus making the destinations neither typical nor innovating (Richards, 2001). That is why it is important to rely on the identity of a unique territory such as that of Amalfi coast, suggesting an innovating enjoyment, consisting of:

"Travel aiming at an engaged and authentic experience, with participatory learning in arts, heritage, or special character of a place. It provides a connection with those who reside in this place and create this living culture". (World Tourism Organization)



Figure 5. Pergola to cover the lemons.



Figure 6. A dry stone wall along the "Path of Mad Bats".

The paths described are just a part of the deep network of pedestrian roads in the Amalfi coast. Research focused on the possibility to define innovative models of sustainable tourism preserving and reusing the ancient pedestrian paths. Excursions and cultural tourism have the first advantage to prolong the tourist season beyond Summer. The second advantage is the possibility to extend the tourist area, also including interior cities. The interior areas have much to offer to excursion and cultural tourism, but at present are no longer included among the usual routes, while coast cities are too crowded. Walking is the best way to observe, appreciate and preserve the places with their colors, sounds, perfumes. There are paths connecting all the cities, so that it is possible to leave from Salerno or from Cava dei Tirreni walking to Positano through the whole coast, and even continue to Sorrento (Carreri, 2006).

4.1 The model of sustainable tourism in "Cinque Terre"

A model of tourism like the one proposed has been experienced for many years in the Cinque Terre Coast in Liguria (Italy). The Cinque Terre is also inscribed by UNESCO in the world heritage list. Tourists have to leave their cars in the parking areas at the beginning of the coast, and can move through the five cities by foot or using public transports. The National Park of Cinque Terre proposes different paths and mule tracks through the cultivated terracing supported by dry stone walls, overhanging the sea. In this area this kind of tourism has been accepted, and many visitors choose this coast to make an excursion and cultural journey. In this case it is easier to apply this model because the coast is very short (only 16 kilometers) and there is a fast transport by rail. Nevertheless, the same kind of tourism could be applied to the Amalfi Coast, subdividing the extension in two or three areas which can be visited by foot, and taking a bus to move to another area.

4.2 The actual conditions in the Amalfi Coast

In the Amalfi Coast, as the paths are minor roads, they are often ignored by local authorities. Except for a few paths managed and marked by the CAI (Club Alpino Italiano), there aren't road signs and indications, and the paths are often in bad conditions, blocked by trunks or brambles.

The preservation and reutilization of these paths could be the opportunity to preserve a heritage of inestimable historic and natural value, and to attract tourists by proposing a sustainable use of the cultural and natural environment. Therefore way, it is positive that the Amalfi Coast has been inscribed in the world heritage list by UNESCO in 1997, and that has been founded the Regional Park of the Lattari Mountains in 2003. In recent years, even the tourist industry has proposed new kinds of travel for excursionists, hikers, naturalists; and maps and tourist guides have been published with the indication of itineraries, even if it is still difficult to find the access to the paths without road signals and indications (Mezzacasa, 2009).



Figure 7. Indications at the access of the "Path of the Agave".

Conclusion

A lasting development of tourism can only be achieved by identifying and implementing models focusing on the territory and its resources. The impacts that can result from tourism at the environmental, social and economic level impose a profound cultural and project revolution involving operators, visitors and hosting communities.

According to the operators, the Italian tourist system in general, and the one analyzed here in particular, have not been planned and oriented in the last years towards quality and sustainability, as was instead the case in other European States. However, there is a strong increase in the sector of cultural tourism, due to an increase in economic resources and in the education level (Notarstefano, 2008).

The Amalfi coast might offer a lot to this tourist segment, which is desirable since it has a greater expenditure capacity and is less invading for the local community.

A new sustainable tourist trend in the Amalfi Coast should respect the Park objectives and UNESCO directives. The sustainable tourism should preserve the natural and cultural heritage, local traditions, the ancient balance between resources and territory, ensuring a better life environment. Farm tourism, hike tourism, cultural tourism, gastronomical tourism, religious tourism should be an economic resource for the territory, also developing other activities like craftsmanship (ceramics, textile, paper), or typical products.

It is essential to offer to these tourists, who are also interested in the culture and image of these territories, a high level of quality at all stages of their travel, as well as investing in information services to make known the potentialities and itineraries suitable for the specific needs of these categories (Groth, 2000).

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Research on cultural tourism development in sacral and spiritual sites from the UNESCO World Heritage List

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This paper explores the effects of tourism on the transmission of intangible cultural heritage of the tangible sites placed on the UNESCO World Heritage List. It exercises a preliminary review of literature on intangible values of heritage sites combined with research made on so called cultural tourism development in the sacral and spiritual sites from the World Heritage List. In the research conducted for this paper, sites such as churches, temples and necropolises were taken into consideration. The aim of the research was to understand how the development of cultural tourism affected the spiritual character of World Heritage Sites and which methods of the preservation were taken to avoid the loss of their sacral meaning. Additionally, the purpose of this paper was to critically examine how tourism stimulates the preservation and transmission of the spiritual significance of sacral heritage sites. On the basis of the presented research there were proposed ways of preservation of the intangible character of the spiritual sites in danger of rapid growth of tourism development.

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Introduction

The study presented in this paper is the preliminary research of a broader doctoral research project focusing on management of preservation and transmission of the complex values of tangible and intangible heritage sites. The overall objective of the research project is to estimate both positive and negative factors which have an impact on transmission and preservation of these values.

The research will allow for the development of a complex strategy for management of preservation and transmission of values of intangible heritage sites in Malopolska Region, Poland. The research aims to increase the knowledge about the possibilities and limitations in the management strategy 'preservation through use' and to support a common understanding among local authorities and local communities of use and management of cultural heritage. The objective of this paper is to present the initial results from one of the working packages.

We can observe the increasing number of publications which focus on tourism development in World Heritage Sites and in particular, that of cultural tourism. Most of them relate to the tourists' consumption of heritage, in the context of heritage as an experience or as a product (Edson 2004; Moscardo 2002). Recently we have been able to observe the growing number of studies focusing on tourism management within heritage sites (Pedersen 2002). Despite this, the majority of discussions on heritage and tourism focus on economic and socio-cultural impacts on heritage, analysis of its benefits and outcomes, impact of tourism on preservation and conservation of heritage (Bendix 2009; Bowitz and Ibenholt 2009).

This paper focuses specifically on sacral and spiritual heritage sites which a portion of tangible values carry on a unique intangible meaning for their local communities and for the religious groups as a whole. Globalization, democratization, international and local cultural preservation initiatives, the penetration of the market economy, the commoditization of culture, and the politics of religious and ethnic

identity impinge upon and shape many of the religious sites in the World today (Singh 2008). The purpose of this paper is to critically examine how tourism stimulates the preservation and transmission of intangible values of sacral and spiritual heritage sites by underlying the main factors leading to the danger of losing their unique character. The research was mainly focused on information policy of sites managers, as it is one of the crucial elements which allows for the sustainable development and preservation of heritage sites and their values.

Sacral and Spiritual Heritage Sites

The 1972 UNESCO World Heritage Convention defines several components belonging to the domain of cultural heritage. These include monuments, architectural works, works of monumental sculpture, paintings, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value historically, artistically and scientifically. Groups of buildings both separate and connected which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value again from a historical, artistic or scientific point of view. Sites, works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view" (UNESCO 1972). The following features are to be considered as the universally accepted properties of cultural (tangible) heritage; (1) it represents an unique masterpiece of human creative genius, (2) it bares an exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared and (3) it is directly or tangibly associated with events or living traditions, with ideas, or with beliefs.

The very special place in the definition mentioned above should be admitted to sacral and spiritual heritage sites which apart of features characteristic for tangible sites carry on series of intangible, spiritual values. What is known as a sacred place carries with it a whole range of rules and regulations regarding people's behaviour in relation to it, and implies a set of beliefs to do with the non-empirical world, often in relation to the spirits of the ancestors, as well as more remote or powerful gods or spirits (Carmichael 1998). That fact gives a unique character to sacral and spiritual Heritage Sites.

Sacred sites exist in hundreds, or maybe thousands, of the world's 'official' protected areas. More than eighty places which carry on sacral or/and spiritual meaning are currently inscribed on the UNESCO World Heritage List. Most of them are important places for present-day religious and spiritual communities. However in some areas there is no observable continuity between the sacred sites of the past and the present – and yet these ancient sites are still recognized, and to some extent treated as special places (e.g. pyramids in Egypt, Neolithic tombs, etc). Some sites which have religious significance may also assume historical or political importance, as religious sanctuaries in Poland which have been used as shelters by people fleeing from political persecution. To say that a specific place is a sacred place is not simply to describe a piece of land, or just to locate it in a certain position in the landscape. It is also to describe all intangible features and beliefs associated with it. Many authors demonstrate that the significance of sacred sites can transcend cultural changes and assimilations, and even religious conversations (Carmichael 1998).

Following Shackley's classification we can distinguish eleven types of sacred sites: single nodal feature, archaeological sites, burial sites, detached temples/shrines, whole towns, shrine/temple complex, 'earth energy' sites, sacred mountains, sacred islands, pilgrimage foci and secular pilgrimage (Shackley 2001). This paper focuses on selected types of sacred sites: single nodal features, whole towns, shrine/temple complexes and pilgrimage foci (see annex 1).

The uniqueness of sacred heritage sites is not only in their architectural/natural beauty, but mostly in values which they carry on. The sacredness of the site is alive as long as people look at the site from a sacred perspective and with respect for its intangible, spiritual values (Shackley 2001). Intangible values are complementary elements of the monuments, without which those objects lose their remarkable cultural value. That unique value of intangible objects was noticed by the international community and taken under protection as a result of the UNESCO 2003 Convention on safeguarding intangible heritage. By intangible cultural heritage includes oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe, the knowledge and skills to produce traditional crafts and also the cultural space, which is recognized by the community as its heritage (Convention 2003). As intangible heritage we can also define the historical networks and structures within communities, traditions of places and communities. This is also often referred to as *genius loci*, the spirit of the place, skills, names and traditions accepted by those who inherit the past (Bronski 2006). This kind of heritage is transferred by the generations and constantly performed by communities, in relation to their environment and history. For these communities the intangible heritage is the source of their community spirit. For those reasons it is necessary to protect not only the tangible, material monuments but also the integral part of these, the transmission of values. However it is cooperation between site managers, local communities and scientists that is essential to protect the intangible value of the places.

Heritage and tourism

The way that communities present and communicate their culture is cultural heritage. It is an important element of life and activity of all people. It is a carefully selected set of values, attitudes, way of understanding the world, existence and coping with life transferred from generation to generation. Representations of heritage are not only material objects, which can be touched or seen, they are also traditions, rituals, knowledge, objects and the cultural space connected with them. It has both, material and intangible value which describes the culture of the society. Cultural heritage is an inseparable element of the life of society in terms of both its tangible and an intangible components. It can also be the element of its social and economic development.

Heritage can be discussed in three dimensions, culturally, politically and economically. For the purpose of this paper the focus has been diverted to the analysis of the economic dimension of heritage. As an economic resource, heritage may be used in various forms. It can be observed in recent years that a huge development of heritage industry. This can be defined as „major commercial activity which is based on selling goods and services with a heritage component“ (Tunbridge and Ashworth 1996). A significant role in this industry should be admitted to tourism and leisure services. However the manufacturing and sale of heritage products can be considered as similarly important. Cultural heritage is often utilised for creating images of places and for promotional purposes of the regions.

Cultural tourism during past years became a growing phenomenon in the field of tourism. It became the object of interest not only among practitioners in tourism management, but also between scientists. Cultural tourism can be described as tourism which is based on heritage, where heritage is the core of the product that is offered and is the main motivating factor for the consumer (Swarbrooke 1994). This definition may contain a wide range of tourist activities, starting from visiting historic cities and including the whole accompanying infrastructure. Cultural heritage tourism is important for various reasons; it has a positive economic and social impact, establishes and reinforces identity, helps preserve the cultural heritage, with culture as an instrument it facilitates harmony and understanding among people, supports culture and helps renew tourism (Richards 1996). Looking at heritage from tourists' point of view heritage is an attraction which should be interesting and accessible. There can be observed various reasons for tourists being attracted by heritage, beginning from heritage by itself and ending with other events associated with the site such as concerts and theatre performances. Heritage tourism is a relatively new phenomenon even though it can be said that travelling for cultural or historic motivation has been popular since the ancient times. In recent years however there can be noticed a rapid growth of interest in heritage among tourists. The growing popularity of heritage tourism may be also explained by the development of new types of heritage tourism products (Ratz and Puczko 2003). This phenomenon is also connected mostly with the more disposable income, growth of leisure time and increased mobility which is associated with increase of tourism in general. The flow of tourists to sites and sacred buildings increases exponentially in response to a growing demand for spirituality, authenticity and search of cultural roots (Presti and Petrillo 2010).

