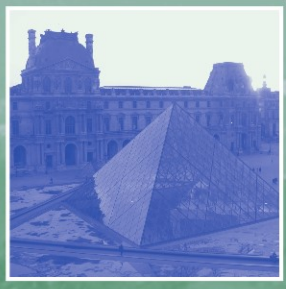
Landscapes Under Pressure

Theory and Practice of Cultural Heritage Research and Preservation



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Theory and Practice of Cultural Heritage Research and Preservation

With revised and updated Introduction

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To Leki and Darek

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Contents

Introduction

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This book has a long history. In December 1998 I organized a two-day international symposium at Hunter College, New York to discuss issues related to research and preservation of cultural landscapes. The symposium was sponsored by a grant from the Wenner-Gren Foundation, and co-sponsored by the North Atlantic Biocultural Organization and the Department of Anthropology, Hunter College, CUNY, New York.

Several scholars from the USA and Europe accepted my invitation to participate. Problems discussed oscillated around the idea of cultural landscapes and issues related to identifying, researching and preserving cultural landscapes. Among most frequently asked questions were: What constitutes cultural landscapes? How do we recognize cultural landscapes? How do we define cultural landscapes? The concept of cultural landscape has been discussed by human geographers, historians, archaeologists, environmentalists, preservationists, etc. The consensus was that cultural landscapes are multivocal and incorporate elements which are generally classified in two groups: tangible empirical evidence of human behavior, and intangible, not always recognized symbolic meanings. It is worth keeping in mind that in addition to all material evidence, the most appealing identification of cultural landscapes (or places) includes memories and variety of meanings. "Landscapes under Pressure" presents ideas and pragmatics applied to research and preservation of tangible manifestations of cultural landscapes, but it also points out the significance of their nonmaterial elements.

The approach to investigate and preserve cultural resources is known as culture resource management (CRM). This approach has also been labeled as compliance archaeology, commercial archaeology, professional archaeology, and even "paycheck archaeology." CRM is a part of the applied outlook on the human condition past and present. With its emphasis on "management," it seems like a business activity with strait protocols and deadlines (several authors in this volume indicate such constrains), with not much room for scientific creativity and innovation (theoretical and methodological). Instead of Culture Resource Management I am in favor of using the term applied archaeology. Applied archaeology is multifaceted. It employs the anthropological theoretical outlook on the human condition and archaeological methodology and field techniques to collect data, in order to answer questions that modern societies have about their past. The domain of applied archaeology extends beyond compliance-driven

identifying, researching and protecting of cultural resources. Besides being a platform for constant struggle between the sponsor and the researcher, both pursuing different goals, applied archaeology is about the public. Public goals contribute to the recognition of cultural resources and their historic meanings that matter at the time, while the researcher's goals generate research and identify the significance of the resource in a larger scale. Applied archaeologists are obligated to identify those multiple meanings of the resource and select which of those meanings will be researched and preserved. In pursuing such managing applied archaeologists are not free from making biased decisions and favoring personal research agendas over public interest. We manipulate the past (some say that we create the past), for it is difficult, or perhaps impossible, to identify all culturally significant symbolic meanings contained within a cultural landscape or place.

The presented book only partially reflects the 1998 debate at Hunter College. Since then I have been in contact with other scholars who share similar interests in pursuing the research of cultural landscapes and related issues. The Hunter symposium was oriented towards discussing archaeological problems related to landscape modifications due to big-scale infrastructural changes. I observed those changes while on a Fulbright fellowship in Poland in 1997-1998 and was overwhelmed by the magnitude of infrastructural changes and terrified by the range of problems the changes created for local archaeologists often unable to cope with them. Such inability is endemic to all industrialized regions. It is built in the commonly used concept of cultural heritage research and preservation, concept that is strictly regulated by the current political and economic conditions. To discuss the problem comprehensively I have assembled a group of specialists who review philosophies and pragmatics of cultural heritage research preservation from a larger perspective.

The book is divided into three sections: the theoretical section, the methodological part and the third part which presents thoughts on the economic, political and legal constrains of cultural heritage research and preservation programs. All parts present a balanced view of the current *status quo* of cultural heritage research and preservation programs. In the theoretical section the authors discuss the need and significance of a multidisciplinary approach to research cultural landscapes (McGovern), the idea of understanding the essence of the key cultural resources like archaeological sites (Mathews) and their meanings (Lozny and Rothschild). This section also presents discussions on the idea of place, space, and cultural landscape (Lozny, Rothschild, Fariclough,).

The second part of the book contains several chapters on practical/methodological aspects of investigating cultural landscapes and problems related to their preservation. Among topics discussed are issues related to selection criteria in the approach to investigate one of the most significant problem in European archaeology - neolithization of Europe (Bogucki), creation of cultural landscapes and their meanings (Schofield, Beck and Drollinger), and problems encountered on large scale projects related to infrastructural change (Emerson and Walthall).

The third section of the book contains papers on rarely discussed topics in archaeology – economic, political and legal constrains of applied archaeology (Wheaton, Kobylinski, King). The significance of those constrains becomes

obvious as environmental pressures increase and funds used for research and protection decline. Sustainability of past cultural landscapes becomes reality. The most pressing problem for now is to balance the level of pressure with feasible cultural landscape protection plans.

Part I. Theory

Drawing on his experience from the North Atlantic Biocultural Organization (NABO), Tom McGovern opens up with a discussion which emphasizes the significance of international cooperation in regard to research and cultural landscape preservation. He further points out to the superficial gap between academic and applied archaeology which in fact is a distinction between archaeological practice and theory, or more specifically, the difference between problem-oriented research and research and preservation of endangered cultural resources. Such disparity emerges from the fact that applied archaeology is not driven by research agendas but by its economic, legal and political contexts. One of the most common arguments used against applied archaeology is about its quality, the methods used to collect data and validity of explanations offered. The quality of research is questionable on both sides of the divide although applied archaeology is commonly considered as the lesser kind. I was once asked to contribute a paper on the reasons of limited use of Harris' matrix in the CRM context in contrast to projects controlled by academic archaeologists. My explanation was simple; it is not the CRM or academic context that stipulates the use of the method, but the category of a site. It is not necessary to use the matrix on a single-layer lithic scatters or plough-zone scatters, which are so common in North America, and this type of sites is mostly encountered by applied archaeologists. On the other hand, if the Harris' matrix was taught in the field method classes I am sure many archaeologists, applied or not, would try to use it. One of the points made by McGovern seems especially interesting, namely that academic and applied archaeologists are being perceived as members of different social classes: elite vs commoners, so to speak. I can very clearly see such situation in the context of European archaeology, especially British, German or French (my most recent experience) and in countries that follow some of those models (Poland, Czech Republic, Hungary, Russia, etc.). Therefore McGovern's point on bridging the gap between the academic and applied archaeologies is very timely and necessary. He outlines the agenda for a more integrated and interdisciplinary in its outlook approach to our common goal – research of the human past.

Lozny focuses on discussing the concept of place and its multiple meanings that matter to people differently. One of the principles followed in the applied approach is the criterion of "significance." Archaeologists are obligated to identify site's significance and argue why the site should be investigated and preserved. The choice is highly subjective and on many occasions depends on what is valued at the time. Is a Native American sacred ground more significant than a half-ruined pueblo? The obvious question is: significant to whom? Because in our scientific, empirical approach we favor the material evidence, the

choice seems simple – preserve the pueblo. But can we (archaeologists) ignore the symbolism of a place because we do not recognize its multiple meanings? If we miss the sacred ground, we miss an important part of the culture represented in the material record. Those are difficult choices especially recently when the pressure for land for commercial developments is increasing. I favor the historical ecology approach used to investigate landscape's history, but I also recognize the significance of the human ecology approach which stimulates questions like: How the landscape and its history is perceived today? What matters to people here and now? How do they place themselves within the landscape they inhabit? Therefore, I argue that in our pursuit of cultural landscapes we should not ignore the significance of local indigenous knowledge and its potential contribution to policy-making.

Nan Rothschild discusses the Native American and the Spaniards interactions during the 17th and 18th century to present the issue of people's creation of their own perception of landscape and space, especially when they occupy the same space. Pueblo incorporates a variety of meanings and dimensions and the full understanding of the structure is not simple. The Spaniards had a different view on the conquered landscape. If the Natives appreciated their place in a more "spiritual" and social way (kinship structure, relationships with neighbors, location of sacred grounds), the Spaniards approached it pragmatically where economic aspects and social status become the major factors. In one case however, as Rothschild points out, the Natives and the Spaniards followed similar approach – using religious places to manifest power. In expressing their power over the conquered land the Spanish missions were built in the place previously occupied by a native sacred place. On the other hand, the Pueblo people built *kivas* in abandoned churches. Interestingly, Spaniards built their churches utilizing the indigenous idea of sacred space, like orienting churches N-S instead of E-W (traditional Christian orientation). In such cases there is clear continuity of space and its meaning (religious), but it probably did not matter much what sort of religion was practiced. The Catholic Church had used such policy in Medieval Europe (cf. christianization of the Slaves) and other places. The case presented by Rothschild clearly illustrates the invaders policy to adopt elements of the traditional landscape to their own political and economic needs. Such clash of cultures promotes diffusion of some elements of the indigenous culture and promotes cultural change.

Graham Fairclough reviews the use of the concept of landscape by archaeologists. He emphasizes the multidisciplinary nature of landscape studies and makes a point that working with landscape requires new objectives. He uses the Historic Landscape Characterization (HLC) as the new approach to deal with historic landscapes. The HLC approach relates to the issue of managing cultural landscapes at times of change. The principles of this approach are sustainability and integrated management. Fairclough reminds us that all landscapes, especially European, are results of human intervention. The human context is dominating. It might not always be the case in North America, where pristine landscapes are still visible. Nonetheless, landscape is a complex whole where both elements, natural and cultural coexist sometimes peacefully and sometimes with a great deal of hostility. The HLC approach seems to be oriented on what is the most interesting aspect of the landscape. But interesting to whom? Fairclough assumes that

landscape is not real in a sense that it is not material. It does exist as an idea, place filled with meanings. Our job as anthropologists specializing in the research of the human past is to identify those meanings and preserve them. The problem of course is how can we preserve meanings? What meaning do we preserve? Who makes decisions about preserving what landscape? Landscapes are ever-changing and traditional methods of preserving and protecting a landscape might not be adequate. The key problem seems to be not in identifying a site to be preserved but in identifying the context in which the site functioned. Only in such context of its cultural landscape is the site meaningful.

Chris Matthews discusses the idea of archaeological site. Archaeological sites are useful classificatory units that help the archaeologist to design a research plan, choose field methods, and propose chronological timeframes. There are several site characteristics that most archaeologists take for granted, like that the site represents historic human activities that is complete and has been sealed from other destructions, etc. Matthews argues that archeological sites are in fact products of archaeological imagination and that many other processes despite human intervention might impact the site integrity and content. He relates the idea of a site to the concept of heritage – culturally defined social conscious about the past. Archaeological sites are localities where the past is linked to present. They became places of a discourse between archaeologist's interest and social interests. Such polarization contributes to politicization of a site, the use of the site in the local politics. Localities became symbolized accordingly to current political needs (cf. Aztec and the modern state of Mexico, or Greek city-states and modern Greece, etc.). Using two case studies from Annapolis and New Orleans to illustrate his theoretical approach, Matthews points out that sites do not just exist in the time context but also in a social context and that context might give a site its significant meaning.

Part II. Methodology and Practice

The second part of the book contains five case studies that present issues related to cultural heritage research and preservation. Susan Dublin opens this section of the book by discussing the cultural geography of the Zuni of New Mexico. The leading idea presented in her paper is the concept of place as an integral component in the construction of social identity. Dublin uses her own research at the Lower Prescado Zuni Village to demonstrate that places are cultural constructs and composed of two elements that contribute to the significance of place: symbolic meanings and pragmatic choices.

Ian Simpson points out that landscapes are cultural assets to us all. Present landscapes have to be managed accordingly to certain economic, political, and cultural criteria. Simpson indicates that with new perceptions of land as assets, come new challenges for environmental policy makers concerned with the use of land resources and their management. The paper presents predictions of future landscape research scenarios as a requirement for an integrated approach to land resource decision-making, using the example of the Environmentally Sensitive Areas (ESAs) of Scotland where farmers are awarded annual payments in return

for following a set of land management practices designed to protect and enhance the conservation value of the landscape. Among the issues that arise for policy-makers are: what future changes these payments will bring to the landscape, whether local and national communities value these changes, and what modifications should be made to existing policy mechanisms to further achieve conservation and environmental benefits. Simpson presents a model of predicted visual changes in Environmentally Sensitive Area landscapes as a basis for policy evaluation.