Sacred sites are arguably the oldest type of visitor attraction within the tourism system. Religion for all societies and cultural groups has been an integral motive for undertaking journeys and usually considered the oldest form of non-economic travel (Jackowski 1998). Currently Jackowski estimates that about 240 million people go for pilgrimages per year (Jackowski 1998). The form of those travels also changed within past centuries. Currently religious travels in a high extent depend on economic issues. Most of World Heritage Sites are major cultural tourism attractions for the region in which they are situated and some of them such as Bahá'í Holy Places in Haifa and the Western Galilee in Israel are universally recognised symbols of national identity. It can be said that the majority of visitors to these sites are mostly motivated by an interest in culture, nature and heritage. It could be assumed that the World Heritage Site status automatically results in a high number of visitors. However from what was determined in the research presented in this paper, visitor numbers depend on various factors, including the fame of the site, its accessibility or the way it is marketed. On one hand some sites such as the Acropolis in Athens are so widely and well known that it seems to be obvious for visitors that they are on the World Heritage List. On the other hand, less known sites such as Villages with Fortified Churches in Transylvania do not often benefit from their World Heritage status. The high numbers of visitors to World Heritage Sites is often influenced by such issues as accessibility, transport, accommodation, and other provisional services (Edson 2004).

Nowadays it can be said that the central challenge in heritage tourism is the way of reconstructing the past in the present through interpretation (Nuryanti 1996). Interpretation of heritage is not only connected with historic facts, but also with understanding, awareness and enjoyment of visited heritage monuments (Stewart 1998, Herbert 2001, McCabe 2004).

Visiting a sacred site is an activity that is nested within a framework of cultural and religious tourism. Religiously or spiritually motivated travels have become an important segment of international tourism. Despite this, few sacred and spiritual sites were designed to cope with the volume and flow of today's visitation patterns and the expectations of modern day visitors. The managers of sacred sites may see their primary function as being conservation and preservation of both the site and religious tradition as well as being opposed to provision of facilities to visitors. On the other hand there can be clearly visible growth of interest in economic potential of religious tourists. A challenge which appears for site managers

is to find a balance between preservation of spiritual and religious issues and providing facilities for development of tourism within heritage sites.

Methodology

The studies presented in this paper were based on a complex analysis which consisted of observation of Web pages of selected World Heritage Sites (see Annex 2) and questionnaires which were distributed to more than forty sacral and spiritual UNESCO World Heritage Sites. The list of Heritage Sites which responded to the questionnaire till the end of February 2010 is presented in Annex 1. In the research there was also included critical review of literature on tourism in sacral and spiritual sites.

The aim of Web pages observation was to analyze the scope of information about the heritage sites placed on their web internet web pages. This method was chosen because nowadays Internet is a powerful tool for communication and transfer of information. The heritage site managers creating the web page of their site at the same time are creating their virtual 'business cards'. By placing various kind of information there they are creating the image of the Site and showing the way of its development. The analysis of Web pages took place in January 2010. It lead to finding the answers to the following questions: (1) how broad is the awareness of a web page's creators and managers of the value of their heritage site?; (2) what is the tourism management strategy within the information policy of the site?; (3) on which factors is the most stress placed in the management strategy of the Website of a given heritage site, for instance the preservation of the spiritual character of the site, preservation of its architectural values or the development of tourism?; (4) how should the information about the world heritage be passed on to the heritage sites users? Much attention was attention to the "News" section of the websites, which allowed identifying the main features of institutions responsible for the heritage sites' activities, especially those connected with the preservation and promotion of the site.

The questionnaires distributed to World Heritage Sites aimed to reveal the opinions of heritage sites' managers on current models and trends in tourism management implemented in their sites in two areas. Included in the questionnaire were the two categories of culture and economics and the effects that they have on heritage-inspired tourism. In the questionnaires the site managers were asked for their opinions on how tourism affects the spiritual character of their sites and how they try to deal with this. The questions asked to the sites' managers aimed to find answers to the following questions, (1) how has the development of cultural tourism affected the spiritual character of the World Heritage Sites?; (2) if the site managers noticed any danger for the site because of the tourism development; (3) which approaches of preservation were taken to avoid the loss of the sacral meaning of the sites? This part of the research is still under investigation. This paper presents the results only from ten of the selected heritage sites. The selection of those objects was dictated on the premises of choosing the larger, more famous monuments, which are characterized by a heavy flow of tourists throughout the year, to represent different types of sacra objects (see Shackley's classification); the number of objects included in the research were proportional to the general number of those types of objects placed on the UNESCO World Heritage List. On this basis there were four subjects selected from single nodal features, four subjects from the shrine/temple complex type, one subject from whole towns and one object from the pilgrimage foci category. Broader scale research is still under realization. The results of the whole research will be presented in due time.

The combined research of the two components mentioned in the preceding paragraph allowed for conclusions to be drawn about the character of the relationship between tourism management, preservation of specific intangible characters of religious heritage sites and attitude of heritage site managers to the development of tourism within their sites. It also allowed for a deeper insight as to what level the site managers are aware of the sacredness of the location they manage and their attitude to the worshippers and to the tourists. The study presented in this paper allows for the continuation and development of the research conducted in order to create a strategy which focuses on the preservation of complex and particularly intangible values of the World Heritage Sites.

Due to the small research group of only twenty seven pages and 10 questionnaires, the results presented in this section of the paper do not allow for generalisations to be made regarding the topic. They do however demonstrate the necessity for broader research, as the availability of information and sufficient resources are key factors in being able to present new knowledge to society. The professional information on cultural heritage is an essential matter which allows for its preservation and sustainable development.

Literature Review

At first glance, heritage, information and communication technologies (ICT) may not seem to be compatible. Yet on closer examination, it becomes apparent that IT has an increasingly important role to play in the marketing of heritage. Consideration of the characteristics of heritage highlight the challenge presented to heritage sites to become more market-orientated. ICT provides a potent means by which heritage marketing can become more dynamic from the perspectives of management, presentation and distribution (Bennet 1997). A broad initiative to increase the use of information technology, from computers to digital field instruments, satellites, and the Internet, in the documentation of, conservation

of, and communication of World Heritage was initiated by UNESCO in 2008. Unfortunately the results of this program are not yet available, indicating that the problem of ICT and heritage was noticed. It is easy to find the literature on usage of 3D models and other advanced technologies for promotion. Presentation of the heritage objects (e.g. El-Hakim 2004) are all the more easily accessible yet it is hard to find subject literature focusing on information policy of heritage sites. Some publications make mention of the issue yet do not go into great detail (Shackley 2001; Drost 1996). As it is indicated in the 'A User-centered Model for web Site Design' by Kinzie (Kinzie 2002), which is one of the small number of publication on web design dedicated straight to heritage sites managers, there are very few publications which contain instructions for site managers on how to design and develop the website from the user-centered approach. This lack of adequate theoretical information background for the site managers, who are often not specialists in IT leads to the situation that quality of web sites of heritage sites is not relevant to the object that it should describe.

Furthermore an issue which leads to the research on usage of information technologies by heritage site managers is the development of research on destination image concept. The study of destination image is a relatively new topic to the field of cultural tourism research. However, several studies have illustrated that destination images have a strong influence on tourist behavior and their perception of the destination (Hunt, 1975; Pearce, 1982). In essence, the research suggests that those locations with strong, positive images are more likely to be considered and chosen in the travel decision process (Goodrich, 1978; Woodside and Lysons, 1989). As a result, destination image has an important role in the process of managing the tourism in the heritage site (Schmoll, 1977; Moutinho, 1984; Echtner and Ritchie 2003). Numerous studies have already been undertaken to measure the images of destinations, such as states, regions, and countries. However most of them focus on how to create the destination image to be attractive and interesting for tourists, and the interest in the site of local communities is placed on the second plan. In this context there are also many publications on management of sacral and spiritual heritage sites (e.g. Githitho 2003; Carmichael 1998). Also they focus mainly on site management in reality and they omit the virtual world which currently became the most important information source and marketing tool.

The main characteristic of Internet is that it allows for the creation of environment, in which many different levels of life are intersecting. It allows the users to find a variety of information from sundry sources. This considered, the internet is a powerful marketing tool. It is important that the heritage sites' managers are aware of that fact and are able to use the Web and its possibilities in a proper way. As was mentioned earlier, in society today the Web page of the destination is its profile in Internet-form. It is the Web creator's responsibility to make of it an interesting source with a variety of information, focusing on the tangible and intangible values of the site, instead of simply creating a commercial profile of the site directed to tourists.

Therefore the purpose of this paper is to critically examine if and how the Internet is used as a marketing tool for sacral and spiritual heritage sites. This will allow for further studies to take place on how to effectively use the Internet as a marketing tool for heritage sites, particularly sacral and spiritual heritage sites. The research presented in this paper focuses on tourists as a group of heritage users to whom most information is addressed. Following Rosenfeld's classification of information seeking it can be said that tourists usually represent the so called exploratory search [Rosenfeld 2003]. It means that the information users, in this case the tourists, are not fully aware of what they want to find. However they do hope that during that process they will learn and find something new and interesting. Tourists usually have very unclear knowledge regarding the place that they want to visit. For this reason web site managers should provide them with information that is as detailed as possible.

Findings

Currently we can observe a rapid growth of information space. As new information and communication technologies appeared, the term 'information space' was expanded with electronic space, also referred to as virtual or cyberspace. It is developing parallel to the real space, in which the object is physically situated. Both of them are affecting each other, mostly by having impact on their perception by the users.

A prime challenge of modern regional policy is to market through the use of ICT the attractiveness of a certain region in order to generate growth of tourists' visits and expenditures. An important contribution of cultural heritage lies in the support of the destination image generation. This means that, for example, cultural heritage is not only a source of historical information affecting the image of the attraction itself, but also the broader destination image. Consequently, information provided to potential visitors has an impact on the destination image. Thus, ICT has become one of the competitive tools in regional tourism policy (Goeldner and Ritchie 2002).

A part of the research presented in this paper focused around the issue of 'existing' World Heritage Sites in the Web. In the research twenty seven Web pages of four types of sacred heritage sites were examined (see Annex 2). This research was limited to official Web pages of the selected heritage sites run by the institutions responsible for the sites' management. The main stress during the analysis of Web pages was placed on the of availability of information about the sacral/spiritual character of the site.

The typical scheme of the Web page of all types of sacral/spiritual heritage sites included in the research consists of the following elements: 'about the site', short history, general information about the

architecture, events, sightseeing/things to do, e-shop, gallery and information for visitors, including information about opening hours, tickets, group and/or individual sightseeing, accommodation and food. Information placed in parts connected with history and architecture of the site usually has very general character, they focus mainly on the crucial facts and give just an overview about the history of the site. Most of the Website is dedicated to what is often referred to as tourism information with a strong promotional character. A tourist interested in visiting the heritage site can find on the Web page all necessary information: from opening hours and ticket prices to information about the accommodation and traditional food in the area. All of analysed Web sites had an e-shop or information about souvenirs available in the shop located in the site. A significant place is also dedicated to the events organized in the sites connected with promotion of local culture and traditions. This is most evident on the web pages of heritage sites from South America, Asia and Pacific regions. This gives an impression of a highly commercial character of those Web sites and consequently to the destinations themselves.

Only nine of analysed Web sites included information about the religion and pilgrimage, including Canterbury Cathedral, St Augustine's Abbey, and St Martin's Church in the United Kingdom, Churches of Peace in Jawor and Swidnica in Poland, Durham Castle and Cathedral in the United Kingdom, Lumbini, the Birthplace of the Lord Buddha in Nepal, the Sacred City of Kandy in Sri Lanka, Kalwaria Zebrzydowska, the Mannerist Architectural and Park Landscape Complex and Pilgrimage Park in Poland, Saint Catherine Area in Egypt, Bahá'í Holy Places in Haifa, the Western Galilee in Israel, and Poblet Monastery in Spain. The web sites of these locations reflect the unique sacral character of the sites and contain instructions for visitors which aim to create awareness and respect for the spiritual character of the heritage sites. The lack of such information on other Web pages may cause the failure of a preservation strategy of the sites as well as the collapse of the transmission of intangible values of the site. Some sites, for instance the Canterbury Cathedral, St Augustine's Abbey, and St Martin's Church in the United Kingdom offer a wide range of activities concentrated on education of heritage even though they focus mainly on tangible, architectural values of their sites and their preservation. These sites omit intangible sacral values of the heritage sites.

Those outcomes suggest that Web pages administrators mostly concentrate on 'commercial tourism information'. This kind of information is very attractive and interesting for potential visitors of the site as it gives them a detailed overview on the facilities available in the location. On the other hand by dedicating so much space on the Web page to such information, the space for religious information, which would show the unique sacral character of the heritage sites, is often limited or even omitted, as was discussed previously. We can say that the site managers present a 'tourist oriented' strategy in constructing the website of the heritage site and not, what could be referred to as 'heritage content oriented' strategy. As a result, it often occurs that the site visitors are not aware of the uniqueness of the place and thus do not have ample respect for it. The web pages' analysis revealed the lack of balance between touristic and what goes after that, economic values of the site and their intangible, spiritual values which were the reason for inscribing them to the World Heritage List and for giving them status of the monument of humanity. This fact may be due to heritage sites' managers' lack of awareness of potential consequences of this kind of tourism focused policy and paying too much attention to touristic and economic development of the site and going further from their local area. There is a necessity for finding a balance between these two elements, tourism/economy and preservation of the cultural values of the site. The construction of the web pages of analysed heritage sites demonstrated that the information policy of site managers is concentrated mostly on supplying information regarding the facilities for tourists that are available in the site.

As an integral part of the research a questionnaire was distributed to the sacral/spiritual World Heritage Sites managers. This part of the research is still in progress. For this reason, presented are the interpretations made on results from ten questionnaires received from heritage sites managers as of February 2010 (see Annex 1). The findings from the questionnaire placed in this paper do not represent general trends in tourism development in sacral/spiritual sites from UNESCO World Heritage List. However they show the variety of tourism impact on preservation and transmission of intangible values of sacred heritage noticed by heritage sites' managers.

The affection of tourism on spiritual heritage sites can be considered in two areas: (1) cultural and (2) economic. Amongst the entire list of heritage sites a significant growth of tourism after the inscription to the UNESCO World Heritage List was noticed.

Cultural changes visible in sacral heritage sites generally display positive character. All of the sites managers who answered the questionnaire suggested that, especially among local and regional communities, there can be an observed growth of interest in their local/regional culture and their heritage which is strongly connected with the inscription to the UNESCO List. Heritage Sites which have a status of UNESCO World Heritage Site for an extended period of time are making an effort to utilise that situation to broaden the awareness of local/regional communities about heritage by organizing special lectures, seminars and cultural events within the site. This is also visible on their Web sites where they place many educational materials dedicated to the local heritage.

What was also indicated in the questionnaire however is the differences regarding the tourists coming out from the region of the heritage site, especially considering foreigners visiting the site. They visit the sites mostly due to their artistic, architectural and/or natural values. They are often unfamiliar with the regional culture, traditions and religious beliefs. They do not show due respect to the place and

especially to its intangible character. This behavior generally comes about as a result of their shortage of knowledge about the intangible, cultural features of the site. This is often caused by lack of proper information about the character of the site as was also revealed in the analysis of Web pages of heritage sites (see above). The sites' managers try to deal with this situation by implementing restricted areas within the site, by organizing special guided tours or by providing special courses and workshops for volunteers and staff working within the site to ensure that they are well prepared to work in the heritage site. It happens, especially during the summer period that those methods are not enough. During the time of heavier tourist flow, visitors interested in serious pilgrimage and spiritual visits seem to avoid the sites, which are not able to provide them the desired silence and the space for praying. This situation is visible mostly in developed countries, where heritage tourism is a huge industry and there can be observed a large flow of tourism in all heritage sites. Heritage Sites from developing countries currently did not notice this situation, but they will face it due in time (Throsby 2003). What is interesting from the point of view of this article is that none of site managers indicated the heritage site web page as a place where the information about the character of the site and it's cultural value could be posted.

The influence of tourism development on sacred and spiritual heritage sites can be also discussed in its economic aspects. All questionnaires showed that tourism development has a significant influence on the economy of a given heritage site and its local and regional community. The income coming from tourist visits is for all heritage sites, the main source of funding for preservation and restoration of the objects within the site. The lack of such funding would risk the destruction of the site. Preserving cultural heritage at religious sites requires for allowing the local community to continue using the site whilst religious practices often can be disrupted by the presence of tourists. As was indicated, inappropriate tourist activities and commercial development around the religious heritage site may result in the trivialization of the site and in loss of its unique character. Many religious heritage sites encourage donations to help compensate for the impacts of tourism, but donations rarely cover the cost of maintenance and preservation (Olsen, 2006).

Managers of heritage sites situated in developing regions pointed out the positive impacts of tourism on local communities and their financial situation. Many heritage scientists have also indicated the economic effect of heritage on the local economy in terms of generated revenues as well as on employment growth (Bowitz and Ibenholt 2009). On the other hand however tourism contributes to higher prices and living expenses in the area. Site managers paid attention to private tour operators in the area, which according to site managers need regulation by local government. Tour operators interested in growth of their income lead to commercialization of the sites. When heritage religious sites and practices are commercialized and changed for easy tourist consumption, the site often risks losing its authenticity (McKercher and du Cros, 2002). The level of commercialization at sites which aim to accommodate for tourism is often in conflict with what is appropriate at a religious place. However, management of sites without considering the tourist experience leads to dissatisfaction and lack of support for cultural historic preservation.

Summary

The ideal situation is when a visit to a sacred site is an essentially spiritual experience, uncontaminated by technical and commercial realities. Visiting a sacred site should be an emotive experience and site managers are also charged with the task of preserving the spiritual quality referred to as a 'spirit place'. A sacred site should offer the attendee a window on infinity (Shackley 2001). At the same time they must facilitate the religious use of the site and cater for the frequently conflicting demands of worshippers and visitors. Site managers may have to cope with heavy but uneven visitor flows, or with special festivals and events that may attract crowds running into the millions. Providing opportunities for authentic experiences of sacred places and the spiritual culture of region management strategies should ensure sustainable tourism that benefits both the tourist and the community (Levi and Kocher 2009).

The research presented in this paper allowed for the following conclusions on the possible ways of preservation of sacredness of spiritual heritage sites. There can be distinguished three main challenges created by tourism at religious heritage sites: overcrowding, inappropriate tourist behavior which often comes from the lack of understanding or knowledge about the character of the site and commercialization. The presence of tourists at heritage sites causes physical and social impacts (Levi and Kocher 2009). When there are too many tourists, these places may lose their intangible spiritual character.

The most common approach aiming to reduce overcrowding at sacred heritage sites is to charge entrance fees. However this method causes a discussion about the propriety of fees at religious sites which are based on assumption of being open to everyone. The other way which aims to deal with overcrowding is limitation of opening hours for tourist (Olsen 2006).

Inappropriate tourist behaviors can be controlled in several ways. In some places including Canterbury Cathedral in the United Kingdom, tourists are often not allowed in chapel areas during services to reduce conflicts. It is also a common practice to have guides and staff members in various places in the site available to answer questions and to control the behavior of tourists. Some heritage sites are also providing areas available for tourists who wish to engage in worship oriented activities. What is necessary to be done in this case is to provide tourists with appropriate information and educational materials available in tourism information centers, heritage sites' Web pages and inside the site itself. Such practises

would lead to the tourist becoming more aware of the type and character of the place which they are visiting. That would also help to preserve the transmission of intangible values of the site. In the research it was observed that many sites do not provide such materials to their visitors.

The main problem which is faced by sacred heritage sites is their commercialization. This was visible during the analysis of both parts of the research, the questionnaire and the web page analysis'. The site managers focus on information about the heritage site facilities, such as opening hours, shops, accommodation, etc. This information is very useful and important from the point of view of visitors, but do also give the impression that they are the most important things in the site and blanket the information about the real value of the heritage site. Commercialization is a process which cannot be avoided at all. However site managers should do as much as possible to limit its impact on the site, having in mind especially the pilgrims who go there for spiritual reasons as well as the local communities. It is often claimed that tourism enhances the preservation and transmission of cultural values. Following the conception stated among others by Richard Engelhardt (2005), "Sustainable tourism can bring improved income and living standards for local people. Tourism can revitalise local culture, especially traditional crafts and customs". What is crucial in this statement is that tourism development must be sustainable, what means well developed and well managed.

The information management strategy should respond to needs and expectations of two groups of site visitors, tourists and pilgrims or local communities. Following this, a balance will be made between the commercial and heritage-based information. Also there should be an increased amount of attention paid by site managers to the new information technologies such as the Internet, which is currently the main source of information for all groups of heritage site users.

There should be provided special areas for local entrepreneurs where they have the opportunity to sell their goods. Site managers should also pay further attention to the events organized in the heritage site area to ensure that they comply with the character of the site. Further more, there is the need for regulations connected with tour operators' activities which would lead to common agreement and understanding about the uniqueness of intangible values of the site and necessity for its preservation.

To conclude, the primary the aim of sacred heritage sites' managers should revolve around the issue of visitor experience, how the site conveys its spiritual message, its 'spirit of a place' and preservation of that unique intangible character of the place. An increased awareness should be encouraged towards the religious feelings of visitors and local communities. Although tourism is a growing industry which brings particular benefit economically to the heritage site, it cannot be forgotten that the main use of the heritage site should be connected with its primary, spiritual function.

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ANNEX 1

Table 1. The list of the heritage sites which answered the questionnaire distributed to their site managers till the end of January 2010.

no	Name of the site	country
SINGLE NODAL FEATURES		
1.	Canterbury Cathedral, St Augustine's Abbey, and St Martin's Church	United Kingdom
2.	Notre-Dame Cathedral in Tournai	Belgium
3.	Roskilde Cathedral	Denmark
4.	Pilgrimage Church of St John of Nepomuk at Zelená Hora	Czech Republic
SHRINE/TEMPLE COMPLEX		
5.	Benedictine Convent of St John at Müstair	Switzerland
6.	Monastery of the Hieronymites and Tower of Belém in Lisbon	Portugal
7.	Church Village of Gammelstad, Luleå	Sweden
8.	Wooden Churches of Southern Little Poland	Poland
WHOLE TOWNS		
9.	Sacred City of Caral-Supe	Peru
PILGRIMAGE FOCI		
10.	Bahá'í Holy Places in Haifa and the Western Galilee	Israel

ANNEX 2

The list of Web pages of selected sacral and spiritual World Heritage Sites included in the research. All the Web pages were accessed between 15-31 January 2010.

Single nodal features

Aachen Cathedral - Germany - <http://www.aachencathedral.com/>

Abbey and Altenmünster of Lorsch – Germany - <http://www.kloster-lorsch.de/>

Boyana Church – Bulgaria - <http://www.boyanachurch.org/>

Canterbury Cathedral, St Augustine's Abbey, and St Martin's Church – United Kingdom - <http://www.canterbury-cathedral.org/>

Church Village of Gammelstad, Luleå – Sweden - <http://www.lulea.se/engelsk/gammelstadchurchtown.4.e80e04119324d918780001202.html>

Churches of Peace in Jawor and Świdnica – Poland - <http://www.kosciolpokoju.pl/index.php?D=1>

Durham Castle and Cathedral – United Kingdom - <http://www.durhamcathedral.co.uk/>

Golden Temple of Dambulla – Sri Lanka - <http://www.goldentemple.lk/siteN/about/>

Notre-Dame Cathedral in Tournai – Belgium - <http://www.tournai.be/en/officiel/index.php?page=19>

Petäjävesi Old Church – Finland - <http://www.petajavesi.fi/kirkko/index.php?lang=en>

Sun Temple, Konârak – India - <http://www.konark.nic.in/index.htm>

Whole towns

Lumbini, the Birthplace of the Lord Buddha – Nepal - <http://www.lumbini.info/index.asp>

Sacred City of Caral-Supe – Peru - <http://www.caralperu.gob.pe/nueva/directoriotelef.html>

Sacred City of Kandy – Sri Lanka - <http://www.kandycity.org/index1.html>

shrine/temple complex

Cistercian Abbey of Fontenay – France - <http://www.abbayedefontenay.com/abbayedefontenay.htm>

Jelling Mounds, Runic Stones and Church – Denmark - <http://www.fortidensjelling.dk/jellinge30.htm>

Jesuit Missions of the Chiquitos – Bolivia - <http://chiquitos.santacruz.gov.bo/>

Kalwaria Zebrzydowska: the Mannerist Architectural and Park Landscape Complex and Pilgrimage Park – Poland - <http://www.kalwaria.eu/>

Painted Churches in the Troodos Region – Cyprus - <http://www.paintedchurchesofcyprus.net/>

Poblet Monastery – Spain - <http://www.poblet.cat/index.php?&&&&ZW4%3D>

Rila Monastery – Bulgaria - http://www.rilamonastery.pmg-blg.com/Home_page_en.htm

Saint Catherine Area – Egypt - <http://www.sinaimonastery.com/en/index.php?lid=1>

San Millán Yuso and Suso Monasteries – Spain - <http://www.monasteriodelyuso.org/>

Seokguram Grotto and Bulguksa Temple – Korea - <http://www.sukgulam.org/>

Villages with Fortified Churches in Transylvania – Romania - <http://www.fortified-churches.com/>

Wooden Churches of Southern Little Poland – Poland - <http://www.drewniana.malopolska.pl/Default.aspx>

Pilgrimage foci

Bahá'í Holy Places in Haifa and the Western Galilee – Israel - <https://bahai.bwc.org/pilgrimage/>



Care and Management of Ancient Stone Monuments during Environmental Change

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Ancient stone monuments (ASMs), such as standing stones and rock art panels, are powerful and iconic expressions of Britain's rich prehistoric past that have major economic and tourism value. However, ASMs are under pressure due to increasing anthropogenic exposure and changing climatic conditions, which accelerate their rates of disrepair. Although scientific data exists on the integrity of stone monuments, most applies to "built" systems; therefore, additional work specific to ASMs in the countryside is needed to develop better-informed safeguarding strategies. Here, we use Neolithic and Bronze Age rock art panels across Northern England as a case study for delineating ASM management actions required to enhance monument preservation. The state of the rock art is described first, including factors that led to current conditions. Rock art management approaches then are described within the context of future environments, which models suggest to be more dynamic and locally variable. Finally, a Condition Assessment and Risk Evaluation (CARE) scheme is proposed to help prioritise interventions; an example of which is provided based on stone deterioration at Petra in Jordan. We conclude that more focused scientific and behavioural data, specific to deterioration mechanisms, are required for an ASM CARE scheme to be successful.