Peter Bogucki examines one of most critical issue in managing cultural landscapes – decision-making and selection criteria that stimulate research and preservation. He uses data on one of the most extensively studied prehistoric periods, the European Neolithic. Europe is saturated with archaeological remains; there is not one inch of land that has not been somehow modified by humans in the past. Economic growth presently observable in several European regions like Ireland, or Eastern Europe, which includes large-scale project, contributes to collecting quantities of data on the past. Bogucki emphasizes the need to employ specific field methodology in order to capture cultural events form the past that are vulnerable parts of historic cultural landscapes presently under a great deal of pressure. One of the most pressing questions in European prehistory is on the appearance of agriculture in Central Europe. Bogucki sets the agenda for the research on the foraging/agriculture transition in Central Europe by asking significant questions about the origins of food production in Central Europe and offering suggestions on the research process. With increasing spending on infrastructure and limited, as they always are, for archaeological research, such focused approach seems a well thought-out option. Gathering quality data must also be supported through the use of modern technologies like GIS systems.

John Schofield, Colleen Beck and Harold Drollinger discuss the project they conducted in Nevada. They identify this project as representative of alternative archaeologies. Alternative here is the subject of research. The authors examine the Cold War era peace camps as material evidence of a protest against specific ideology existing during the second half of the twentieth century. When they began their study, there was little information available about the camp or generally about alternative archaeology of the Cold War. The authors analyze the artifacts found on camps and make interpretation on the site's symbolism. They made observations about sites preservation, their complexities, diversity of remains and the difficulty of interpreting field remains of such recent date**.** The archaeologists received help from former occupants of the camp, and from the Western Shoshone. Their guidance and oral historical evidence was critical for interpretation. Such study appears critical to the knowledge on the contemporary past. This research has been underway for over a decade now and is critical to a wider research on the social perception and interpretation of nuclear test site remains, for example at the new Atomic Testing Museum, that opened in Las Vegas in 2005 (www.ntshf.org). The archaeology of these peace camps is an opportunity to understand the material remains of a significant twentieth century minority political movement. The authors emphasize that instead of engaging in acts of destruction to express their desires, the people at Peace Camp have put their efforts into creating symbols in the desert as testimony to their intent, establishing their own permanent cultural legacy. Recording this legacy and

interpreting this archaeology of opposition is every bit as significant as the more substantial remains inside the fence.

Thomas E. Emerson and John A. Walthall discuss problems that archaeologists encounter on projects related to large-scale landscape modifications. The case discussed is the ongoing I-270 mitigation project launched in 1975. Two aspects of this project need to be emphasized: 1. its location – the American Bottom, one of the most densely populated with archaeological sites area in North America, and 2. the type of landscape modification – adverse effects due to the construction of a wide corridor highway. The year 2004 was the thirtieth year of fieldwork on what has become colloquially known as the "I-270 Project". The authors point out the scale of the project - over 970 ha of terrain has been investigated in the main corridor transect reaching ca. 77 km north-south - and its contribution to the knowledge of the prehistory of the American Bottom which was not well understood prior to the launching of the I-270 project. Despite broader scientific advances in the discipline from the 1960s onward, our knowledge of the American Bottom Archaic and Early, Middle, and Late Woodland cultures and sequences was virtually nonexistent. Previous research had been concentrated on the large Mississippian mound centers with sites from other time periods and areas outside the centers noticeably neglected. Although it was the location of the largest mound centers and most complex cultural formations in North America, we had little or no knowledge about the development or collapse of the Cahokian Middle Mississippian culture. The archaeological work performed on the massive I-270 corridor and its northern extensions to the east of Cahokia Mounds drastically transformed our archaeological perspective on cultural development in the American Bottom. This focus on building a culture history through the investigations of prehistoric communities was combined with an intensive research program of archaeobotany and zoology, physical anthropology, and regional geomorphology. By 2004 the project has impacted several hundred sites. Using earth moving equipment, archaeologists had removed overburden from 1,539,479 m^2 (ca. 153 ha) of the project area. The whole stripped area was investigated and 149 recorded sites were subject to large-scale investigations which yielded 15,216 houses, pits, and other features; 200 ^{14}C dates have been obtained. This research contributed to identifying 27 new cultural phases in the midcontinent and a reorientation and reformulation of the trajectory of Eastern North American archaeology. This project might serve as a model for similar large-scale projects elsewhere. I encourage the reader, especially CRM planners and policy-makers, to carefully read the section of this chapter in which the authors present their arguments on why this large-scale project turned out to be a great success for both archaeologists and developers.

Part III. Legal, Economic and Political Constrains of Cultural Heritage Preservation Programs

The third part of the book is about specific economic, political and legal concerns that applied archaeologists encounter. Thomas R. Wheaton discusses

the economic and political conditions for applied archaeology in the U.S. By contrasting the private and state controlled projects Wheaton points out the positive aspects of the for-profit solution to cultural heritage preservation and research. As the author points out, countries have increasingly passed laws requiring that earth disturbing projects be subjected to archaeological salvage, or management of their archaeological and other cultural resources. Some international organizations have promulgated conventions that countries are urged to sign, and instituted preservation procedures that are required before the granting of development loans. Within the past couple of decades it seems that many countries are coming to grips with an increasingly aware public that, quite apart from international conventions, is demanding a say in the preservation of their heritage. Just as development is not going to go away any time soon, neither is this demand that people's history and material heritage must be considered by governmental bodies. And many governments are also recognizing the importance of heritage to their citizens' well-being, sense of place and self-esteem, so essential for economic and political development. Wheaton further emphasizes that salvage is not conducive to good management and therefore specific modifications in the legal aspect of cultural heritage preservation seem necessary. He agrees that the National Heritage Preservation Act effectively moved public archaeology from salvage archaeology to archaeological heritage management (AHM), which is grouped with other heritage resources under the term cultural resource management (CRM) in the United States. Wheaton concludes that the advantage to the United States' system is that it is flexible and ideally includes public input, but the disadvantage is that it only covers a small part of the total of cultural heritage destroyed each year.

Zbigniew Kobylinski discusses the new economic and political context that emerged in Eastern Europe since the systemic transformation of the early 1990s. He is developing an idea of preventive conservation or sustainable conservation. The idea has been presented in September 2000 at Vantaa in Finland during the international conference on the European strategy for preventive conservation. In the final document of this conference the preventive conservation has been defined as a "multi-disciplinary management to reduce the loss of cultural heritage, with the aim of benefiting the public". Preventive conservation has been recognized as a "cornerstone of any European policy of heritage preservation". The key question the author asks is: What would therefore be the requirements of management of archaeological landscapes, which would be publicly acceptable, effective and proper from the point of view of preventive conservation philosophy? And he answers that such demands can be summarized by means of a few obvious key-words: conservation, organisation, enhancement, interpretation, reconstruction, and promotion. Kobylinski points out that cultural landscapes are dynamic entities and therefore multivocality of cultural landscapes should be assumed. In the second part of the paper Kobylinski discusses the current state of applied archaeology in Poland. The country is going through a systemic change that includes modernization and development. He points out to a variety of problems encountered by Polish archaeologists and policy-makers that seem parallel to those pointed out by American scholars in the 1980s and 1990s. This part of the paper also contains a

short discussion on the use of European archaeology for political gains. Finally the author examines the role of archaeology in creating cultural identities and asks the fundamental question: What is the future of cultural past under the newly emerging economic, social and political pressures?

The book ends on the high note with Thomas F. King's contribution on the most significant aspect of applied archaeology – its legal context. It is obvious that no cultural heritage research and preservation programs would exist without their legal foundations. It is not enough to have archaeologists and other preservationists willing to do something. They need credibility to operate and the legal context offers such very much needed basis. But as King points out, the legal protection has its good and bad sides. One of the not very well understood legal constrains is that we cannot preserve everything but that preservation rules and laws are based on certain criteria. Those criteria, on the other hand, are founded on certain outlook on what matters at the time. In other words our approach to preservation changes with the political and/or economic context of the law that regulates the rules of preservation. King points out that all legal systems offer common rules on registration, administration and control of cultural change. Other laws might be different. It is also significant to mention that the private sector might participate in the preservation process by being allowed to purchase monument and maintain them according to the legal responsibility. Certain incentives exist to encourage private owners to take care of historic monuments. King further points out that legal systems, as pragmatic as they are, do not however protect all aspects of cultural heritage. For instance one of the most significant cultural traits – language, especially the one without its written form - is doomed to parish. No protection exists to preserve intangible elements of the cultural landscape. In other words, legal systems are set to preserve the tangible while the intangible, which exists in people's memories, eventually vanish without a trace.

All of us who are concerned about research and preservation of cultural landscapes recognize that the biggest challenge imposed upon preservationists of the 21st century will be an approach in which control of the pressures that impact cultural properties will be balanced with well designed cultural heritage preservation laws and research methodologies. Since the time when first heritage protecting laws were introduced we have learned a great deal about constrains of cultural heritage research and preservation and it seems logical to turn that knowledge into practice.

I would like to thank all the participants of the Hunter symposium and contributors to the book. Some participants decided not to contribute to the book but their participation in the symposium and insight into the discussed issues is very much appreciated. Among the original participants who are not present in this book are Carole Crumley, Christian Keller, Jerzy Gąssowski, Przemysław Urbańczyk, Gavin Lukas, Elaine Sruogis, Orri Vésteinsson, and Irene Clark. Most of them published their papers elsewhere. Additionally, I have invited a group of scholars who are interested in pursuing topics close to the theme of the book – theories and methods of cultural landscape investigations and preservation - and they responded by sending their contributions. I hope that the book will be of interest to a variety of specialists who deal with cultural resource investigations and preservation. The group includes students, policymakers-makers and planners

who create the rules as well as archaeologists, historians, human geographers, etc. who, obligated to follow these rules, try to investigate and preserve cultural landscapes.

My sincere thanks go to The Wenner-Gren Foundation for writing the check and to Dr. Thomas McGovern and the NABO for participating in sharing the cost and organizational efforts. The symposium and this book would have not materialized without the help and encouragements I received from Dr. Daniel G. Bates the Chair of the Department of Anthropology at Hunter in 1998, and Dr Gregory A. Johnson who helped with the organizational tasks. I thank the reviewers who made comments on the book proposal which guided me in the final preparation of this volume. My special thanks go to Dr Jim Fenton for introducing me to the CRM and for his friendship and to Ms Teresa Krauss, editor at Springer, whose kindness and patience allowed me to finish this project. For all that I remain grateful.

The book is dedicated to my sons Leki and Darek.
Argèles-Gazost and New York 2005.

Part I
Theory

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Introduction

In this section five authors discuss topics that range from the significance of an interdisciplinary and international approach to researching cultural landscapes (McGovern), understanding the essence of cultural resources like archaeological sites (Mathews) and their meanings (Lozny and Rothschild), to discussions on the idea of place, space, and characteristics of cultural landscape (Lozny, Rothschild, Fariclough,).

Tom McGovern discusses the significance of international cooperation in regard to research and cultural heritage preservation. He points out that academic and applied archaeologists are being perceived as members of different social classes; elite vs commoners, so to speak. McGovern's point on bridging the gap is very timely and necessary. He outlines the agenda for a more integrated and interdisciplinary in its outlook approach to our common goal – research of the human past. Lozny focuses on the concept place and its multiple meanings. One of the principles followed in the applied approach is the idea of "significance" of a site. The historical ecology approach is used to investigate landscape's history, the human ecology approach stimulates questions, about how the landscape and its history is currently perceived. In our pursuit of the past we should not ignore the significance of local indigenous knowledge and its potential contribution to local policy-making regarding cultural heritage preservation. Nan Rothschild draws on the Native American and the Spaniards interactions during the 17th and 18th centuries to point out differences in the perception of landscape and space by people who occupy the same space. The case presented by Rothschild clearly illustrates the invaders' policy to adopt elements of the traditional landscape to their own political and economic agendas. Graham Fairclough reviews the use of the concept of landscape by archaeologists. He emphasizes the multidisciplinary nature of landscape studies and claims that the working with landscape requires new objectives. Landscape is not real in a sense that it is not material, it does exist as an idea, place filled with meanings. The key problem is not in identifying a site to be preserved but in identifying the context in which the site functioned. Only in such context of its cultural landscape is the site meaningful. Chris Matthews discusses the idea of archaeological site. There are several site characteristics that most

archaeologists take for granted, like that the site represents historic human activities that is complete and has been sealed from other destructions, etc. Matthews argues that archeological sites are in fact products of archaeological imagination and that many other processes despite human intervention might impact the site integrity and content. He relates the idea of a site to the concept of heritage – culturally defined social conscious about the past. Archaeological sites are localities where the past is linked to present; they became places of a discourse between archaeologist's interest and social interests.