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Keywords: management ancient stone monuments, climate change, resilience, management, condition assessment

Introduction

Ancient stone monuments (ASMs), including standing stones and carved rock art panels, exemplify Britain's rich prehistory and provide a visual link to our ancestors. These non-renewable heritage resources have great cultural, aesthetic, and tourism value, frequently acquiring Scheduled Ancient Monument and even World Heritage status. Often, these monuments provide an important testimony to a time without written records and are irreplaceable. Despite their perceived immutability, ASMs are under mounting pressure due to increasing population densities associated with urban expansion, pollution, and agricultural activity as well as climate change. As a result, ASMs are growing in disrepair and ultimately may vanish from the countryside.

In spite of their apparent vulnerability, strategies for specifically addressing the management of ASMs are limited. This is partly due to their perceived longevity, but also because most scientific information on stone integrity and resistance to change is biased towards built environments (Prikrýl and

Smith, 2007; Fort et al., 2006; Smith and Warke, 1996), which do not always apply to ASMs in the countryside. As an example, the nature of the stone used in ASMs often differs from built structures. Unlike stones used in built structures, ASM stone usually is not "worked" having been carved in situ with such monuments typically located in rural landscapes where they are subject to differing ecological and physical pressures compared with built systems in urban settings. As such, significant gaps exist in our understanding of the key factors that influence ASM state, especially given increasing human intrusion in the countryside and forecasted dynamic changes in our climate over the next century.

As background, research into physical, chemical, and, to a lesser degree, biological weathering (bioweathering) of rock carvings has been performed since the 1970s (Bakkevig, 2004). However, only recently have more extended scientific studies on rock deterioration been performed to better inform ASM management (e.g., St. Clair and Seaward, 2004; Macedo et al., 2009). Although this current study does not provide new data on deterioration mechanisms, its aim is to highlight key issues pertinent to ASM preservation with a particular focus on management approaches that might be implemented now to future-proof ASMs during periods of environmental and climatic change. Within this context, the objective is to consider four issues related to ASM preservation. First, we will examine and clarify differences between the terms "resilience" and "resistance to change" within the context of ASM management. Second, pressures and threats to ASMs will be summarised, including how such pressures might alter under different climatic conditions. Third, ancient rock art panels across the countryside in Northern England will be used as a case study for discussing management questions related to environmental change. These panels were selected partially because they rarely have been studied in a holistic manner, but also to demonstrate differences in ASM integrity relative to the integrity of stone built monuments. Finally, management implications will be discussed for enhancing the resilience of ASM sites, including the development of formalised condition assessment schemes for ASMs to help prioritise sites for managerial and other interventions. The ultimate goal is to stimulate the development of formalised frameworks for heritage management that both consider present and future climatic conditions and could be translated to other similar scenarios.

Resilience Versus Resistant to Change

"Resilience" is a term applied in many disciplines, ranging from engineering to anthropology, but its meaning often differs. In fact, the term frequently is misused, which confuses its implications, especially in the management of complex systems. The term describes a system's ability to remain functionally consistent over time under stress and also its ability to readily recover to its original state after disturbance. Therefore, we define resilience to mean the "quality or state of being flexible" at the system level. With this in mind, ASMs innately are not resilient. Although in comparison to other materials, stone is typically highly resistant to change, it is not literally resilient because when stone deteriorates it does not return to its original state. ASM deterioration is non-reversible and permanent. Therefore, the first key in management is to maintain the current state of the ASM for as long as possible, which means creating and/or retaining resilient environments around the ASM such that changes in the ASM condition state are minimised. As such, management should focus on creating environments surrounding ASM that are intrinsically stable in themselves, which will in turn maximize the ASM's tendency to "remain stable" by keeping local conditions as consistent as possible (e.g. moisture conditions, drainage, exposure to air, animals etc.).

As an aside, ASMs are by definition "old", sometimes up to 6000 years old, and their presence in current landscapes argues that a high level of resistance to change must exist. However, we also must consider that the ASMs that remain may be the remnants of a much larger collection, much of which already has been lost during the past centuries with today's 'survivors' representing a self-selecting group of more resistant stone types. While past resistance to change is related partially to wise selection of stone by the original creators of the monuments, population densities, agricultural intensity, and pollution were much lower in the past, and temperature and precipitation patterns have been relatively consistent for the last 10,000 years (Bond et al., 1997). However, growing evidence suggests that environmental conditions that facilitated past long-term resistance to change may not continue into the future. Therefore, contemporary ASM management must consider increasing populations, greater exposure to pollution, and other broad threats, such as gradual or sudden changes in our climate (Broecker, 2010).

Pressures and Threats

To consider how ASMs might be affected by future conditions and, in turn, help define appropriate management solutions for preservation, it is first important to establish the types of threats that might affect their longevity. It is not completely clear which of the current and/or future threats are of greatest importance. Although, it is reasonably certain that most threats will differ over space and time, some will be predictable and others not, while still others are unknown at this time. This variability makes developing management strategies difficult and suggests that the best general approach for ASM preservation is to 1) better understand the "science" behind the deterioration; 2) develop methods for prioritising sites for protection and immediate action; and 3) refine monitoring approaches for defining ASM "state" to flag where deterioration of consequence might be occurring. To start, we will summarise various pressures and threats that are "known", somewhat predictable, and often controllable. After that, we will present specific data on rock art in North East England. Then we will discuss less controllable

factors, such as sudden climate change. As will become apparent, many factors that affect monument integrity are hard to define and quantify. Therefore, creating resilient environments around ASMs, regardless of future conditions, is of greatest importance to management.

Known Processes

The processes responsible for stone decay must be understood to successfully prevent, treat, and/or manage ASMs; failure to do this can lead to inappropriate strategies that can amplify original problems or trigger new deterioration scenarios. Many processes affecting ASM decay are similar to or the same as those influencing built stone structures (BSSs), yet key differences also exist. Mutually significant decay processes between built and non-built monuments include physical breakdown (e.g. flaking, granular disintegration, cracking); chemical breakdown (e.g. staining, pitting, and scalloping/fluting); alternation and deposition (e.g. recrystallisation and crusts); biological weathering (e.g. lichen, epilithic algae, endolithic algae, and vegetation growth); and direct human impacts (e.g. repair, cleaning, quarrying, and graffiti) (modified listing from Smith, 2010:126-135). However, processes unique to ASMs include "other" human impacts (e.g. turf removal); agricultural intrusion (e.g. ploughing, field clearance, controlled burnings and plantings, and increased nitrates levels from fertilizers); animal activity (e.g. persistent trampling or rubbing the rock surfaces and contact with their waste); and linked ecosystem impacts (i.e. altered grazing patterns, vegetation change, and altered ASM exposure (Greeves, 2009)). On a synoptic level, the two key differences between ASMs and BSSs stem from where they are found (i.e. rural settings for ASMs, urban settings for most BSSs) and rock sources used for the monuments (i.e. ASMs are often natural outcrops, while BSSs typically are quarried).

The net product of these factors is that different pressures are imposed on ASMs in comparison to BSSs; specifically, impacts on ASMs often are more "ecological" where direct cause and effect relationships are less predictable. The classic example of how ASMs differ from BSSs is in the preservation of Callanish on the Isle of Lewis (Bohncke, 1988; Dark, 2006). Callanish is one of the iconic standing stone structures in Britain and is quite well preserved. However, this preservation is largely a consequence of changing climatic conditions not long after Callanish was abandoned. For reasons that only partially are understood, precipitation, drainage, and vegetation patterns altered in the region resulting in accelerated rates of peat accumulation and burial of the stones (Bohncke, 1988). This burial protected the stones from both human impact and also weathering, which has resulted in their preserved state today. This story is very pertinent here because it shows how cascading factors in an ecosystem can dramatically alter preservation state of ASM at a given site. However, it also shows why climate change matters (positively in this case) and considering such change in management strategies must be important relative to long-term monument preservation.

Threats to Rock Art in Northern England

Until recently, scant attention had been paid to the threats facing British ASMs (beyond major sites like Stonehenge and Callanish), especially open-air rock carvings (RAPP 2000). In order to begin rectifying this situation, Barnett and Diaz-Andreu (2005) canvassed 13 rock art recorders and researchers in 2003 and 2004 about their perceptions regarding the factors influencing the decay of British rock art. Although based largely on anecdotal evidence, this survey, which addressed physical/chemical, biological, and human factors, provided the first synthesis of the factors influencing the deterioration of British rock art.

Between 2002 and 2004, at roughly the same time that Barnett and Diaz-Andreu (2005) were undertaking their survey, Mazel, with the support of Stan Beckensall, the doyen of British rock art studies, undertook a comprehensive project (Beckensall Archive Project) to record the rock art of Northumberland in Northern England. Based on the extensive archive developed by Beckensall over a ca. 40 year period, the primary aims of the Beckensall Archive Project was to create a user-friendly website, supported by a database, to provide the basis for future research, educational outreach, and the wider public access and understanding of rock art (Mazel 2005, 2007; Mazel and Ayestaran, 2010). In addition, the project aimed to improve our understanding of the vulnerability of, and threats to, the carvings by natural and anthropogenic processes and to develop an appreciation of future management and conservation requirements. This aspect of the Beckensall Archive Project was achieved through the completion of on-site panel report forms, which included the collection of information relating to conservation and management issues. In fact, human and animal interaction with rock art was recorded at 575 of the 720 panels recorded in the countryside during the project (Table 1).

Conservation and management information also was recorded during the Northumberland and Durham Rock Art Pilot Project ((NADRAP) Oswald et al., 2006; Sharpe et al., 2008) between 2004 and 2008, but this information has yet to be collated. It is worth noting, however, that several volunteer recording teams collected the NADRAP information, while the Newcastle University Beckensall Archive Project material was collected by a single recorder (Mazel) and is therefore likely to represent a more consistent dataset. However, when the NADRAP data are collated it will be useful to compare these two datasets.

Table 1. Past destruction and current threats to Northumberland rock art based on the recording of 575 panels recorded between 2002-2004.

Nature of past destructive factor or current threats	N	%
Quarrying	93	16.2
Livestock scratches	60	10.4
Plough damage	16	2.8
Turf removal	16	2.8
Plantation	11	1.9
Driven on	8	1.4
Burning	6	1.0
Graffiti (ancient)	4	0.7
Relocation of rocks during farming activities	2	0.3
Candles	2	0.3
Chalking	1	0.2
Graffiti (modern)	1	0.2




Table 1 presents the destructive factors and threats to Northumberland rock art that were identified during the Beckensall Archive Project. These issues can be grouped into three categories 1) past destructive factors; 2) recent interference by visitors; and 3) modern agricultural practices. In terms of past practices, it would appear that quarrying (Figure 1) has been most detrimental to the rock carvings in that one in six panels (i.e. 16%) display evidence of this activity. However, this is likely to underestimate quarrying activity because some (possibly many) rock art panels may have been removed completely. For example, the presence of carvings in stone walls, and the bases of bridges and houses (see Figure 2) provide evidence of such quarrying and the use of carved rocks. Quarrying, however, is no longer considered to represent a threat to the conservation of rock art.



Figure 1. Evidence of quarrying on a rock panel at Lordenshaw.

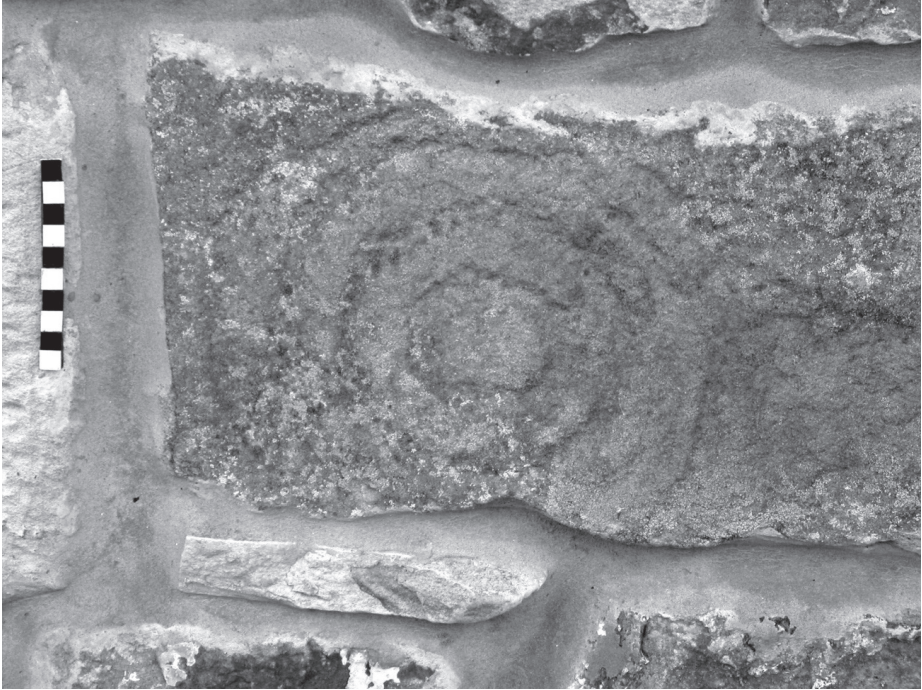


Figure 2. Evidence of a rock art panel being utilized in the construction of a house. Note: scale is in centimetres.

Considering the impact of farming practices in rural Northern England, about 80% of the panels were considered "threatened" by cows and sheep walking on them, although only 10% showed actual evidence of damage in the form of scratching (Table 1). It is likely that most, if not all, of the plough damage relates to past practices, although one instance was noticed where recent ploughing had gouged within 40 cms of a carved panel. Panels being driven on by other vehicles (1%), burnt accidentally or through controlled burns (1%), and/or covered with plantation litter (2%) represent other threats to the rock art, although more work is needed to understand fully the extent of such factors.

While about 10% of the panels showed evidence of human visitation (e.g. modern cairns, paths, litter), turf removal was noted at only 3% of the panels. Furthermore, contemporary graffiti and wilful human damage was not apparent as a major factor influencing the state of rock art in Northern England. A distinction was drawn between ancient and modern graffiti and, while the number of observations were low (four and one, respectively), it is noteworthy that the majority of the graffiti was believed to predate the twentieth century. Interference with rock art panels by candles placed on the rocks and chalking was not deemed a major threat to rock carvings in the database.

Many of the destructive factors and threats recorded by Mazel (Table 1) are consistent with those reported by Barnett and Diaz-Andreu's (2005), although the apparent low human impact on the rock carvings recorded by Mazel differed somewhat from perceptions of the Barnett and Diaz-Andreu respondents. In addition to the threats listed in Table 1, Barnett and Diaz-Andreu's survey respondents also noted a range of chemical and biological agents that they believed threatened rock art, although no direct proof of impact was shown.

While the ongoing threats to the rock art noted above can (and should) be mitigated through the implementation of effective management strategies, it is becoming increasingly appreciated that management strategies need to consider a wider range of pressures using a systems approach. The Barnett and Diaz-Andreu's (2005) respondents were on the right track when they made the link between the increasing prevalence of lichens and changes in the local environmental conditions (Macedo et al., 2009). Although, the simple presence of lichens does not necessarily constitute a problem as lichens can fulfil either a bioprotective or a biodestructive role (St. Clair and Seaward, 2004). Nevertheless, this observation highlights the potential for more subtle impacts that climate change or pollution might have on the long-term future of rock art (and ASMs in general).

Climate Change and its Manifestation

Many inaccuracies and misunderstandings exist about climate change, especially its spatial and temporal effects. For the purpose this discussion, the assumption is that climate change is occurring and it must be considered in terms of ASM preservation. Therefore, it is critical that we consider the range of past, current, and future expressions of change that might affect sites such as rock art panels in Northern England. Prior to discussing implications, a few key points must be clarified about climate change. First, "climate change" does not necessarily mean "warming." Climate modelling shows that different locations around the world will be affected differently by changes in atmospheric conditions. Figure 3 shows three scenarios of possible change in surface temperature by the end of the 21st century (Solomon et al., 2007) and Figure 4 shows equivalent predicted precipitation patterns over the same timeframe (Meehl et al., 2007). As the two figures show, temperatures are expected to increase in some places, especially Polar Regions, whereas other locations, such as the temporal margins, will become much drier.

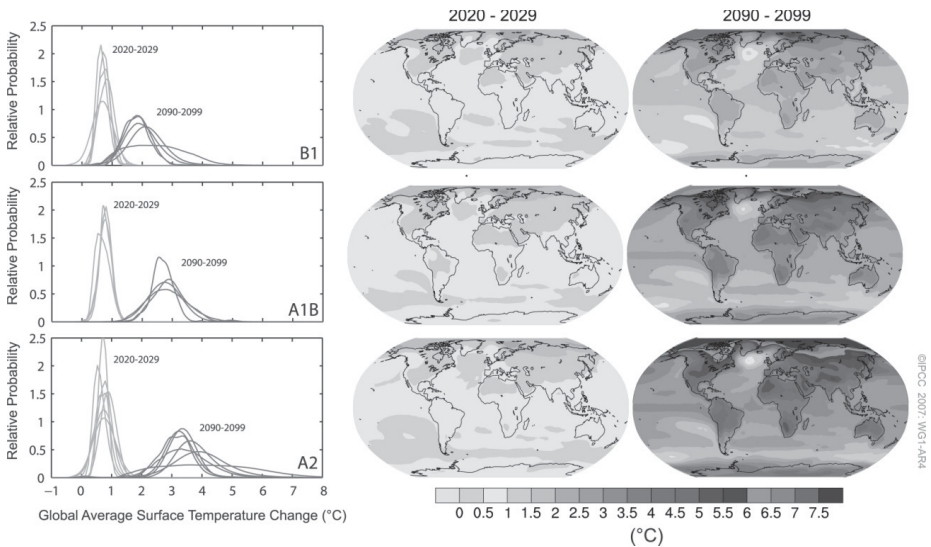


Figure 3. Projected changes in global surface temperatures through the end of the 21st century, including variability in predictions based on different model assumptions (Reproduced with permission from Climate Change 2007: The Physical Science Basis. Working Group I Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Figure TS.28. Cambridge University Press).

Therefore, climate models show that change will occur everywhere, but it will be manifested quite differently at the local level. For example, in Northern England where the rock art panels exist, most climate models predict more intense and locally dynamic precipitation events, especially in the winter, but only slightly warmer air temperatures; whereas, farther south in England, conditions are predicted to be drier year round and generally warmer, particularly in the summer. From a management perspective, these predictions are useful because they imply greater differences will exist between wet and dry seasons in the future, and conditionally higher and more variable rates of local runoff, which suggest on-site drainage conditions must be considered carefully. However, the resolution of the above predictions is not exact and, in fact, the line between "North" and "South" is approximate. As such, we contend that one must plan for different futures and embed as much resilience as possible into local ASM sites.

Although spatial variation of change is significant (and somewhat obvious), two points related to climate change are potentially more important for future-proofing ASMs. First, all climate predictions become much less reliable the farther into the future they are made. As an example, A2 scenario in Figure 3 (a scenario that assumes current human behaviour does not significantly alter) shows that predicted temperature changes among models vary by only 0.5°C in 2029, but predictions for the same locations differ by ~5°C in 2099, which implies greater uncertainty exists in forecasted conditions farther into the future. These broad predictions partially result from the fact that each climate model assumes different levels and types of uncertainty in their structures, which become differentially amplified or suppressed over time based on the type of uncertainty and the model. Variations also result from the fact that each model assumes slightly different initial conditions and weighs the drivers of climate change differently, including human behaviour. Although this imprecision is worrying, the key for ASM management is that we need to be innately cautious in management decisions, especially until modellers have a better grasp of trends and the true human responses to climate change have been established.

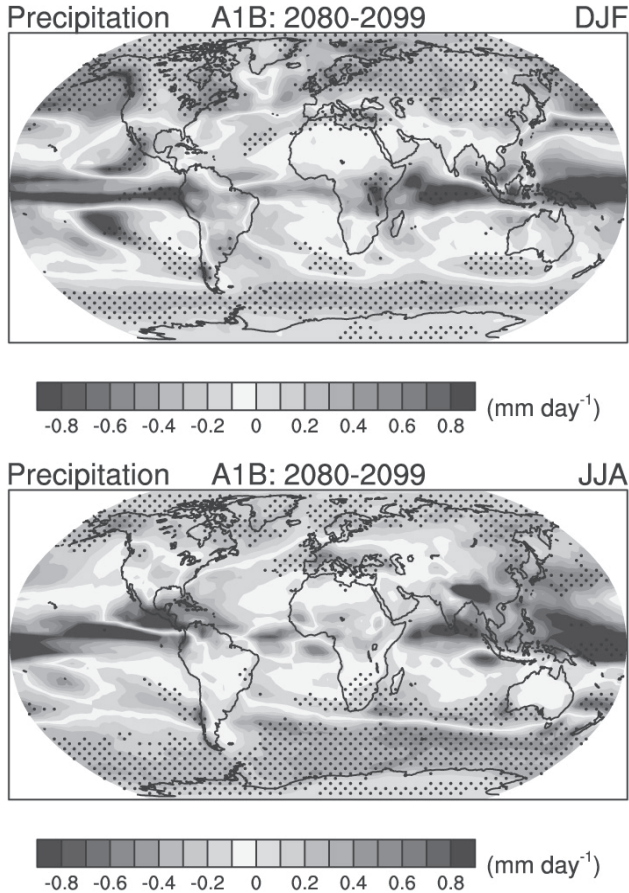


Figure 4. Projected relative changes in global winter (DJF; December, January and February) and summer (JJA; June, July and August) precipitation patterns by the end of the 21st century based on IPCC panel predictions (Modified and reproduced with permission from Climate Change 2007: The Physical Science Basis. Working Group I Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Figure 10.9. Cambridge University Press).

The final point related to climate change and ASM protection is of a more fundamental nature, stemming from the behaviour of complex systems as energy levels increase. Figure 5 shows a sample of how a complex system responds to increasing energy (e.g. a generally warming atmosphere), and is characterised by sudden changes in system state as energy is increased. The figure shows that complex systems, such as our atmosphere, do not behave in a linear manner, especially as energy levels become higher. Specifically, as energy increases (exemplified by warming, more intense precipitation etc.), complex systems innately bifurcate; i.e. they jump between broadly differing states and, as such, sudden or dramatic change becomes innate (Broecker, 2010).

The practical consequence of this natural phenomenon is that climate-driven changes of conditions surrounding ASMs probably will not be gradual or linear; consequently, management approaches must be designed with consideration of sudden change in mind. Unfortunately, predicting sudden change exactly in complex systems is impossible; therefore, we feel it is essential that any "climate change" management of ASMs be underpinned by improved, more sensitive methods for monitoring of ASM state relative to mechanisms of deterioration of greatest concern. Given sudden changes will not be readily predicable a priori (consider the difficulty of predicting earthquakes, another manifest response of complex systems); research is needed on sensor and other technologies for stone, which can be calibrated to changes in stable state. The results of these studies can inform managers of interventions to enhance the resilience of the local environment around the ASM. Therefore, the goal of management in this respect is to buffer ASM

environments, so that catastrophic changes in state are less likely to take place, and, if such change does occur it can be mitigated and managed more effectively.

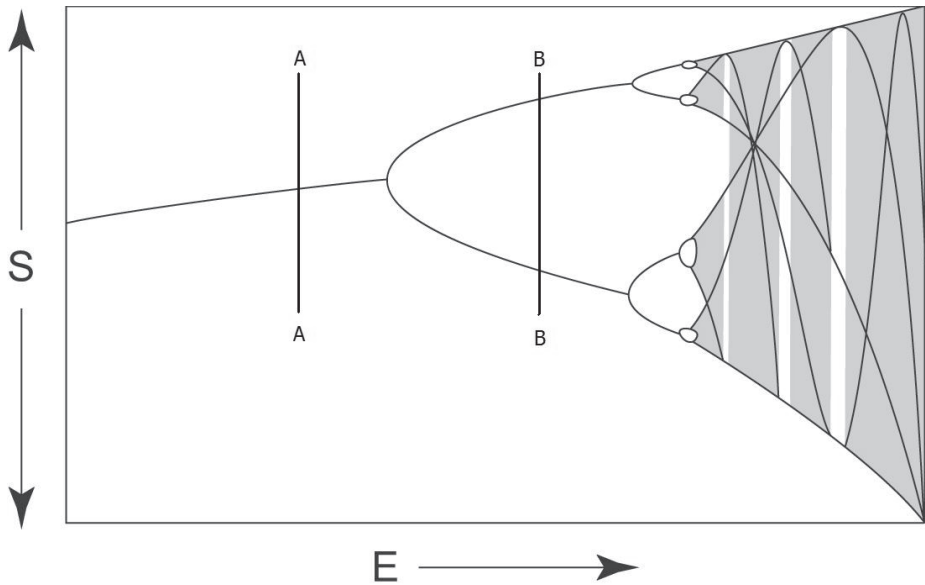


Figure 5. Effects of increasing energy level (E) on the number of possible stable states (S) in a complex system (e.g. our atmosphere). At low energy levels, changes in state are usually gradual, but as energy levels increase, systems can have multiple stable states (i.e., one stable state exists at energy level A, whereas two stable states exist at energy level B) and, as such, are more prone to sudden change between states (i.e. bifurcation). Heritage management must have contingencies against the impact of sudden change on resource stature, which should include consideration of the fact that the exact nature and timing of change is impossible to predict.