1
Place, Problem, and People: Issues in Interdisciplinary Cooperation

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Introduction

When Ludomir Lozny first approached NABO (North Atlantic Biocultural Organization) with a proposal for a workshop focused upon the practical problems confronting modern Polish archaeology in the 21st century (rapid economic change, EU membership, and a massively disruptive program of superhighway construction) our first reaction was that Poland was a bit out of our self-described research area and that NABO was primarily a *research* cooperative aimed at international, interdisciplinary collaboration (McGovern 1990, 1995 ,2003). The geographic problem was not an insurmountable problem, as NABO was founded in part to draw circumpolar "arctic" researchers and funding into places historically connected to the north but located in the north temperate zone (like Scotland and S Norway). The Baltic connections to the North Atlantic fisheries alone provides a potential research link, and Polish archaeologists have played a major role in NABO projects in Norway and Iceland (notably Przemysław Urbańczyk, see Urbańczyk 1992). The geographical boundary expansion was thus an easy sell, and there was considerable interest expressed by several NABO members and participating institutions in a Baltic—associated conference.

More of a problem was the perceived gulf between research-oriented academics and contract-based rescue or cultural resource management archaeologists. Much has been written about the growing professional and cultural divide between "pure research" and "commercial" archaeologists, especially as a growing majority of archaeologists on both sides of the Atlantic find their major employment outside of traditional academia (see Rothschild this volume, also the Society for American Archaeology website www.saa.org for discussion and useful links). Mutual negative stereotyping has a long history, with academics derided for their unworldly approach to practical field problems and chronic failure to meet deadlines and contract workers labeled as mere technicians carrying out "paycheck archaeology" with scant regard for larger research questions or the wider perspectives of regional or world archaeology. While such stereotypes tend to have only enough truth behind them to sting (and alienate), they reflect a deeper problem that was to recur as a discussion topic in the workshop: the progressive separation of archaeological

theory from archaeological practice. Theory and practice in archaeology have not always been so compartmentalized. The development of the "new" processual archaeology in the 1960's–70's was as much a set of methodological as theoretical changes. Flotation, systematic sampling, statistical analysis, and computer applications were all presented as part of an integrated package that would allow us to swiftly explain all past human behavior in terms of a few elegant law—like generalizations. The rapid development of zooarchaeology, archaeobotany, and geoarchaeology in the last quarter of the 20th century that has so transformed the organization of the discipline (and created the job I now hold as zooarchaeology lab director) owes a good deal to the processualists' somewhat ecodeterminist theoretical agenda. The accelerating impact of digital hardware and digitized data management in archaeology likewise has roots in processualist interest in quantification and statistical significance testing. The processualists' fervent ideological scientism and genuine interest in integrating natural science methods and expertise also very definitely had an impact on the current widespread acceptance of archaeology as a science for funding purposes by agencies like the US National Science Foundation (source of most large scale academic funding in current American archaeology).

These financial, organizational, and methodological transformations of the processualists' era arguably have had a more lasting impact on the way most archaeologists now do their daily work than some of their more optimistic theoretical statements (as a graduate student in the late 1970's I had genuine concern that all the good law-like generalizations would have been discovered before I was on the job market). While few of us would care to return to such a simple view of causation and human behavior, no respectable academic or contract archaeologist would seriously contemplate discarding flotation, zooarchaeology, or science-based funding opportunities. The dramatic expansion of the non-academic contract scene in the past two decades has in fact been an occasion for the full application of the new tools of the 1970's to real field situations across the world. As many observers have noted, today it is often contract firms who are most able and willing to afford investments in cutting edge survey and excavation technology and the most technologically savvy field archaeologist today has often spent most or all of her career outside of academia. In much of the world savage cutbacks, repeated retrenchments, and "jobless recoveries" have prevented any significant expansion of academic archaeology in the 1990's, thus ensuring that this technically sophisticated, highly experienced fieldworker is unlikely to eventually find herself in an academic position even if she were willing to accept the usual pay reduction involved.

These employment issues have social, practical and theoretical implications for the discipline, and for the effective interaction of academic and contract projects (see Feinman & Price 2001). Steve Roskams (2001) in the latest Cambridge UP field excavation manual outlines his view of a growing international body of professional excavators who increasingly see themselves as a proletariat socially divided by class interest from an academic managerial elite. A current overview of archaeological theory for students (Hodder 2001) starts with the basic assumption that "field archaeologists" will be instinctively hostile to all explicit archaeological

theory and will require careful persuasion to consider even the basics of a post-processual theoretical approach. While a few works (notably Lucas 2000) demonstrate an effective integration of method and post-processual theory, common experience suggests that these introductory theory volumes are not in error in their basic assumptions. Theory is now often a dirty word for many who do the dirty work of field archaeology, and this problem is not restricted to one or two national settings.

We are entering the 21st century with a significant gap between theory and practice, and with a real potential for splitting the discipline along lines of employment and perhaps of class. This is hardly a welcome prospect, given that Poland is far from the only nation facing rapid and widespread damage to its archaeological heritage. It seems less urgent to debate the causes for disjunction and hostility than it is to find some practical way to reconnect theory and practice, and reunite theoretician and fieldworker while there was still some archaeology left to jointly investigate. The NABO cooperative has some experience in bridging gaps between national schools of archaeology and in bridging the much wider gaps that exist between major academic disciplines, and we felt that we had an obligation to do what we could to help. Funding was approved, and the workshop went forward.

The Workshop

The workshop brought together an international team of archaeologists with both academic and contract experience from Poland (Lozny, Gąssowski, Urbańczyk, Kobyliński), Lithuania (Sruogis), Scandinavia (Vésteinsson, Keller), UK (Simpson, Lucas), and US (Crumley, Bogucki, Dublin, Rothschild, Emerson, Clark). The meeting was a social success, with some very intense and productive discussions ranging from landscape theory (Crumley), to social history of practical archaeological fieldwork (Urbańczyk), to detailed accounts of the critical mechanics of maintaining a solid working relationship with road construction contractors (Emerson). The written contributions in this volume provide a good overview of the scope of the workshop, providing compelling examples of the interaction of place and perception (Lozny, Dublin), practical tools for communication of landscape issues and options to a wide audience (Simpson), the use of academic meetings to set regional research agendas for both contract and research work (Bogucki), regional overviews of the history and current state of rescue archaeology (Rothschild, Lucas, Sruogis, Gąssowski, Emerson & Walthall, Urbańczyk) and a proposal of Historical Ecology as a paradigm friendly to both contract and academic archaeology (Clark).

Discussions at the workshop revolved around a series of areas for potential collaboration :

- **Pooled Practical Experience**: Existing experience and expertise in conducting long term large scale projects (on the scale of the Yamal pipeline project in Eastern Europe and the ongoing FAI 270/I 255 project in Illinois and Missouri) needs to be broadly shared and widely disseminated. Large “linear corridor”

projects (like pipelines and highways) require sustained and collaborative relations with development agencies and a closely coordinated production schedule. Lessons learned in one world area are often transferable.

- **Academic Associations Role**: Bogucki demonstrated how regional academic and research organizations can help field projects prioritize site investigations and to flag when and where contract projects are likely to turn up long-sought key data for regional synthesis. Eastern European Neolithic academic specialists proved very capable of generating clear and specific want lists for fieldworkers that should ensure that cutting edge analysis and synthesis is effectively applied to rescue situations. Other regional research groups (formal or informal) can be similarly helpful and influential in setting research agendas for large rescue projects.
- **Landscape Study and Rescue Archaeology Partnership**: The various disciplines that make up the growing international field of landscape analysis all share a concern with place, spatial relationship and dynamic change through time. Large rescue projects produce landscape-scale data sets (both cultural and natural) that can contribute to landscape studies on many levels. Partnerships with historians, natural scientists, local avocationals, and academic archaeologists contributes to fieldwork effectiveness, and strengthens support base. Advances in environmental archaeology of the past two decades allow archaeologists to better contribute to a wide range of environmental and landuse issues, but this potential is often not realized by potential data consumers.
- **Partnership with Modern Stakeholders**: Public support for large scale rescue needs to be sustained by well conceived outreach embedding archaeology in already popular environmental and local historical and tribal heritage preservation efforts. Local and national decision makers need to feel that archaeology provides positive messages that can make them look wise and popular when they support sustained rescue work. Planning participation, innovative visualization techniques, international collaborators, and partnership with landscape specialists can all be used to create positive relations with authorities and reduce adversarial interactions.

Discussions also focused on some practical issues affecting fieldwork anywhere:

- Large scale environmental impact is an **opportunity as well as a threat**. Our generation will certainly see the exposure (and destruction) of a substantial fraction of the total archaeological record available in many parts of the world. High quality, but time—efficient field investigations should be a key activity for the present archaeological community. Analysis and synthesis needs to keep pace with fieldwork, and interact reflexively to produce more effective and better targeted rescue work.
- **Large Scale Exposures are good**: an overhead that was universally appreciated simply stated that "*test pits suck*". Large open area exposures (such as the massive transect provided by a pipeline project) provide unique opportunities for large scale investigation never possible in a pure research context. These need to be

exploited as fully as possible with the help of landscape specialists and regional synthesizers to make the most of what will be unique opportunities.

- **Digital Recording, Geophysical Prospecting and GIS applications**: Most academic research projects now involve technology-heavy applications, but usually on a very small scale and with limited follow-up and uneven integration into the larger project. These limitations are usually due to short term, discontinuous funding (keeping an academic research program alive for more than 5 years is a rare accomplishment), time limits on theses (esp. the UK 3 year limit) and the familiar problems of balancing teaching, administration, and research commitments among faculty project members. Contract situations can often provide a better context for the sort of sustained, focused, day to day use that provides technical competence and smoother integration of data capture and integration packages.
- **Standardization and Comparability**: it is no accident that institutions engaged in long term rescue archaeology (Archaeological Institute Iceland, Museum of London Archaeological Service) tend to produce standardized (easily digitized) recording forms and "the one right way" style manuals to enhance standardization and inter-season comparability in large scale multi-investigator, multi-season projects. These efforts appear to be more advanced in Europe than North America, and are certainly an area for productive inter-regional cooperation. Contributions by multi-disciplinary specialists will be helpful to keep such manuals flexible and updated, and this is yet another area for productive academic-contract interaction.
- **Training Opportunities**: Students are always in need of field experience, and several participants cited lack of adequate fieldwork training in academic programs as a major cause of theory/practice ruptures. There are many examples of creative use of student labor in large scale projects, and this is another area where inter-regional and academic—contract collaboration is often possible. An example of a working combination of academic field school, research project, and series of contract projects is the long running NABO/Archaeological Inst. Iceland field school in N Iceland (see www.geo.ed.ac.uk/nabo for more information and links).

Cross Disciplinary Issues

The NABO cooperative was founded in 1992 to promote cross-disciplinary investigations of complex interactions of humans, landscape, and changing climate in our region. As more data and better modeling capabilities have been built up in many disciplines in the past decade, many scholars and several national funding agencies have come to realize that both human and natural systems are far more complex than we once believed. Neither are well described by a few points on a graph connected by law like generalities based upon simplified physics or engineering models. Both natural and human systems are subject to cyclical, linear, and chaotic change (often simultaneously). Sudden threshold-crossing discontinuity is

at least as prevalent as gradual transitions: dramatic changes of state are not only possible, but likely (in both past and future). In almost every corner of the globe, natural and human systems have been dynamically interlinked for thousands or tens of thousands of years, and archaeological examples of massive pre-industrial human impact are multiplying (Redman 1999, Diamond 2005). Neither nature nor culture can be usefully disembedded from the other throughout most of the Holocene. Human impacts in the prehistoric past cannot be "factored out" to create an artificially pure baseline for land management (as witness the disasterous attempts to exclude anthropogenic fire from "wilderness" parks in the US west, Pyne 1997). Nature is also not well understood as a passive stage for a completely cultural drama played out by human actors. The increasingly detailed suite of high resolution proxy climate indicators that provide data on annual (and occasionally seasonal) scale is now providing archaeologists with the human scaled paleoclimate data we have long asked for—and is revealing substantial post-Pleistocene variability very likely to affect a wide range of human activities (Barlow et al. 1997, Buckland et al. 1996). Humanities, social sciences, and natural sciences are often well separated on modern campuses, but such divisions (and the mindsets resulting) are our own cultural artifacts, and usually less than a century old. The real world does not in fact mirror our tidy academic committee structures, but these do determine such academic life-critical issues as tenure and promotion. If we are to avoid determinism, oversimplification, and use of obsolete datasets we need to get along with help from friends—forging productive links between the natural science and social science communities is critical. We all know we need to become more interdisciplinary, but how are we to overcome campus divisions and collaborate effectively?