Management Approaches for the Future

It will be evident from the data and insights presented above that the future-proofing of ASMs is not straightforward. Managers need to grapple with a wide array of issues facing heritage sites including

1. identification of which sites/panels should be preserved,
2. where sites are in the landscape,
3. what is the best way to preserve each site,
4. who should pay for preservation, and
5. the nature and extent of public access to sites.

It is not surprising then that, as with all heritage resources, clear and far-sighted management planning is a vital first step in the care of ASMs.

As background, an identified ASM usually is added to an inventory or register where baseline data are recorded about its state; e.g. location, age, size, function, type, and level of significance. These initial appraisals can vary considerably and often lack standardised condition information. Further, ASMs usually are not checked regularly (or at all, in some instances) until they become part of a dedicated research (or monitoring) project, whereupon, heightened interest may raise their profile enough to be incorporated into a management plan. Fortunately, the NADRAP and the Beckensall Archive Project have provided a valuable baseline for rock art panels in Northern England, however, the issue of prioritizing sites for attention and intervention remains as there simply are not enough resources to manage all sites and panels everywhere. Therefore, condition assessment and risk evaluation must underpin sound management. Managers not only need to know the current condition of the ASMs in their care, but they also must have a basic understanding of the mechanisms that contribute to deterioration in order to evaluate current and future risk. To achieve this, a simple to use, relatively rapid, and formalised scheme is needed to help managers proactively identify those ASMs in most need of remedial intervention. Furthermore, a formalised assessment scheme would allow managers of different sites to compare data and evaluate outcomes based on a common approach and terminology.

Such a staged system approach to condition assessment first was developed by medical clinicians as a tool for the assessment and treatment planning for cancer patients (Hermanek and Sobin, 1987). Their model was based on many decades of research into the extent of cancer spread and predicted extent and success of treatment. Although deceptively simple, the model is very well grounded and scientifically robust, and provides an internationally recognised triage system for cancer. This "staging system" approach goes beyond basic description by incorporating a risk assessment based on evaluation of current condition and identification of actual and potential risk factors. This, in turn, enables an assessment of "prognosis" or long-term outcome if no intervention is undertaken and gives an indication of the extent of intervention required. In fact, this terminology is not arbitrary because the medical model provided inspiration for development of such a staging system for use on historic buildings (Warke et al., 2003; Warke, 2010).

Although this system primarily was developed for built structures, it has since undergone successful modification for application to archaeological stonework closer to ASMs where intervention and limited financial resources exist, but where the majority of archaeological structures are of similar age, similar archaeological significance, and exhibit similar levels of deterioration. This new system was trialled successfully at Petra in Jordan and a typical field recording data sheet for the Palace Tomb at Petra is provided as demonstration of a viable condition assessment scheme (Figures 6 and 7, respectively). In practice, parallel assessments are performed among similar types of sites and management priority is placed on the sites that display and represent greatest need based on quantitative comparisons using standard guidance criteria within a stage assessment grid, such as Figure 8. At Petra, this approach led to the Palace Tomb being prioritised as being in urgent need of intervention primarily because of the unstable nature of blockwork and a high risk factor in terms of potential injury to site visitors as well as catastrophic loss of the archaeological record.

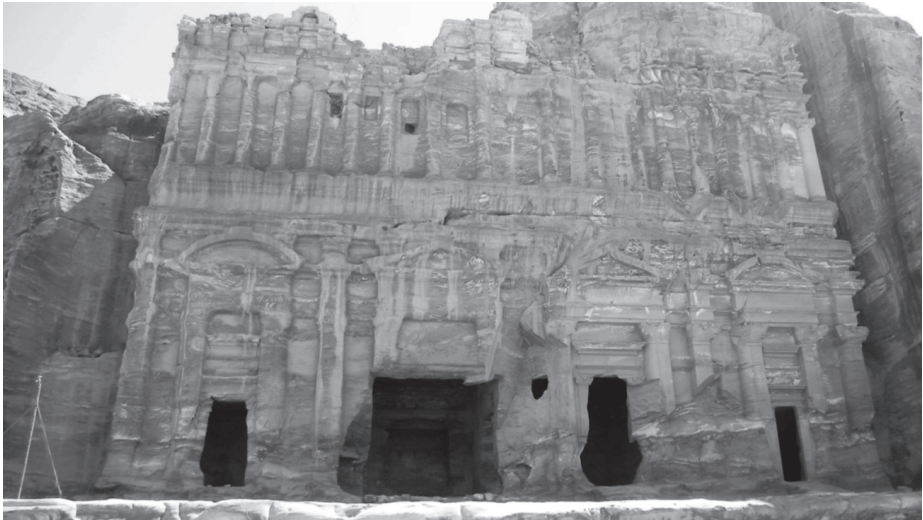


Figure 6. Petra in Jordan where a CARE scheme pertinent to ASM has been used successfully. The West-facing façade of the Palace Tomb is shown here. Note: the loose block work on the upper section of the façade and also the fallen blocky debris on the ground near the main entrance to the tomb.

Facade Condition Assessment Form						
Facade Descriptions	Name of Building: Palace Tomb, Petra Monument ID: 765				Near Ground Damage	Stone Decay Indicators*
	WEST Evidence of deterioration & loss of architectural detail associated with groundwater rise &/or near-ground microclimate. Fracturing of stonework is present associated with geological structures. Deterioration is particularly severe in the lower half. Middle third also shows significant loss of definition & architectural detail. Condition of the upper third is similar to the middle section but with the addition of collapsed portions of blockwork in the upper levels associated with deterioration & weakening of the underlying natural rock facade. Large blocks of stonework have fallen from the upper blockwork section & can be seen at the foot of the facade where tourists gather. Architecturally this is a complex facade comprising natural & free-standing stonework. This facade has medium-high prominence being set back from the main thoroughfare with medium-high accessibility because steps have to be climbed to reach it. Biological colonisation predominantly in the form of lichens is associated with surface water flow characteristics.				20%	70% (S, F, GD)
Soiling					10% (Lichen)	
Fracturing**					Some (D, S, V)	
Remediation					None	
Facade Stage					U3 A3 S1	
RESULTS *S-Scaling, F-Flaking, GD-Granular Disintegration **D-Diagonal, S-V-Sub-Vertical					STAGE 4	
IMPACT / RISK FACTORS	VALUE CATEGORIES			ADDED VALUE	SCORE	
Structure Size	Small (1)	Medium (5)	Large (10)		10	
Decoration	Simple (1)	Moderate (5)	Complex (10)	Rarity (20)	10	
Prominence (within the site)	Low (1)	Medium (5)	High (10)	Iconic Status (20)	6	
Accessibility	Low (1)	Medium (5)	High (10)		7	
Risk Factors (external or internal)	Low (1)	Medium (5)	High (10)	Very High (20)	20	
Total Score					53	

Figure 7. Façade condition assessment form for the Palace Tomb in Petra, Southern Jordan.

The significance to ASMs of the assessment scheme for Petra does not lie in the specific issues encountered at Petra, but in the broad value of using a formalised assessment scheme as a management tool, which enables prioritisation of individual monuments in greatest need of urgent intervention based on a standard guide. Therefore, we suggest that such a model be developed for ASM management to allow rapid easy-to-use formalised Condition Assessment and Risk Evaluation (CARE). Currently, we do not have adequate details on destructive mechanisms affecting ASMs. In developing such an ASM CARE scheme, topics requiring further investigation include 1) the proximity of the ASM to current human and agricultural activity; 2) the regional location of the ASM relative to changing forecasted climatic conditions; 3) altered spatial demographics of human movement due to climate change; and 4) the influence of ground vegetation on ASM exposure conditions. In the case of rock art panels, the key now is to gain more scientific and other information on what dictates rates of deterioration, and also on management approaches that enhance site resilience, both factors are critical for developing the most suitable CARE criteria. In fact, such work is underway and soon will be completed for the protection of rock art in Northern England, but it is our intention to apply it to similar sites and ASMs around the world.

		Nature of manifestation and extent of spread →			UNIT	
		U	A	S		
Outcome STAGE	Good	1	U0 U1 U2	A0	S0	U0: No deterioration detectable U1: Some surface alteration with minimal breakdown affecting only small isolated parts of the facade U2: Well-developed surface breakdown but involving <10% of the facade U3: Well-established surface breakdown with loss of original surfaces affecting approximately 10% of the facade A0: Small isolated areas of deterioration A1: Positive involvement of adjoining facade elements but affecting <10% of the facade A2: Positive involvement of adjoining facade elements affecting 10–20% of the facade A3: Extending localised involvement of adjoining facade elements affecting >20% of the facade S0: Deterioration restricted to specific sections of the facade S1: Deterioration affects distant unconnected portions of the facade involving more than 50% of the total surface area
	2		U1 U2	A1	S0	
	3	ANY ANY	A2 A3	S0		
	Poor	4	ANY	S1	S1	
					SPREAD	

Figure 8. General guidance criteria for assignment of Stage Assessment for monuments (adapted from Warke et al., 2003).

Conclusions

The future of ASMs is not guaranteed because our environment is changing. Therefore, it is incumbent upon us to understand factors that have most contributed to the preservation of ASMs in the present-day landscape, and then develop sustainable management approaches to enhance long-term site resilience in the face of changing environmental conditions. We are part way there with regard to rock panels in North East England, but the second half of question has still to be resolved. The mechanistic basis of ASM decay is largely a scientific question, including better understanding the possible impacts of changing climatic conditions. However, heritage management expertise, especially in developing a sound and workable CARE system to help priorities decisions in an ever-diminishing funding environment.

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Historic and Environmental Significance of Ecological Communities in NSW, Australia

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Colonisation in the late 18th century and subsequent settlement in New South Wales, Australia has led to the native vegetation on the more arable soils being cleared, leaving only scattered remnants of the original vegetation. These vegetation remnants have become of natural heritage significance and are now protected under State and National legislation. Vegetation communities on sandstone-derived soils, not suitable for agriculture, have also been reserved in National Parks since the 1890s. The case studies of saltmarsh restoration and the planning of three cities illustrate that legal recognition of the natural heritage value of the remnant vegetation contributes to improved ecologically sustainable outcomes. The presence of a listed vulnerable saltmarsh species *Wilsonia backhousei* led to the restoration of the degraded saltmarsh community in an urban redevelopment. The identification of corridors of conservation and heritage significance are central issues for the development of Appin-Wilton and of Spring Farm, part of the planned three cities. The case studies show the historic loss of environmental heritage vegetation and the implementation of conservation planning to accommodate the expanding population of Sydney. Application of environmental legislation has led to natural heritage vegetation being conserved and enhanced, hence reducing the environmental footprints of urban growth.

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Keywords: Ecologically sustainable development, heritage significance, vegetation, environmental legislation, Australia

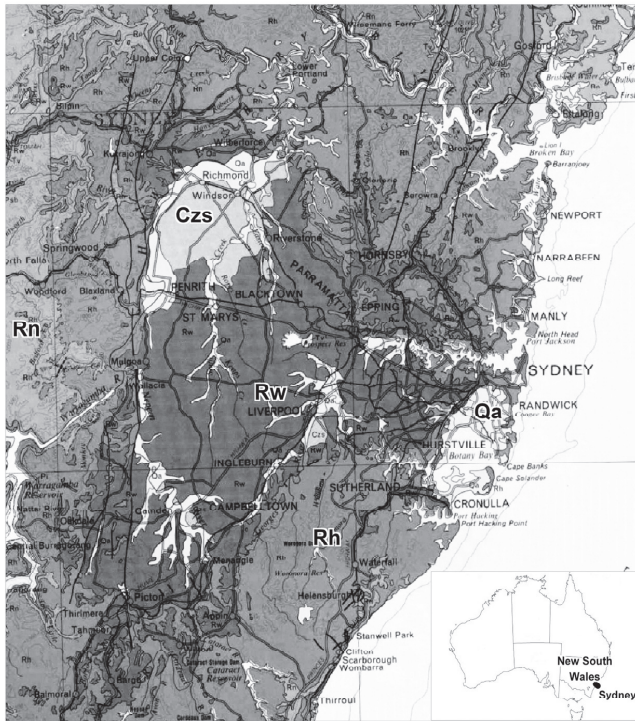
Introduction

During the initial stages of the European settlement in Sydney (now the State capital of New South Wales, Australia, Figure 1), the foremost concern was survival of the colony. There was little consideration for conservation of the native vegetation.

Pattern of settlement

The early Sydney colonial settlement from 1788 was initially clustered around the harbour foreshores where there was a suitable supply of fresh water (Clark, 1963). The land also appeared to have fertile soil with a "luxuriant prospect of its shores, covered with trees to the water's edge" (Tench, 1789). Although the pre-1788 flora once supported rich ecological communities including Turpentine-Ironbark Forest on the shale ridgetops (Attenbrow, 2010), it was quickly found that the sandstone-derived soil around the harbour (Figure 1) was shallow and of low agricultural value (Perry, 1963). In the 1790s relatively fertile shale-derived soil was discovered on the undulating landscape west of the main settlement and attempts at farming began in earnest. Initially the settlement remained confined because of the rugged terrain and non-arable soils surrounding Sydney. As early as 1803, Governor King of NSW forbade the clearing of riparian vegetation because it led to erosion, flooding and consequent loss of soil, houses, crops and stock (Bolton, 1992). It could be argued that as the colonial settlement grew, a new order was imposed too

quickly on the landscape, resulting in dramatic modification of indigenous flora and fauna (Young, 1996). The pattern of settlement and land clearing was largely defined by the distribution of the arable shale-derived soils.



Legend
 ■ Rw = TRIASSIC Wianamatta Group, Sandstone and shale
 ■ Rh = TRIASSIC Hawkesbury Sandstone, Quartz sandstone with some shale
 ■ Rn = TRIASSIC Narrabeen Group, Multi-coloured chert sandstone, quartzose sandstone, shale and claystone
 ■ Qa = QUATERNARY Gravel, sand, silt and clay
 ■ Czs = DIFFERENTIATED Poorly consolidated sandstone, conglomerate siltstone and "perched" alluvium

Figure 1. Geology of Sydney, Australia (adapted from Bruncker and Rose, 1967)

By 1850 settlement had spread throughout New South Wales with the exception of the semi-arid western region (Young, 1996). In the 1890s, due to the comparative ease of construction, the Sydney railway routes followed the shale geological bands of the more arable lands (Spearitt, 1978). The late 19th and 20th centuries saw urban development spread out from the railway stations across the flat farming lands (Figure 2). There was also heightened demand for housing and family farm lots with the return of soldiers and influx of migrants, especially at the end of World War II (Clark, 1963).

Two large conservation areas on rugged sandstone terrain not suitable for agriculture were declared to the north and south of Sydney; the Royal National Park in 1879 and Kuring-gai Chase National Park in 1894, with the Blue Mountains National Park west of Sydney declared in 1959 (Figure 3). Despite these parks being seen more as recreation areas than as conservation reserves (Young, 1996), the indigenous sandstone ecosystems were preserved.

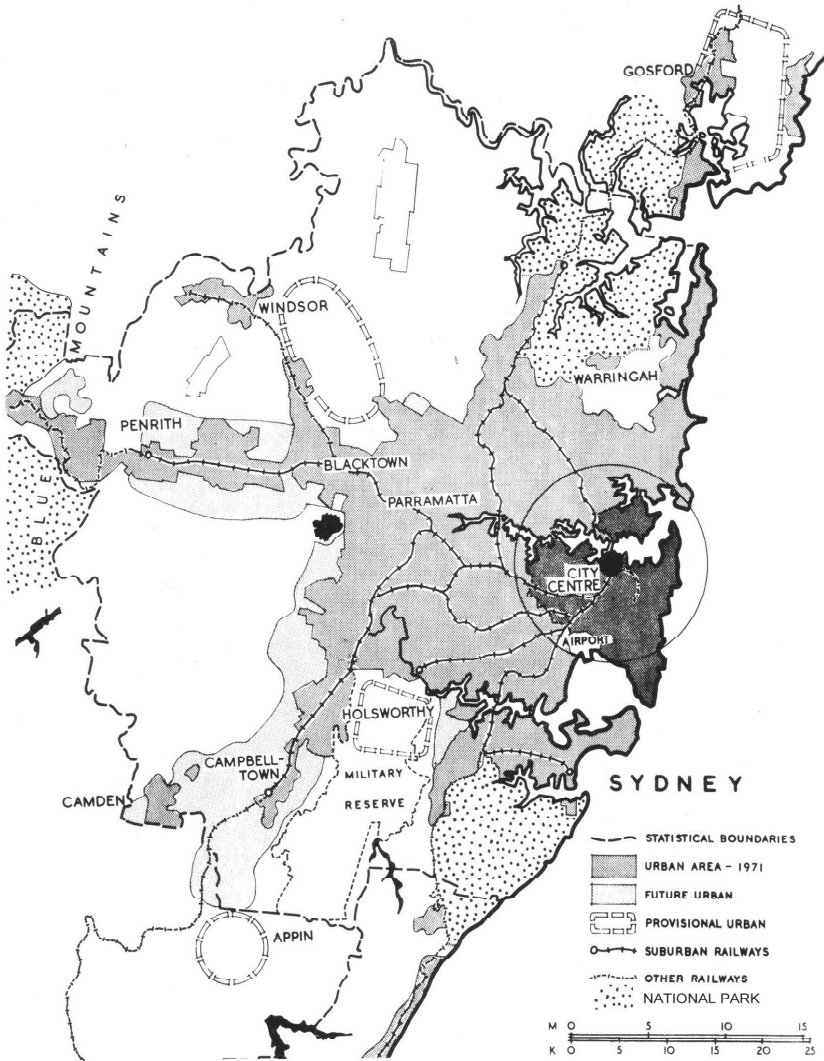


Figure 2. A 1973 attempt to map the future growth of Sydney (adapted from Spearitt, 1978)

Clearing regulations remained predominantly concerned with managing soil, water and forest resources; and the focus of biodiversity conservation was confined to within National Parks (Dore *et al.*, 1999). Today, in the 12 138 km² of the Greater Urban Area of Sydney, comparatively little indigenous vegetation remains on arable land available for development.

Currently, about one fifth of Australia's population of 22 million reside in Greater Urban Sydney (Figure 4). From 2001 to 2009, the population of Sydney grew by 11 percent, reaching 4.5 million in June (Australian Bureau of Statistics, 2009).

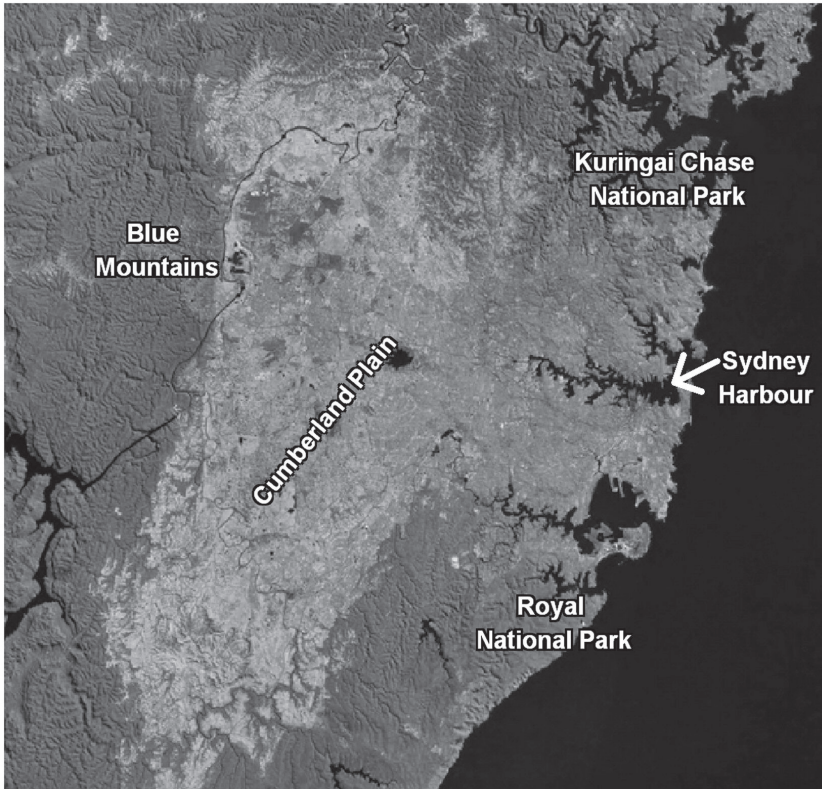


Figure 3. Location of Sydney Harbour, the Cumberland Plain, adjacent National Parks and Blue Mountains

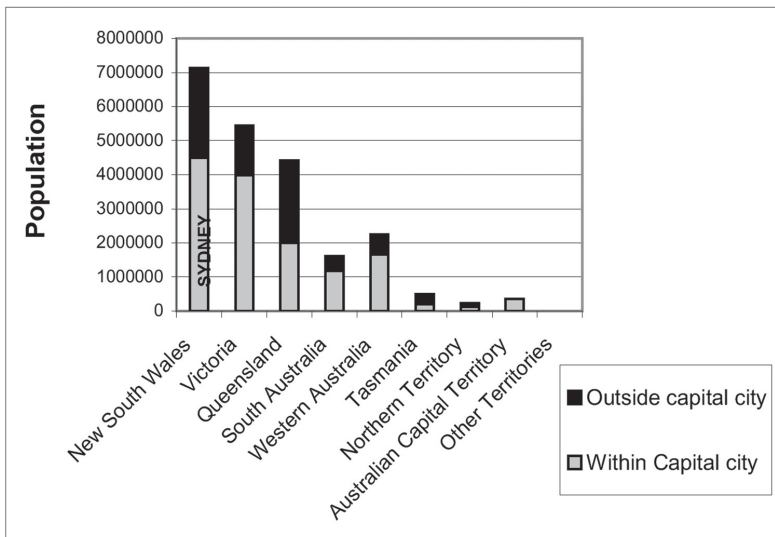


Figure 4. Estimated Resident Population distribution in Australia at 2009 (data source Australian Bureau of Statistics, 2009)

Evolution of Environmental Attitudes and Legislation in NSW

Although population and land clearing continued to increase, especially post World War II, there was growing awareness and recognition of the significance of the natural heritage and the need for its protection. In 1948, The Rivers and Foreshores Improvement Act was passed. This Act categorised all land within 40 m of a mapped creek as "protected land" which could not be developed.

In 1951, the County of Cumberland Planning Scheme was the first attempt in New South Wales at a comprehensive and coordinated town plan for metropolitan Sydney. The cornerstone of the Cumberland County Council Scheme was a 'green belt' around the existing urban footprint (Figure 5).

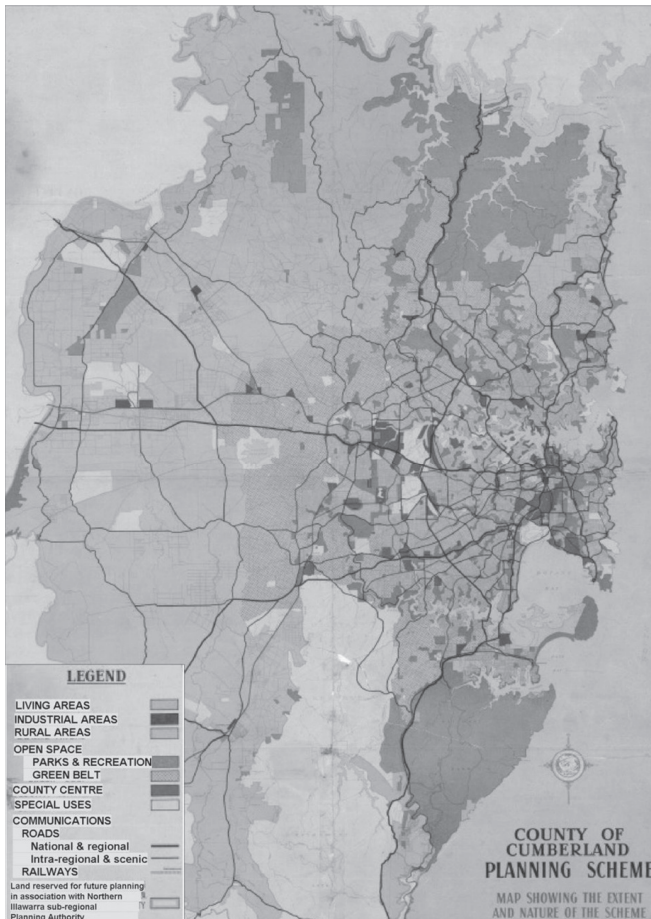


Figure 5. County of Cumberland Plan (adapted from Cumberland County Council, 1948)

With increasing environmental awareness in the 1970s, new environmental legislation such as the National Parks and Wildlife Act 1974 was enacted. In 1979, the Environmental Planning and Assessment Act (EP&A Act) obliged applicants and consent authorities to assess and consider impacts of proposed development on native flora and fauna. As a consequence of the EP&A Act, significant natural heritage areas, including coastal wetlands, bushland in urban areas and littoral rainforests, were identified in State Environment Planning Policies. The New South Wales Land and Environment Court became the independent arbitrator.

The ratification of the 1992 International Convention on Biological Diversity led to the creation of two central Acts that now regulate aspects of development in NSW to ensure conservation of biodiversity and natural heritage. The NSW Threatened Species Conservation Act 1995 relates to State significant

species and communities and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 relates to Nationally significant species and communities.