Experience gained by the NABO cooperative in the past decade has underlined both problems and potentials of collaboration across disciplinary boundaries, many of which appear relevant to any attempt to better integrate academic and contract archaeology with environmental science and landscape studies. A major distinction (first drawn by Noel Broadbent of U Umeå) can be made between multi-disciplinary and genuinely interdisciplinary cooperation:

- **Multidisciplinary Projects** bring many scholars from different backgrounds to work in the same region and period. Logistic economies are achieved through sharing bases, transport, and funding. Scholars engage in "parallel play" working comfortably beside each other, but seldom exchanging data or ideas critical to common understanding. Everyone uses their own toys in their usual way. Publication and dissemination is individual, everyone publishing in their own internally reviewed trade journals (to ourselves from ourselves) or in edited volumes with limited chapter interaction. Public outreach is limited and haphazard. Possible results include significant disciplinary advances, logistical economies, and practice in cross disciplinary communication, but often very limited synthesis or progress on understanding the common problem as a whole.
- **Interdisciplinary Projects** focus the resources of several disciplines on a common problem of general interest. Logistical economies are also achieved and

money is again saved. Scholars engage in "interactive play" working with each other directly on common work projects. They often experience frustration but learn parts of each others' tasks and collaborators join in telling a common interactive story. Publication and dissemination includes "high risk" multi-authored syntheses in multiple formats, non-traditional publications (video, models, and computer products) and systematic efforts to communicate findings to a wide audience. Possible results include a better understanding of complex, long term processes involving interactions of humans and nature in a changing landscape context.

Contract archaeology, especially when embedded in larger environmental impacts assessment work, has a potential advantage over academic archaeology in achieving such genuinely interdisciplinary collaboration (no departmental divisions to unlearn). A critical factor will be the ability of fieldworkers from different disciplines to go beyond parallel play patterns. Our experience has been that a set of common research problems (how did erosion begin in this area, what were the respective roles of stock grazing and climate change) works better than a simple common geographic focus (this river valley, this highway corridor) for achieving interactive play. Many contract reports today mirror the worst academic products in presenting a collection of investigations of soils, vegetation, water, animals, and archaeology that may be individually excellent but which show little or no integration and usually suggest that none of the authors have even bothered to read each others' papers prior to publication. These sort of reports are better than nothing, but they do not come close to realizing the potential of interdisciplinary investigation and they usually have little or no long term impact on scholars, public, or land managers. We need to do better.

Landscape: A Meeting Place?

"Landscape" is clearly a hot buzzword in multiple disciplines, generating many book titles (including this one) and "landscape archaeology" is a hot issue for academic archaeologists of all theoretical perspectives (Evans 1999, Ashmore & Knapp 1999) and for high profile historians (Schama 1995). A new journal (*Landscapes*, founded 2000), while still dominated by UK geographers, is coming to provide a very diverse set of contributions by workers from multiple disciplines (Fleming 2001, Jones 2000, Simmons 2001). Importantly, *landscape* has come to signify the recognition of the active role played by humans in shaping nature in a way that the old processual buzzword *ecosystem* did not. Landscape studies are very much about human perception, class, gender, conflicting ideology, and premodern globalization as well as about demographics, agriculture, soils, and climate change. Within archaeology, landscape analysis is proving to be a very productive meeting place for seriously cognitive post-processualists and deeply green environmental specialists. Some very innovative and provocative syntheses of old new archaeology and new new archaeology are going on in the archaeology

of landscape, and in our experience a common interest in landscape formation often also provides a useful bridge across the social science/natural science division. If landscape buzzwords are currently influential in history, anthropology, archaeology, geography, ecology, and land management we are at least provided with a common multidisciplinary vocabulary. If genuinely innovative landscape analysis is actually producing a good basis for interdisciplinary integration in research settings, can landscape formation analysis also serve to better connect contract and academic archaeologists? Several workshop participants made use of landscape as a unifying theme in their presentations, and the discussions made clear that this approach was as popular among the contract community as among the academics. Several participants felt that landscape concepts needed to be placed in the context of a larger theoretical framework if they were not to devolve into mere trendy catchphrases, and the Historical Ecology movement was repeatedly invoked as a potential unifying force.

Historical Ecology in Practice

Historical Ecology in Anthropology is a movement pioneered by Carole Crumley and her associates in the early 1990's (Crumley 1994), but which has since spread widely (Balee 1998, Hunt & Kirch 1997). In many respects a synthesis of both processual and post-processual elements, Historical Ecology follows modern environmental management science, the *Annales* school in history, and much landscape study in emphasizing the role of historical sequence (chains of events operating in particular areas on different time scales) over universal evolutionary patterns in explaining long term change. As Oliver Rackham points out (2001), most environmental change directly affecting landscape change in much of NW Europe in the past 10,000 years has been due to climate fluctuation and human impact rather than classical evolutionary selection operating on natural variation. While not completely rejecting the cultural evolutionary paradigm dominant in so much of processual archaeology, historical ecologists tend to be much more open to the popular post-processual issues of cognition, perception, and political conflict as agents of change. Historical Ecology provides a very useful "big tent" in which successful interdisciplinary collaboration can take place, and has thus far provided the foundation for several successful large scale cross-disciplinary research programs on both sides of the Atlantic (Edwards in press).

The practice of an historical ecological research design results in a career path that may be very different from that of a classic cultural evolutionist. Evolutionists operating under the original processual paradigm might spend a career flitting from region to region, comparing complex chiefdoms or pristine states as a common evolutionary types little affected by local conditions or particular historical sequences. This emphasis on developmental stage rather than local sequence meant that major portions of any archaeological record became "pre-interesting"and "post-interesting" depending upon the particular research question

of the day. Sustained work within a geographic area thus became the mark of the second rate non-theoretical fieldworker—someone likely to be employed by the state, local unit, or a contract firm. As long as the same basic processual flowchart fit all localities regardless, then any genuine theoretician would be only a migrating visitor to most landscapes, divorced from most practical land management issues, and unconcerned with most local community concerns. Post-processual theory has not yet strongly affected academic fieldwork patterns, and it is difficult to say how it has it altered this basic migratory career path, or changed the relationship between jet setting elite theorist and locally grounded lower ranking field hand.

As Crumley eloquently described in the workshop discussions, Historical Ecology encourages a different (and arguably more realistic) appreciation of the interaction of the accumulation of human land use choices and natural variability (on several scales) through time. She terms this a "longitudinal perspective" encouraging a deeper study of a more restricted area, with sustained fieldwork concentrated upon the investigation of a single region's experience of change through time. There are no uninteresting periods, as the interaction between phases of occupation in a region, cultural and natural history, and accumulated human choices and environmental changes are keys to understanding the development of a particular regional landscape. Where system history and sequence of events count for a great deal, the local perspective is the most important one, and jetting off to another continent becomes a counter productive research strategy.

This approach allows for a more profound understanding of landscape formation and the complex interactions of human history and environmental change that we begin to perceive through our increasing battery of high resolution proxy environmental data sets. The longitudinal approach works well with our new tools of geographical analysis and often connects solidly with local community interests and perspectives. Historical Ecology thus becomes a good (and practical) thing to think if one is attempting a genuinely interdisciplinary collaboration with natural scientists, landscape historians, and community stakeholders.

It also opens the door to more effective connection of modern archaeological theory and practice. When the field archaeologist has only a choice between a somewhat tired processual evolutionism and often tiresome post processual heavily abstracted discourse (in either case tied to an alien lifestyle and working pattern) it should come as no surprise that she often feels alienated and atheoretical. The longitudinal approach reunites theory and most fieldworker's life experiences, and certainly encourages more effective connection to most current fieldwork carried out by contractors or regional archaeology units. Many conference participants felt that some combination of landscape perspective, longitudinal research strategies, and a spatially grounded historical ecology offered the best route towards improving effective collaboration between academic and contract archaeology and between archaeologists and other scholars and land managers concerned with heritage issues. This volume reflects some of the enthusiasm and energy generated by the workshop, and if it provokes additional, equally stimulating exchanges it will have accomplished its major goals.

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2
Place, Historical Ecology and Cultural Landscape: New Directions for Applied Archaeology

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We come and go
but the land is always here.
And the people who love it
and understand it are the people
who own it – for a little while

Willa Cather, O Pioneers!

Introduction

The two themes I discuss here are historical ecology (landscape history) as a guiding scheme for studying past cultural landscapes, and the concept of place as a time-space identification of human activities. Historical ecology is the study of past relationships between groups of people and their environments. Its multidimensional orientation combines the knowledge of various aspects of human activity with the theory and methodology of ecology. The historical ecology approach explains human decisions in terms of deterministically understood relationships among adaptational constraints imposed by a variety of environmental stresses throughout time. Occasionally, however, people make decisions that may not necessarily lead to optimal solutions - the fate of the Easter Island population or the Norse occupation of Greenland are notable examples. As archaeologists, we should expect to recognize evidence of various decisions (good and bad) since some of the consequences will be preserved in form of archaeological data such as artifacts, architectural features, landscape modifications, etc. Naturally, as environmental stresses increase, human responses diversify and intensify. And as the complexity of responses increase, a greater diversity and density of archaeological facts is expected.

Archaeologists argue that all kinds of evidence of human past behavior are significant and potentially contribute to a better understanding of human history.

In principle, this is correct. My point here, however, is that not all evidence of the human past can be researched and/or preserved. To preserve everything is clearly impractical. So if we cannot preserve all evidence of past human behavior then what evidence can we preserve? Constant modifications and alterations of infrastructure in a variety of landscapes force us to think in terms of a sustainable past and this invokes a selective approach to what can and must be preserved. A comprehensive ecological investigation of an archaeological site comprehensively will provide greater insights into human history than the mere retrieval of artifacts from several different sites. Such a comprehensive approach also involves recognition of multivocality of the site, hence the centrality of the idea of place I argue for here.

The practice of heritage preservation is driven by policies designed to preserve selected evidence of past human activities. Although this approach usually contributes limited new knowledge the more serious questions are: What should be preserved, and why? And: Who decides what will be preserved and why? Both questions present an obvious dilemma. For instance, can an "outsider," perhaps a representative of an industrialized nation, understand the symbolism of indigenous lands? Archaeologists who are not trained ethnologists might not be able to recognize all the symbolic meanings that might be contained within a site/place. This leads to a further question: Whose past do we preserve? Because the problem is political in nature, it should probably be addressed separately for any given specific cultural context. Similar questions have been discussed on different occasions (Layton 1989) and in reference to locally significant cultures. I would like to introduce a proposition which goes beyond the politically charged concept of culture. As we move away from ethnically bounded polities, the concept of place rather than culture becomes the critical focus of decision-making that stipulates the pragmatics of local cultural heritage preservation policies. I identify a cultural heritage domain as a "cultural landscape" composed of places symbolically filled with diverse meanings and encompassing all details of past human activities within an ecosystem. The concept of place delineated here concerns, therefore, not just material objects, but also other, less tangible aspects such as memories, feelings, sense of belonging, etc. The same place can be identified by and be meaningful to a variety of people, and thus its meaning is composed of two distinct realms: cultural (recognized/meaningful) and natural, both of which can be experienced simultaneously. Therefore, the full potential of place is in its multiple symbolic meanings but its significance in a specific cultural designation.

Cultural Heritage Preservation, Historical Ecology and Place

In 1999 I contributed a paper in a symposium at the 4th World Archaeology Congress in Cape Town, South Africa. The symposium was devoted to answering several key questions arising from the frustration felt by many

archaeologists and cultural resource management (CRM)[1] practitioners about the malaise pertaining to the practice of CRM, especially in relation to archaeological research and its methodology. The frustration is deeply rooted in an illusory, in my opinion, dichotomy that is often used to separate the sphere of CRM from the academic world. Simply put, the critics of CRM say that the sort of archaeological pragmatics employed in cultural heritage preservation strategies are not "scientific," whereas academic archaeology, by definition, remains within the realm of science. Therefore, the main focus of this session was a debate about the future of CRM and its role in heritage preservation strategies. Although there was general agreement that the current *status quo* of CRM will change, there was no consensus about what direction the change should take. Knowing the practice and pragmatics of CRM in the United States and elsewhere, I share some of this ambivalence. Thus, I propose, provocatively, that current and future cultural resource management be not just about perfecting archaeological theory and method but encompasses a far broader outlook that is ecological in its nature.

Those who denigrate CRM archaeology today usually emphasize its weak theoretical and methodological underpinnings. More often than not it is a legitimate claim. CRM archaeologists, also known as professional archaeologists, do not always have a clear theoretical perspective with regard to their CRM project of the moment. My experience of a range of CRM projects in several countries leads me to concur with these allegations. But equally, I do not see a significantly greater utilization of diverse theoretical approaches among academic archaeologists either in most European countries (cf. Cleere 1989; Ostoja-Zagórski 1997) or in the United States and elsewhere (Luz and Politis 2001; Politis and Peretti 2004; Podgorny 2000, Benavides, personal communication).

As stated above, I favor the ecological approach, and I argue here that applied archaeology delineates an integrative approach deeply rooted in ecological models (cf. King 1998; Hodder 1999). The ecological approach is primarily concerned to address two major issues: what are the consequences of the interactive relationships between an environment and the organisms within it? And, what are the consequences of interactions between organisms within the same environment?

In the most classic terms, ecology is "the study of the relations between organisms and the totality of the physical and biological factors affecting them or influenced by them" (Pianka 1974:3). Human ecology differs from the above in only its interest in humans and their actions, present or past. Otherwise the main questions remain the same. Thus, ecologists who study interactions between humans and their environment usually examine a variety of sometimes overlapping areas, such as food procurement competition, risk minimization, population dynamics, as well as decision-making processes and their consequences for cultural and biological diversity.

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[1] I will continue using the acronym CRM in reference to the American version of a set of methods and legislature employed to manage cultural resources through heritage preser–vation policies. British colleagues have labeled a similar approach as Archaeological Resource Management, but I believe the difference remains in semantics rather than the philosophy of the approach.

The diachronic use of the concept of human ecology has been used to develop theories of historical ecology (Crumley 1994; 1998), also referred to as the landscape history approach (Tilley 1994; Ashmore and Knapp 1999). Historical ecology offers diverse methodologies, which allow for a very comprehensive insight into the human conditions in the past. Its multidimensional, multiscalar approach (Crumley 1994a) links various disciplines including: anthropology, biology, geography, demography, economics, etc. Historical ecology combines the knowledge of all aspects of human beings with the theory and methodology of ecology. As Carole Crumley indicated (1994), historical ecology encompasses "evidence of the human past with evidence about the environment by studying the evolution of landscapes." Archaeologists who use ecological models are forced to accept an interdisciplinary approach, which draws heavily on the physical and natural sciences together with the humanities.

Implicit in various ecological models is the connection between ecology and evolutionary theory, for the crucial factor in the evolutionary process is an ecological factor – the fit between organisms (humans) and their environment, manifested in a created (cultural) landscape. Ecological models have to be approached carefully, however, for as Bates (1996) suggested, they may not always be adequate to study the complexity of human-made cultural landscapes, as our "unique attributes pose problems for modeling local interactions." The difficulty lies in the fact that although our actions are always caused by ecological conditions, some are forced deterministically, while other may derive from the randomness of decision-making process (Lozny 2000). Nonetheless, I especially wish to strongly emphasize the need to study the diverse ecological conditions driving our decisions as knowledge concerning environmental changes becomes critical particularly now, after the first case of extinction among the contemporary primate order has been recorded (Oates et al. 2000). Clearly, certain ecological relations are beginning to change as rates of extinction increase.

The aim of applied archaeology is to identify and preserve all the evidence of interactions between humans and their environments, using diverse methodologies, and, I argue that the historical ecology approach fits the task well. The practice of historical ecology encompasses several relevant subdisciplines such as archaeology, ethnography, ethnohistory, history, geography, and environmental sciences, thus allowing the creation of the ongoing dialectical relations between humans and nature, and concerns diverse evidence of all human activities, physical or intellectual, which are manifested in the landscape. The application of the historical ecology approach requires a rigorous methodological design, however. Regardless the fact that a landscape might testify about various levels of past interactions (who, what, when, and how), the real challenge rests in the ability to read and decipher the landscape, and furthermore in the ability to manipulate and use landscape histories to fit local, regional, and/or global agendas.

Through the application of historical ecology to examine specific human populations, we can address the following two major questions: 1. What is the population's place in its particular ecological system (cultural landscape)? and 2. How do particular behaviors characteristic of this population relate to its place in the ecosystem (cultural landscape)? I feel that any attempt to answer either one

of these questions coherently requires the employment of the idea of place rather than the elusive concept of an archaeological site or another culture-specific signifier. As we move away from ethnically bounded polities into another, multiethnic level of political complexity, the concept of place rather than culture will, in my view, become the critical focus theoretical advancement within the archaeological practice, applied archaeology included.

The two major qualities of place (regardless its location) will play a significant role in this progression: 1) humans occupy a remarkable diversity of ecosystems (diversity of places), and 2) we are the dominant species of our ecosystems (therefore, we will change them; we may turn any place into "our place," even for a while). Humans create both qualities through their unique way of adaptation that is distinctively flexible, for adaptation is at once the solution to a particular problem and the source of unanticipated changes and new problems.

The Politics of Cultural Landscape

Due to systemic, political and economic changes introduced in the beginning of the 1990s, Eastern Europe became an ideal place to conduct fieldwork on culture change among industrial populations (cf. (Lozny 1997; Burawoy and Verdery 1999). While observing all these changes triggered by either political agendas or for practical reasons, I decided to analyze the spectrum of attitudes towards modifications of the cultural landscape expressed through actions such as removals of certain elements of the landscape or additions of new ones. Primarily, I speculated how all these changes would be perceived on local, regional, or national levels. My main interest was to discover how members of a society create a meaning of "their" place. What kind of symbols and meanings matter to whom? I postulated that knowing what matters to a contemporary population may eventually provide further insights into what did matter to people in the past. I sought to create a specific methodology that would allow for identification and examination of various cultural changes and their meanings introduced by people to the same place, but at different times. For instance, I observed how eager people of Eastern Europe were to eliminate all emblems of the communist past. The most tangible evidence of the Communist era was removed and today this not so distant past remains mostly in people memories, feelings, and sentiments. I know it existed, because I lived through it. But what will remain for a random observer to see? Although currently within living memory the Communist period soon will be studied through the use of various indirect methods, including archaeology. What is certain is that we cannot pretend it never happened. Following my observations I began to design feasible trajectories for identification procedures and preservation policies in culturally diverse and sensitive regions which are going to be heavily impacted during the next few decades (Lozny 1997) and concluded that people create multiple meanings of place and that people with power force others to accept their meaning and understanding of place. Current cultural heritage preservation practices are presently all about the politics of cultural landscape. I argue that

place is multivocal for it bears the meanings that researchers and preservationists favor in addition to whatever meanings other people might have attached to it and accept. Place contains multiple senses, and even if we can read all of them through the application of diverse methodologies, not all of these meanings will be preserved (because not all of them matter to people at the same time).

Place as an Ecosystem

First, let us consider place as an ecosystem, a very dynamic and constantly changing cycle of matter and energy and their links. The concept applies to any environment, but more important, it describes organisms (humans) in a very dynamic interplay with other elements of the system (including other humans). Thus the ecosystem concept gives us a way of describing how human populations influence and are influenced by their surroundings (Moran 1990). Yet, each ecosystem, although kept in equilibrium or near equilibrium, can be described as relations among the component populations. These relations are constantly changing (Holling 1973).[2]

Ecosystems are filled with places, elements of cultural landscapes. In order to better understand how place is perceived by people, I make a distinction between *place* and *space* as two units of a cultural landscape. From a phenomenological point of view such distinction makes a lot of sense. Understandably, as Casey (1996) pointed out, for anthropologists *space* comes first, because anthropologists are interested in how human behavior articulates in nature. For the local people, however, *place* becomes most significant, because they symbolically fill it with specific meanings often unrecognizable to the researchers of *space*, especially after certain cultural elements of the space have been removed. Anthropologists and archaeologists are primarily interested how "being-in-place" articulates. This is why we use the concept of culture and relate this idea to a concept of space rather than a concept of place. From a philosophical point of view, it is place that is most significant to people. There is no knowing or sensing place except by being in that place and being able to perceive it. Therefore, knowledge of place is a consequence of experience (practice), constituted by cultural and social structure. As humans, we are place-bounded creatures; place is universal. Still, historians, ethnographers, anthropologists are mostly interested in space and time relations. Philosophers could retrieve a sense of place (see for instance Casey 1996), but can anthropologists do the same? The anthropological approach to place is to identify and map it out within a space. This is similar to approaches of geographers, historians, sociologists, and political scientists. Recognizing the crucial interactions between people, place, and motion can identify a place. In light of the above, we may say that people are never placeless; places belong to

[2] Two ideas describe continuity and change within ecosystems: resilience, a measure of change a system can undergo while still maintaining its basic elements or relationships, and stability, a measure of the speed with which a system returns to equilibrium after absorbing disturbances.

them. We always create our own place in form of a matrix of symbols we identify with at the time (Lozny 1998). Because the approach followed by applied archaeology practitioners to investigate and preserve traces of human adaptation (cultural landscape) is both: diachronic, and synchronic (concerned with the present political, economic, social status quo), I believe this conclusion is valid.

Place, Cultural Geography and Other Humanistic Studies

There are valuable contributions by cultural geographers to the concept of place (for example Buttimer 1993; Entrikin 1991; J. Jackson 1994) which incorporate modern philosophical thought, guided by the idea of "dwelling" as described by Martin Heidegger (1971). Feld and Basso (1996) point out that these ideas are blended with social theory and produce two types of syntheses; one closely related to the sociological notion of "placeways" developed in the work of E. V. Walter (1988), and the second critical and deconstructive analyses in the fields of environmental design, urban planning, and architecture (Mugerauer 1994; Seamon 1992).

Another trend in cultural geography utilizes neo-Marxist cultural critique and global postmodern theory (Harvey 1989; P. Jackson 1989; Soja 1989). These works discuss various aspects of geographies of struggle and resistance, such as issues of representation, gender, political action (Duncan and Ley 1993; Keith and Pile 1993; Massey 1994), and most are based on Foucault's discussions of spatial analyses of repression, institutional power, and social control.

The cultural geography approach is linked with other humanistic studies of place including perspectives from anthropology and archaeology in works exploring relationship between landscape and authority (Bender 1993), or issues concerning indigenous peoples and conservation (for instance sacred places - Carmichael et al. 1994; Kelly and Francis 1994). Recently cultural anthropology has been addressing theories of social identities (see, for example, essays in *Place: Experience and Symbols* 1984). Most of these essays focus on the social well being attached to the sense of rootedness in place. Other cultural anthropology studies of place largely focus on its contestation and its linkage to local and global power relations, addressing issues such as exile, diaspora, displacement, struggles by indigenous people and cultural minorities for ancestral homelands, land rights, and retention of sacred places. Today, narratives of place once presented under such headings as "national integration" and "political evolution" are being framed in much harsher terms: as economic development by state invasion and occupation, or as the extraction of transnational wealth at escalating cost in human suffering, cultural denigration, and environmental degradation (Bodley 1988; Burger 1990; Cultural Survival 1993). Place, in other words, is a site of power struggles, and therefore ethnographies of place are stories about contestations, in which previously absent "others" are now portrayed as fully present, no longer presumed as "them" removed from "us".

Place and Social Memory

Casey (1996) says that "places gather." Among these "gathered" elements are specific histories, memories, thoughts, cultural traits, symbolic meanings, linguistic features, etc.. There are also specific experience that we have every time we go back to places we have been which are full of memories, individual and social. Place becomes a powerful form of identification. Being in place also means being in a configuration of complex things (material, symbolic objects that define the form of a place). Thus memories of place are attached to personal experience as well as social experience. We can return to "our" place which we keep in our memory; it is always the same place. Our place does not change, only the people who occupy it change. Place is not something simply physical. Place is something for which we continually have to discover or invent new forms of understanding, new ideas (see Casey 1996 for phenomenological analysis of place).

As archaeologists, we do not recover one place but diverse and dynamic time and space relations. What we find at any particular site constantly changes the qualifications which we use to assign these places to specific cultures. Of course, as well as memories and thoughts, place is composed of physical attributes including artifacts and feature of the habitat. In this sense place is inseparable from its surroundings. A cave containing an Upper Paleolithic assemblage will be a cave existing not only in the Upper Paleolithic; the cave is a regional (spatial) feature and not just temporal occurrence (Upper Paleolithic). In such a context place contains a variety of meanings: historical, physical, and also emotional (assumed). Places constitute a region's environmental and social history. The essence of place is to be regional, and the essence of a region is to be composed of places.

Conclusions

I have examined here how people encounter places, perceive them, and endow them with significance within specific ecosystem (cultural landscape). I attempted to move beyond generalizations about place as simply a cultural construct by describing specific ways in which places embody different physical and cultural attributes. Others present more detailed discussion of the topic. Margaret Rodman (1992) "Empowering Place: Multilocality and Multivocality" provides an excellent review of power positions and assumptions underlying comparability of "place" and "location." Rodman advocates studies of place that take discontinuities and multiplicities into greater account. Such studies must reject "boundedness" models of culture and the ways they privilege the authority of persons in positions of power. Also, Gupta and Ferguson (1992) "Space, Identity, and the Politics of Difference" see the need for reevaluation of the "assumed isomorphism of space, place, and culture." They imagine this space as one "beyond culture," where hybrid and fluid zones replace stabilized territories such borderlands, characterized by place indeterminacy-the notion of

"ethnospace" as a response to the bounded culture syndrome (Appadurai 1992; see also Clifford's (1992) critique of anthropological approaches promoting the idea of dwelling over travel).