Under the Threatened Species Conservation Act 1995, an independent Scientific Committee of ten scientists makes determinations on the status and consequently lists native flora, fauna and ecological communities considered likely to become extinct in nature. Clearing of an endangered ecological community (EEC) or habitat of a species or population, whether deliberate or unintentional, without prior development approval, including on privately owned land, is a criminal offence.

The legislation provides for integration of biodiversity values into better strategic land-use planning. Threatened species conservation has also been embedded into the NSW Native Vegetation Act 2003 that regulates clearing of all remnant vegetation in rural areas. Subsequent introduction of the Threatened Species Legislation Amendment Act 2004 lists "Key Threatening Processes" to native vegetation.

In the last 20 years there has been a strong sense of urgency to halt and reverse the damage to native vegetation in NSW and to develop sustainable land management. The following case studies demonstrate how the legal status of heritage native vegetation remnants has provided a tool for negotiating improved sustainable development outcomes.

Case Studies

Case 1. Remnant ecological communities in Ryde Local Government Area and restoration of Ermington saltmarsh

Ryde Local Government Area is located 10 km from the Sydney CBD. The native vegetation was extensively cleared during early European settlement to provide timber and farmland on the gently undulating shale-derived soils. The underlying sandstone has been exposed by river erosion to form steep-side valleys (Benson and Howell, 1990).

Most of the native vegetation is now restricted to sandstone slopes. On the shale-derived soils, the original vegetation is now largely confined to regrowth or scattered remnants (Figure 6). Along the estuarine riverbanks, only small patches remain of very degraded saltmarsh. The saltmarsh along estuarine rivers and the remnant vegetation on shale-derived soils are listed as Endangered Ecological Communities under the National and/or State Acts. The vegetation on the sandstone-derived soils is preserved extensively within national parks.

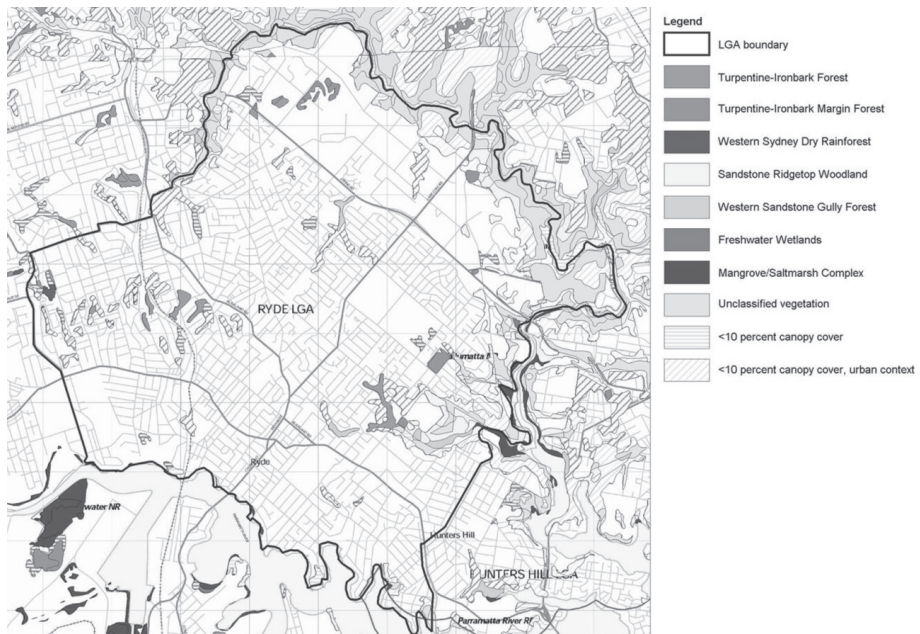


Figure 6. Ecological Communities identified in the City of Ryde (adapted from NPWS 2002)

Coastal saltmarsh was listed in 2004 as an endangered ecological community (EEC) in NSW. The Scientific Committee determined that saltmarshes that grow in landward areas inundated by estuarine tidal waters are an important ecological habitat for a diverse range of fauna that are globally threatened by human disturbance, including infilling and weed invasion (NSW Scientific Committee, 2004).

Restoration of Ermington saltmarsh

Ermington saltmarsh is located on the shore of Parramatta River opposite the Sydney Olympic Park site. The land adjacent to the Ermington saltmarsh was used as a Naval stores site from 1943 to 1990. In 2002, it was rezoned to residential with a river-park public foreshore area.

During planning of the redevelopment, the vulnerable listed saltmarsh species *Wilsonia backhousei* was recorded. For the long-term survival of the listed species, the degraded saltmarsh (Figure 7) required restoration. Natural flow regimes and tidal inundation were determined and reinstated, and the saltmarsh carefully weeded. By July 2008 the saltmarsh had been restored (Figure 8). The project provided an opportunity to demonstrate a model for implementing methods to successfully restore a highly degraded EEC and habitat of a threatened species to the original natural environment.



Figure 7. Degraded and eroded Ermington saltmarsh, August 2005



Figure 8. Restored Ermington saltmarsh, July 2008

Case 2. Three Cities Plan in outer southwestern Sydney

In 1973 the State Planning Authority of New South Wales announced a plan for the three new cities on the south-west fringe of Sydney centred on the existing towns of Campbelltown, Camden and Appin (Figure 9). Campbelltown was the first to be expanded and is now a thriving urban community. The Camden area has continued to develop, with the Spring Farm component currently under construction.

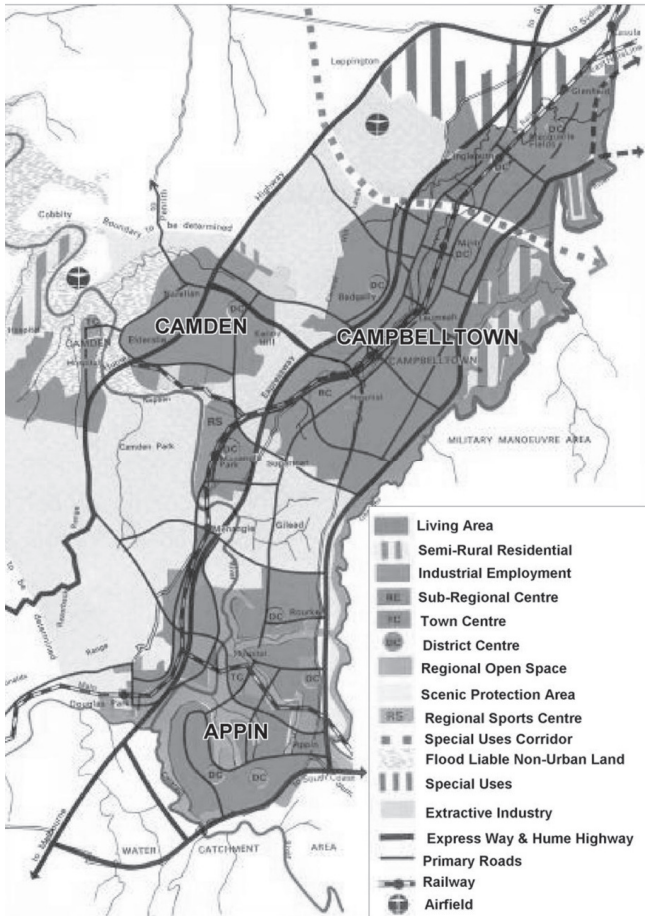


Figure 9. Three Cities Plan (adapted from State Planning Authority of NSW, 1973)

Spring Farm (Camden)

The vegetation of the proposed new developments at Spring Farm was surveyed and areas supporting vegetation of National and State significance mapped (Figures 10, 11). Three Endangered Ecological Communities were identified including the Critically Endangered Elderslie Banksia Scrub Forest.



Figure 10. Spring Farm vegetation sampling locations overlaid on aerial photograph



Figure 11. Vegetation mapping at Spring Farm

Using the collected data and location of mapped creeks, conservation corridors were determined. The corridors included conservation offsetting for areas of natural heritage that are to be cleared for urban development (Figure 12).

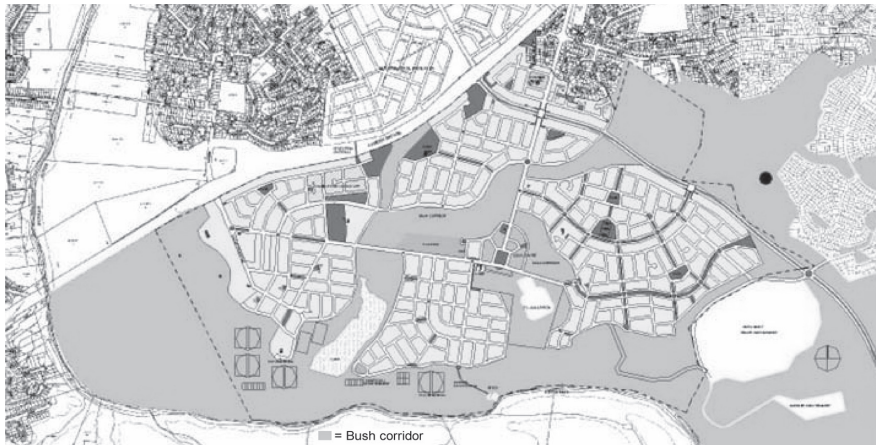


Figure 12. Spring Farm conservation corridors (adapted from Camden Council, 2006)

Appin-Wilton

The project and conservation works for Appin-Wilton, the third of the new cities identified in 1973, are commencing in stages, although infrastructure was installed earlier (Figure 13). The Appin-Wilton area still remains as a series of farms, coal mines and villages (Figure 14). The environmental heritage of the area is currently being investigated and planning for conservation corridors is underway (Figure 14). The identification of corridors of conservation and heritage significance is a central issue in the planning for development of Appin-Wilton.



Figure 13. Existing Infrastructure at Appin (adapted from Walker Corporation, 2010)

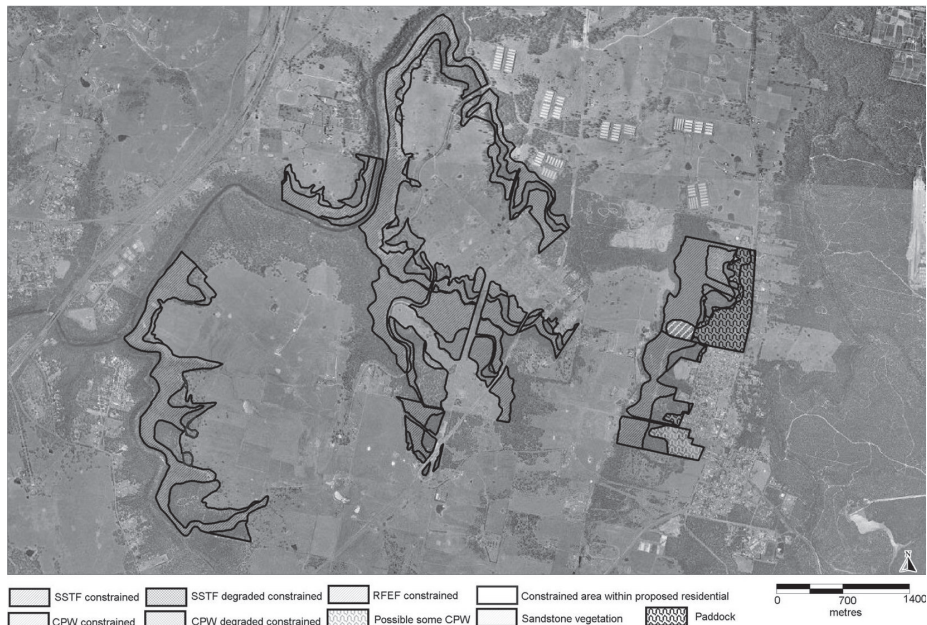


Figure 14. Identifying vegetation constraints at Appin

Conclusions

The native vegetation communities on the more arable soils of the Sydney region derived from shale, basalt or alluvium, extensively cleared for agricultural and subsequent urban development, are listed as endangered ecological communities under State and National legislation. Communities on infertile sandstone-derived soils were reserved in National Parks to the north and south of Sydney in the 1890s or, in the case of the sandstone areas to the north-west, west and south-west, were passed over for agriculture and then largely reserved in the 20th century in catchment areas and additional national parks. There has consequently been extensive survival of the sandstone vegetation, and a less pressing requirement for it to be included in listings of endangered ecological communities.

The case studies illustrate the extent of historic loss of environmental heritage in existing urban development areas such as the Ryde Local Government Area and in agricultural lands such as Camden and Appin, to accommodate the expanding population of Sydney. Application of environmental legislation has led to natural heritage vegetation being conserved and enhanced, hence reducing the environmental footprints of urban growth.

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Conference Announcement



Heritage 2012 – 3rd International Conference on Heritage and Sustainable Development is organised by Green Lines Institute and will be held in Porto, from June 19th to 22nd, 2012.

Please, visit the Conference Website for detailed information at:

<http://heritage2012.greenlines-institute.org>

Or contact the Conference Secretariat:

heritage2012@greenlines-institute.org

Main Topics:

- Heritage and governance for development
- Heritage and education policies
- Heritage and culture
- Heritage and economics
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