The Anthropology of Landscape: Perspectives on Place and Space (Hirsch and O'Hanlon 1995) provides a theory of landscape as cultural process that is dynamic, and constantly fluctuating between "place" (everyday lived locale) and "space" (social potential) (see also Tilley 1994). The meaning of place is therefore a discursive entity – a floating signifier. Feld and Basso (1996) point out "that as people fashion places, so, too, do they fashion themselves." Filling places with meanings maintains the order of "how things should be." And those meanings help us to answer the question of why we hold on to what we like. This leads me to conclude that we always identify place within a certain cultural pattern. It is embedded in culture, and expressed through behavior or symbols. A place is classified with its own specific connotations in time and space because people always attach specific meanings to it. Culture is found in place, and it gives place its meaning. At the same time, people constantly carry culture into place, and therefore place is constantly redefined by the people who occupy it at any particular period of time. Culture, therefore, assigns the way in which place is perceived. No matter ho specific or detailed our descriptions of place may be, something of importance inevitably is left out, the unknown or unrecognized ("wild" in Casey's 1996 terminology). No doubt place is a reality, but one composed of two distinct realms: cultural (recognized) and natural which people will experience both simultaneously. To be fully in place means to know both the historic and present aspects of a place, and to experience both its cultural and natural meanings. In this sense, we could assume that the time/space dichotomy will also arise from the experience of place since it provides a common matrix for time and space, filled with events, time-space units. Time and history cannot be separated from place, although place will be known by its most manifested aspect which is culture. The full potential of place is in its multivocal symbolism and significance of cultural designation. Place can only be identified in a context. Therefore the meaning of place is discursive because it depends on how we conceive of it within a specific cultural/political context. Place is a part of our discursive explanation of reality. Place that cannot be recognized and identified within our discursive way of explanation has no meaning.

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3
The Colonial Southwest: Pueblo and Spanish Shared and Separate Landscapes

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In situations of contact between two peoples, such as those intertwined in a colonial encounter, one of the most important aspects of interaction is the congruence of their spaces. Spatial interactions are crucial in colonial settings because the social relations of power are diffused through space and exerted in places where people come together. There is an inherent geography in power relations, seen in attempts either to dominate or to resist control (Sharp et.al. 2000). The current project reports on an example of colonial interaction in New Mexico's Rio Grande River Valley between the 17th and 18th centuries. In the case considered here there are two important ways to perceive the relationship between Spanish and Pueblo peoples. First, is the degree to which colonizer and colonized occupy the same physical space, and second, following on the first, is in the similarity of construction in their cognitive landscapes. Archaeologists traditionally focus on spatial information, looking at the ways in which past peoples used the land, but it is essential to go beyond that information to examine the layered meanings of space and place. Landscape analysis is related to what archaeologists have typically called settlement pattern analysis, but a focus on landscape requires projecting a more "emic" (internal) view of how a group of people perceived and constructed their own space and their mental maps. These cognitive maps would include immaterial aspects such as feelings about the land, and physical features, important activities carried out on the land, forms of transportation available and other occupants of the land.

Landscape construction is informed by many aspects of the map-makers' culture, including notions of equality or social hierarchy, gender, the presence of a local or global perspective, and the relative values assigned to activities. Landscape structures are established by the kinds of journeys people make, the frequency, purpose and season of these journeys, but the understanding of meanings is not simple, as elegantly presented by Basso in his work with the Apache (1996). Some insight into indigenous landscape may be recovered from oral history and contemporary mythology; a number of southwestern peoples reveal perspectives on important places through these means. Among the Tewa and the Navajo, for example, there are ideas about the bounding of their space by four sacred mountains. The Zuni Atlas (Ferguson, Hart, et. al. 1985) suggests the complexity of Pueblo landscapes

by mapping the variable and overlapping, but distinctive, distributions of crucial resources, both economic and spiritual, among the Zuni. Edmund Nequatewa, a Hopi, in recounting a series of myths from Shungopovi, indicates the importance of the four directions, but also notes elevated places and boundaries, and the locations of water, plants, birds and animals (1936). The Pueblo landscape would have been populated by spirits, totemic figures, elders and enemies, including other Hopis, Navajos, and, by the late 16th century, the Spanish.

In this region, the Spanish made a deliberate attempt to invade Pueblo space, moving their missions into Pueblo settlements; the Pueblos used effective geographical mechanisms of avoidance and resistance even before the Pueblo Revolt in 1680. The Spanish landscape was different than the Pueblos'; it began as a narrow and linear corridor along the Rio Grande, but over time as more colonists arrived and many of the Pueblos succumbed to disease, the Hispanic landscape gradually expanded, while the Pueblos' shrank. The two landscapes also remained different in significant ways. For the Spanish, the landscape was structured by social hierarchy, religious and economic demands and power as well as military force. Their perception of land and its features implied a sense of control: over nature and non-Spanish peoples. Land was categorized by type and divided and apportioned, as were water rights. Their perspective was very different from the Pueblos' whose social structure was more egalitarian, while landholding was corporate and held by lineage groups and clans. The Pueblo attitude towards nature was similarly cooperative rather than control-oriented, and the earth was depicted as a mother (Ortíz 1969:21). Cognitively the Spanish had a more extensive view, informed by the knowledge of a world across the ocean, other European peoples, and European ways of doing things. Some of the letters of Vargas and others refer to absent powers such as the King, the Council of the Indies, religious leaders, as well as their families (Hackett 1923; Kessell et al. 1992). It is likely that the Spanish saw New Mexico as an unwelcoming and difficult place. In Death Comes to the Archbishop, Willa Cather describes the young priest:

> "pushing through an arid stretch of country somewhere in central New Mexico. He had lost his way, and was trying to get back to the trail . . . The difficulty was that the country in which he found himself was featureless–or rather, that it was crowded with features, all exactly alike. . . . They were so exactly like one another that he seemed to be wandering in some geometrical nightmare . . . an interminable desert of ovens" (1990: 285–87).

While this is a fictional account, it may well capture a sense of how the land was perceived by Spanish settlers.

Changes in Settlement Pattern in the Southwest

Settlement and landuse are best represented in a series of maps that show the locations of known Pueblo and Spanish sites over time. They focus on that portion of the Pueblo culture area centered on the Rio Grande River valley. This includes

areas to the east of the river, on either side of the Manzano and Los Pinos mountains and along the Santa Fe River as far north as Pecos. It also includes a small portion of the region west of the Rio Grande particularly along the Jemez River. The western pueblos (Acoma, Zuni and Hopi) are not included because the two regions were involved with the Spanish in different ways. The latter were better able to maintain a more independent stance as they were off the main Spanish route of travel, and were largely ignored after the Revolt, when they served as a refuge for numbers of people fleeing the eastern Pueblos. They continued to be of some concern for religious purposes but were less subject to the economic pressures that the eastern Pueblos faced. This segregation of east and west was an important difference between Spanish and Pueblo perceptions of their space.

The factors to be considered here include changes in settlement form, function and their placement on the land. These are amenable to archaeological examination and can be interpreted to offer insight into landscape construction. Both Spanish and Pueblo settlement, of course, was structured by basic subsistence requirements. Both societies had an agricultural base. In addition, the Spanish kept domestic animals, which became important to the Pueblo way of life once they had access to them. However, especially during the pre-Revolt period, the Spanish had economic goals beyond subsistence involving the extraction of food surpluses and exportable products (notably hides and cloth, pinyon nuts and salt). Physical characteristics of settlement location such as elevation and proximity to water are important, but the social aspects of settlement use are equally interesting, specifically whether they were open and accessible to all or restricted to certain groups or individuals at certain times. Both Spanish and Pueblo religious structures were limited in access. There were rules that purported to protect Pueblo lands from Spanish usage (often violated), and I suspect that each group would have avoided the other's domestic spaces.

The architectural layout of settlements provides the arrangement of domestic space and defines public spaces, plazas and courtyards, which allowed for the congregation of differing group sizes. Spanish-directed construction had a notable impact in the Rio Grande valley. Pueblos and Spanish towns shared some architectural attributes (construction materials, interior fireplaces, rectilinear orientations, and the provision of enclosed or semi-enclosed open-air spaces), but differed in important ways. For both groups, settlement construction was influenced by a set of rules that addressed how communities were to look; for the pueblos these developed in situ, but the Spanish imported their rules as part of their cultural heritage, and then modified them. Note that information on Spanish sites is only consistently available for missions; residential sites were not always recorded in documents, or their records have been lost, and few have been examined archaeologically. Land grant records do exist for communities settled under Spanish colonial administration, especially Hispanic settlements established in the late eighteenth century and onwards.

Both the Spanish and the Pueblos used strategies to control access to land in order to structure the landscape; the Spanish are known for their attempts to use

reducción, in which they aggregated the occupants of several pueblos into one, centered on a mission. This aggregation achieved several objectives; it kept the Pueblo peoples under the fathers' watchful eyes, it ensured an adequate labor supply for mission needs, and it established Spanish dominance, reflected in the construction of the actual mission, the largest building in the community, architecturally unique and built with Pueblo labor. Other special-purpose structures placed within pueblos included the convento, where friars lived, and the garrison for soldiers. The mission-garrison complex was a new form of public building, much of which was not open to Indian use, except at designated times. These structures were placed in the midst of or adjacent to existing pueblos and had a greater and more dramatic visual impact on the Pueblo landscape than anything else the Spanish built.

The Pueblos demonstrate a tendency toward aggregation into large pueblos throughout precolumbian periods P III and especially P IV (roughly 1100–1540), although they were not always totally or continually occupied. Archaeology reveals empty rooms in the precolumbian period and throughout the historic period there are Spanish reports of empty pueblos or empty room blocks within pueblos. It is likely that movement between sites was a result of declining population and a form of escape from or resistance to colonial domination and control. I assume that families, perhaps clan segments, were the mobile units. Shortly after the 1680 Revolt, there was a great deal of relocation to refuge villages, an explicit avoidance mechanism, but there are hints in archaeological data and documentary accounts that a similar practice existed before the Revolt, as some pueblos close to mission churches were emptied before the Revolt. Recent work on the Revolt suggests that the moment of the Revolt was part of a longer process of resistance to the Spanish that was manifest in a number of different ways (Preucel 2002).

Pueblo communities were less affected by notions of social hierarchy than the Spanish were, but there was one special-purpose structure found within their villages, analogous to churches—kivas—used by segments of society that cross-cut clan and lineage ties. An interesting phenomenon is the presence of kivas in convento patios at the missions of Abo and Quarai, south of Albuquerque. Ivey suggests that they may have been built by missionaries and used for Catholic ritual as a means of persuading Pueblo peoples to incorporate the practice of Christianity with native religion (1988). There are other possible explanations for this practice: The Spanish are known to have demonstrated their power in Mexico by building churches over indigenous temples; they built a church above a kiva in Paa'ko (Lycett, personal communication), and, in a similar practice, the Pueblo may have constructed kivas in abandoned churches as an expression of their power, as they did at Pecos (Spielmann, personal communication 2001). Liebmann suggests that the construction of these kivas in church (sacred) space represents "resistance through inversion" (2002:138), whereby the Pueblo claimed Spanish space and re-made it into their own. The unique architectural characteristics of New Mexican mission churches (see below) imply some degree of fusion of Indian and Catholic ideas. Whether these represent a superficial accommodation or a genuine integration is hard to know.

Spatial Distribution

The locations and movements of Pueblo and Spanish peoples are seen on a series of ten maps, created by Antoinette Wannebo using ARCINFO. They compile information from a number of sources and focus on the Rio Grande valley, during three time periods, one prior to the entrada, a second during the middle of the pre-Revolt period of Spanish occupation, and the third after the Revolt. They provide information on Pueblo settlements and missions, and record mostly large sites, as the task of locating all would be difficult, if not impossible. There are several sources of error in the creation of the maps, not the least of which derives from the fact that some site locations are based on Spanish accounts while others come from archaeology. It is also difficult to date the sites and identify the span of occupation. The available evidence for approximate periods of occupation is based on Mera's ceramic chronology of Glazewares A-F, which was a remarkable effort at the time (1940), but has been improved upon in some cases where more accurate information on occupation period comes from dendrochronology and additional chronological information (Creamer et al., 1994). We cannot derive reliable information on population from site sizes because of the common Pueblo practice of mobility.

The first location map (Figure 1) shows pueblos known to exist shortly before Oñate's 1598 invasion, which is designated as Period 1. It shows that the predominant location of Pueblo occupation sites lay along the Rio Grande and its tributaries. However, there were additional significant population clusters in the area east of present-day Socorro, west of the Rio Grande and north of the Jemez River, and in the Galisteo Basin. Figure 2 shows the earliest known missions, begun around 1616. They were constructed near the early location of Spanish settlements, which began near Yunque-yunque (close to present-day San Gabriel) in the north. The missions were restricted to the Rio Grande corridor, extending south as far as modern Albuquerque, except for Chilili, a single mission constructed outside the corridor, to the east of the Manzano Mountains in the East Tiwa/Salinas area (Mera 1940; Schroeder 1979).

The next map (Figure 3) shows pueblos and missions known to have been occupied around the period 1626-1650, or Period 2. Figure 4 indicates those pueblos that were occupied during Period 1 and Period 2, Figure 5 shows pueblos and missions that had been occupied during Period 1 but were no longer occupied during Period 2, and Figure 6 shows pueblos and missions that were settled during Period 2, but did not exist during Period 1.

I do not suggest that Figure 5 or 9 (below) represent abandoned pueblos. The issue of abandonment in the southwest has been discussed extensively (Cameron and Tomka 1993). It seems clear that many pueblos went through successive phases of occupation, followed by reduced or no occupation, whereas the term "abandonment" implies a permanent, and likely intentional, leaving of a place. In an ethnoarchaeological study at Zuni pueblo farming villages, it became clear that leaving a home was frequently not planned as a permanent event, and that even

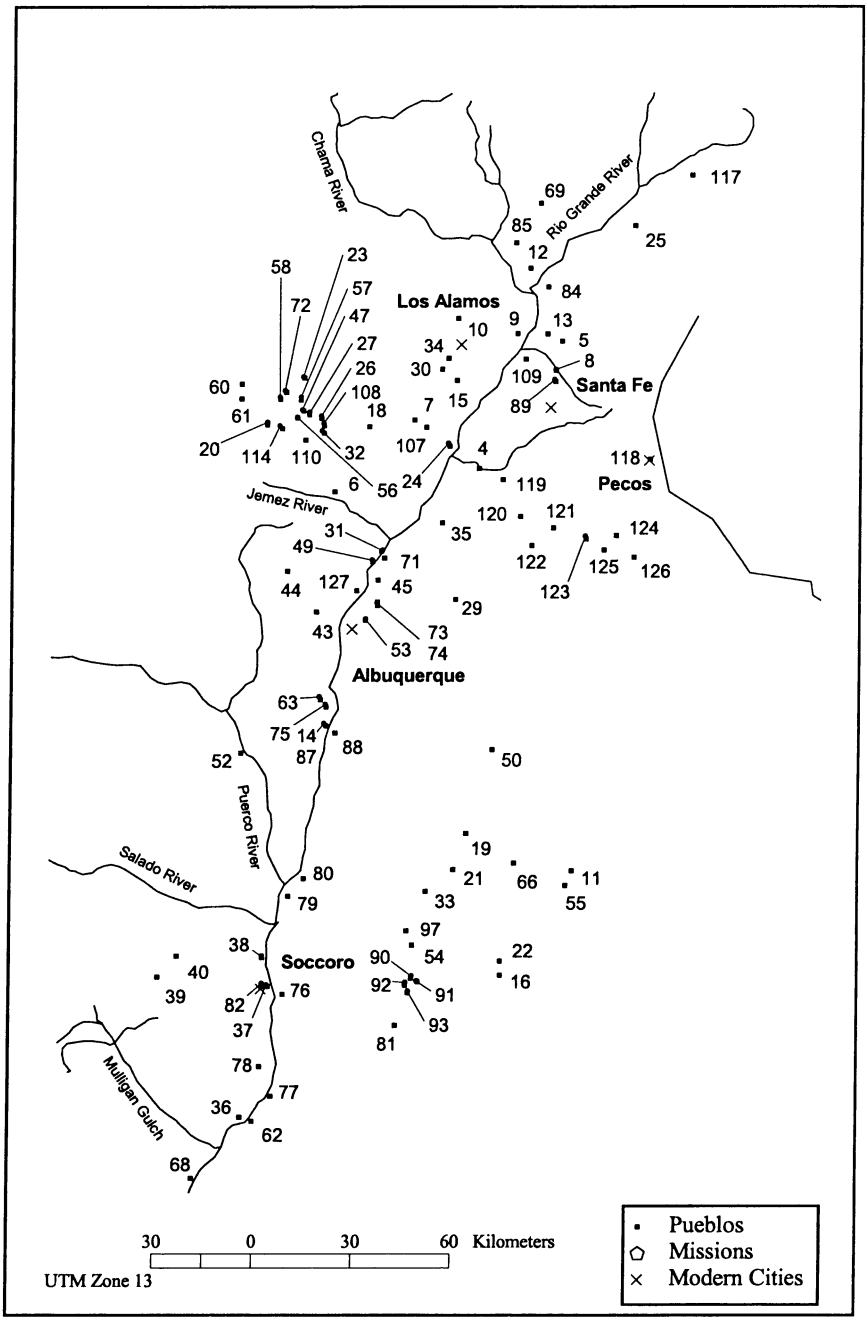

FIGURE 1. Pueblos before A.D. 1598 (Period 1).

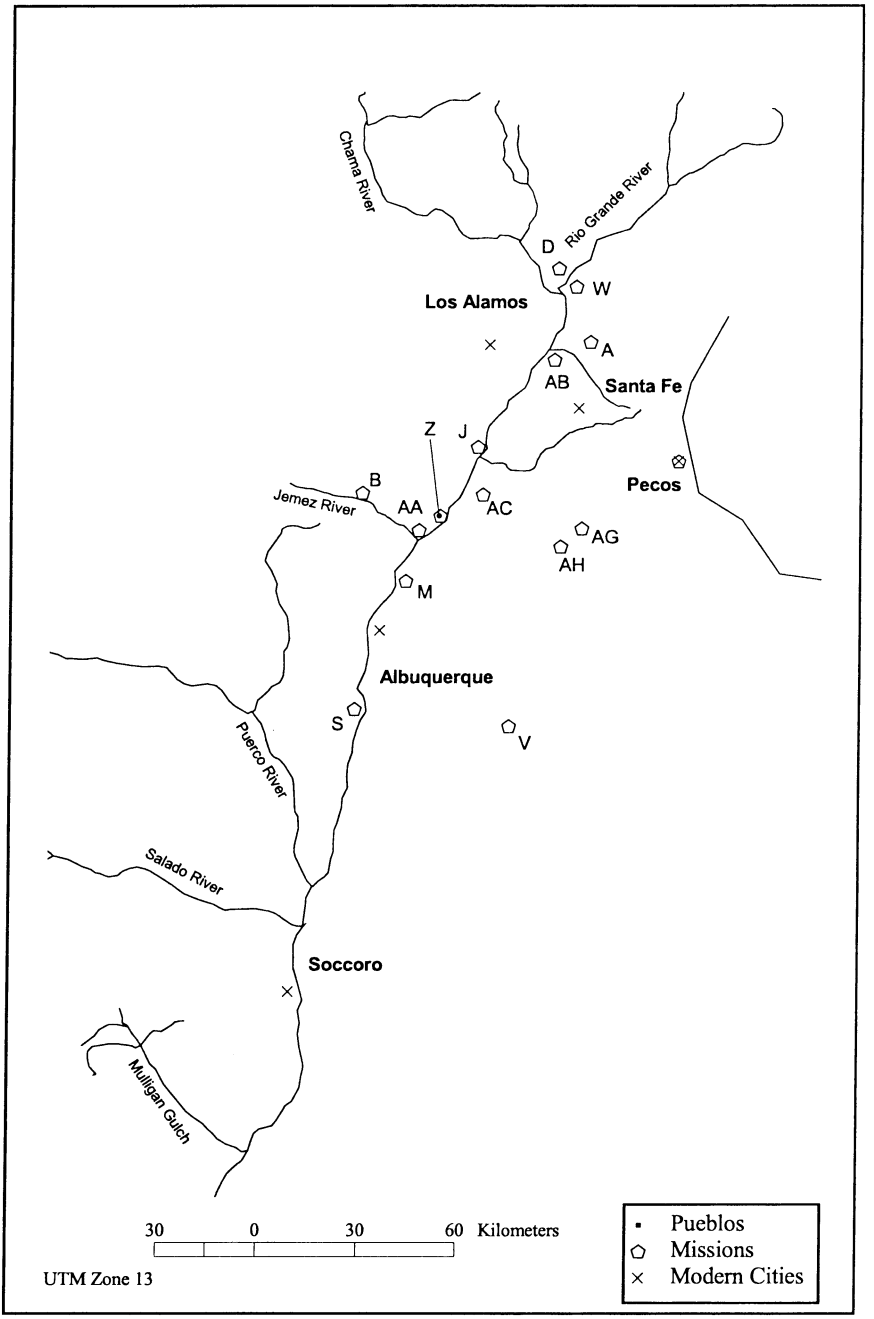

FIGURE 2. Spanish missions around A.D. 1616.

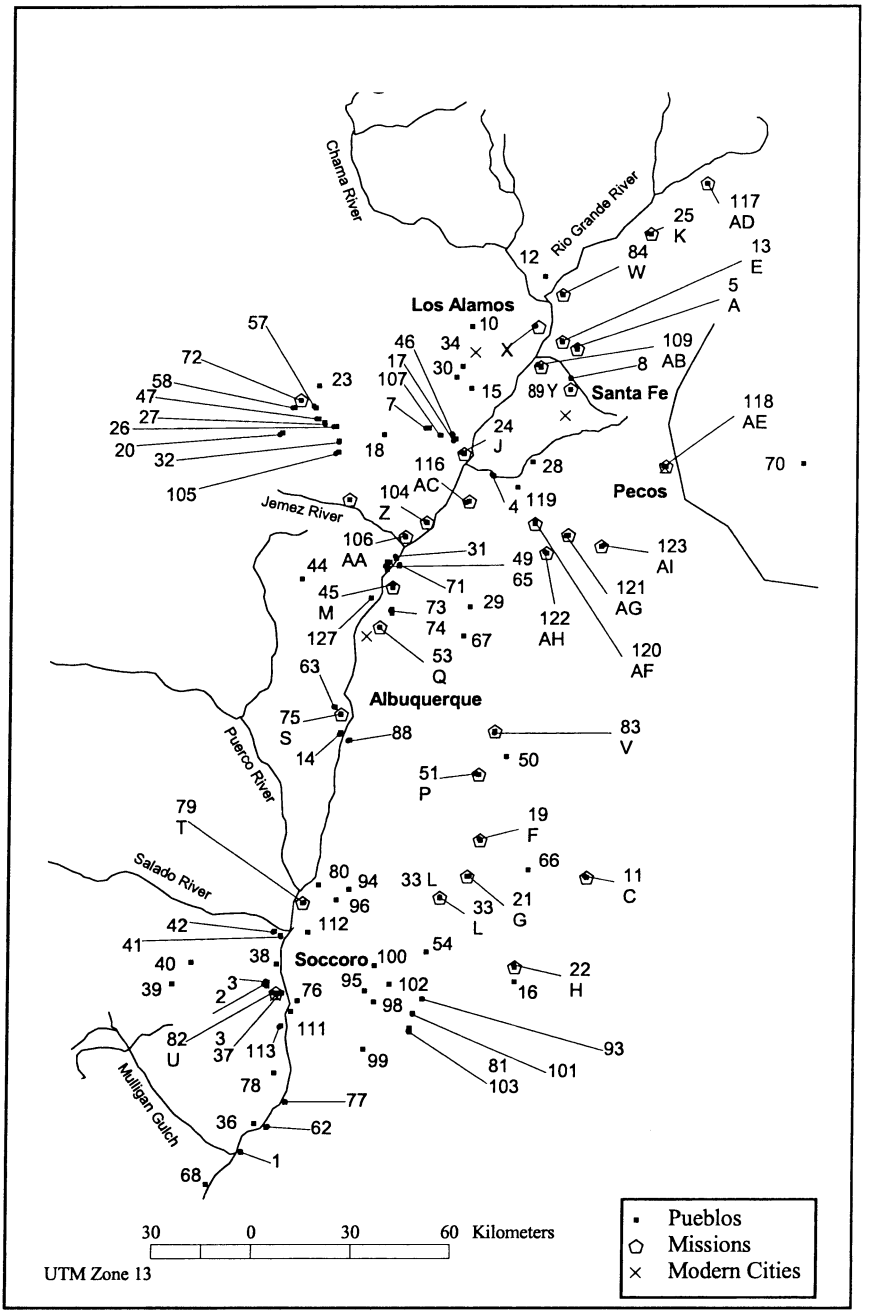

FIGURE 3. Pueblos and Spanish missions around A.D. 1626–1650 (Period 2).

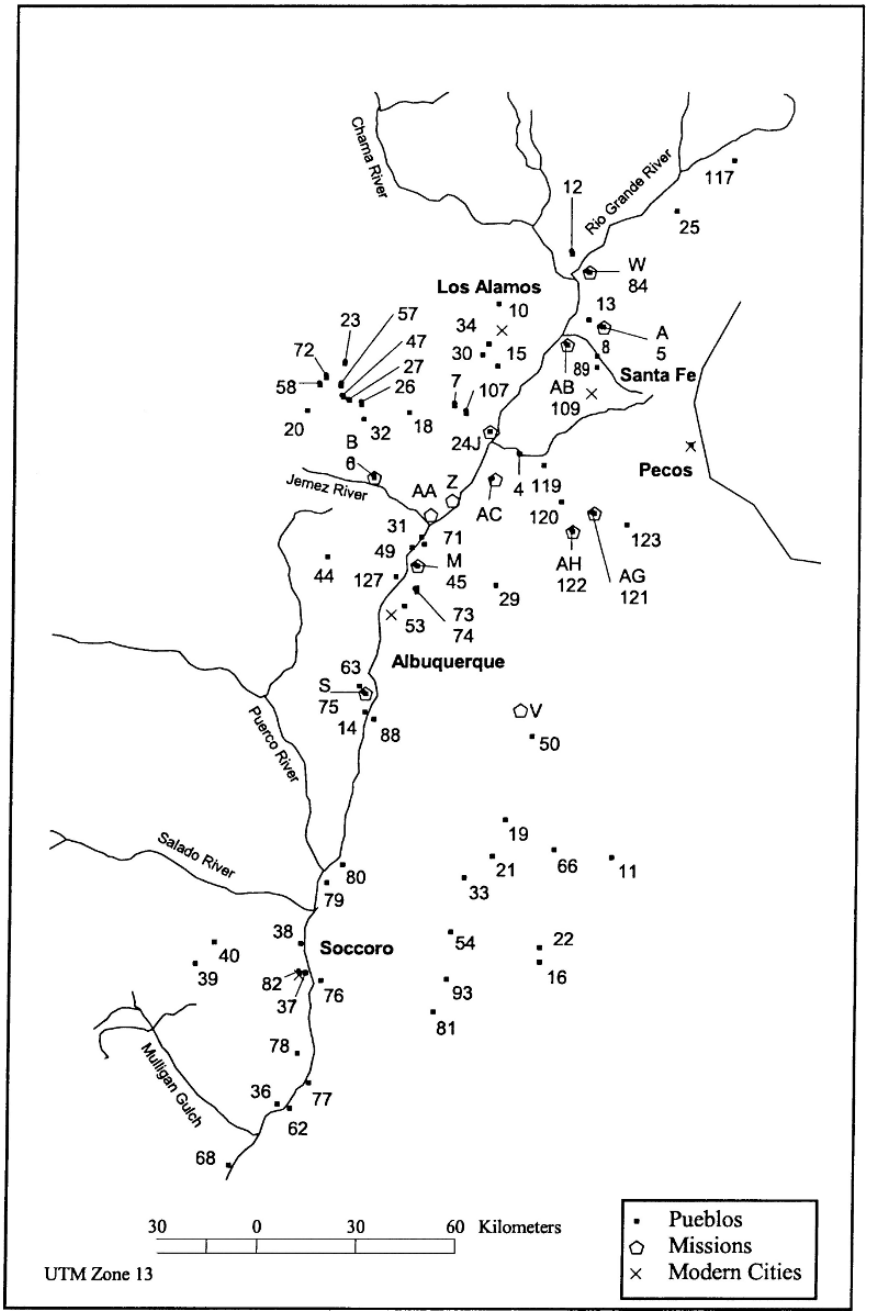

FIGURE 4. Pueblos occupied during Period 1 and Period 2.

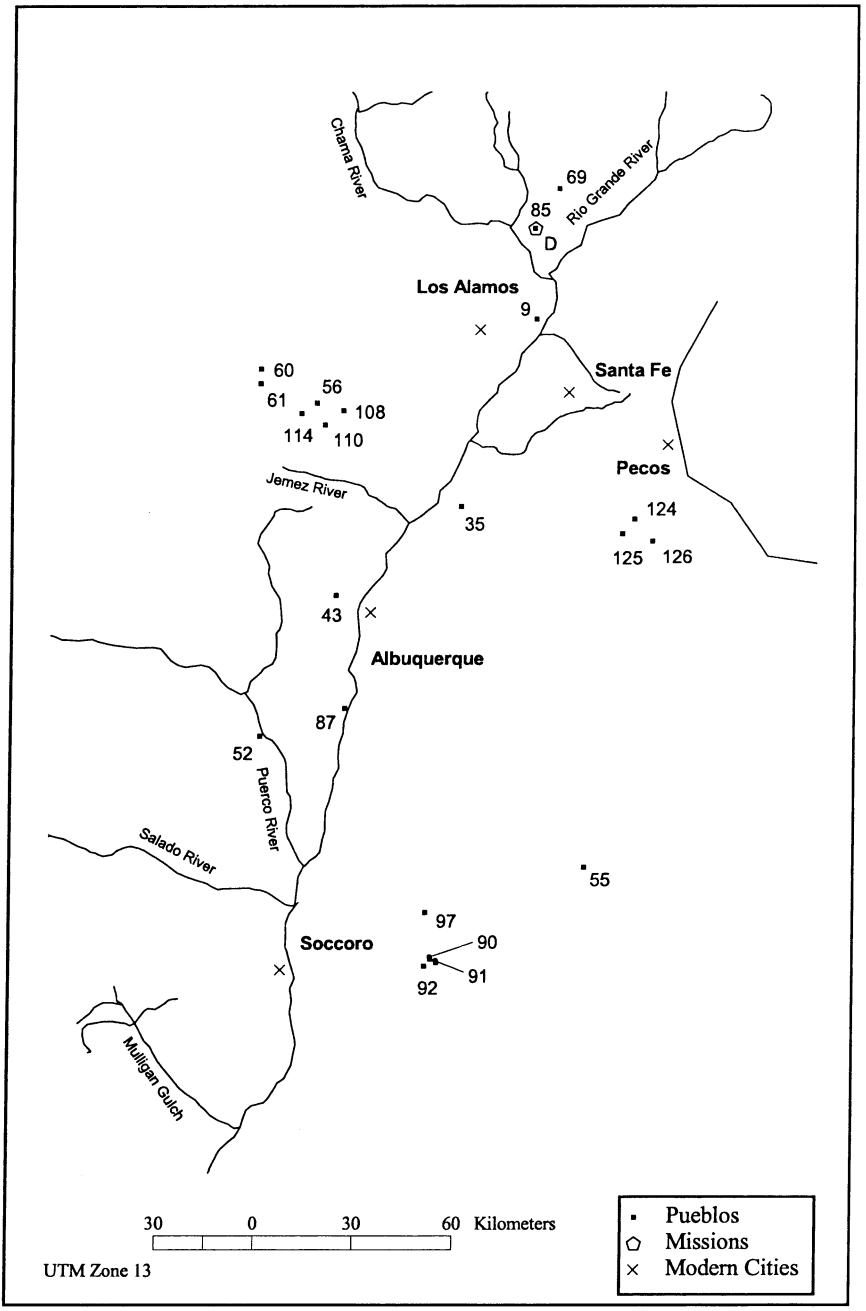

FIGURE 5. Pueblos and missions occupied during Period 1 but not Period 2.

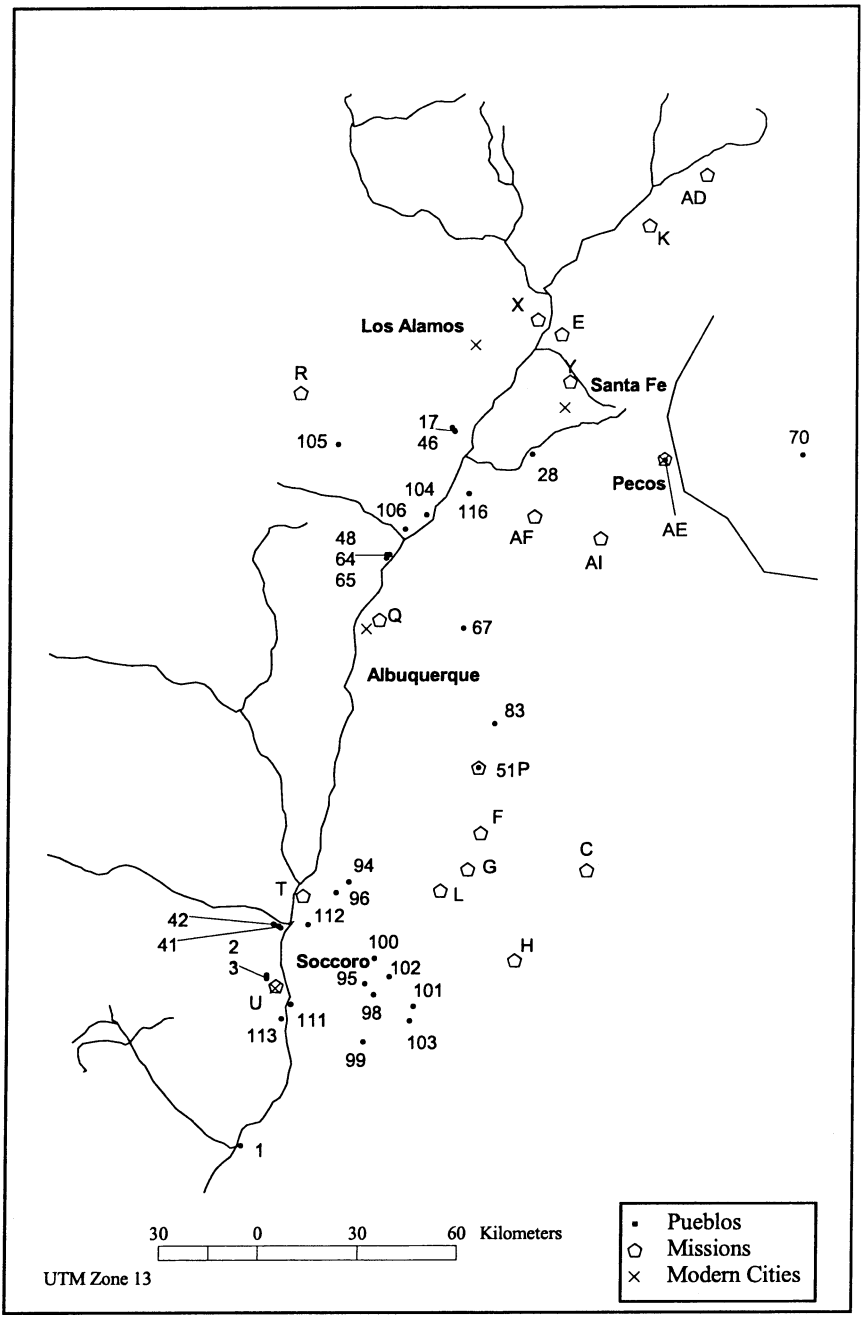

FIGURE 6. Pueblos and missions occupied during Period 2 but not Period 1.

when structures were no longer used as full-time residences, they could serve important functions as places for part-time occupation, for storage, as sources of building materials and ultimately, to maintain a claim to a place (Rothschild, et al. 1993).

There were 103 pueblos occupied in Period 2, ten more than in Period 1, but the number of missions more than doubled, from 15 to 32, as the Spanish established sites in the midst of dense clusters of pueblos to institute more effective control in the Rio Grande valley. Of the 103 occupied pueblos, 72 remained in use from Period 1, 31 were new, and 21 of those 93 occupied during Period 1 do not appear to have been in use in Period 2. Fourteen of 15 missions remained from Period 1, one was abandoned and 18 new ones were built or started in Period 2.

Pueblos and Missions in Three Periods

	Period 1 Before 1598	Period 2 1626–1650	Period 3 1700 and After
PUEBLOS	93	103	28
MISSIONS	15	32	15

Settlement Changes in Period Two: 1626–1650

The history of settlement during the second period (as identified through archaeological and documentary information) varies markedly in different portions of the Rio Grande valley. Two trends are notable: one, that sites located away from the river corridor have a different trajectory of occupation history than those which lie close to the river, and second, occurring slightly after Period Two, that settlement in large sites in the area south of Albuquerque virtually ends after the Pueblo Revolt. Focusing on the differences in settlement between Periods 1 and 2, Figure 5 shows that there are three areas outside the Rio Grande corridor (in the Jemez Mountains, the Piro area near Socorro and the Galisteo Basin) where population seems to have shifted. Some sites were no longer occupied during Period 2, but in each area many pueblos continued to exist and some new pueblos were built. It is difficult to know whether there were serious population movements or decline, or simply relocation. In the Galisteo Basin, the number of missions in the area doubled, from two to four, while almost half of the large Basin sites (Pueblos Colorado, She and Blanco) were no longer occupied, suggesting that there may have been a flight from mission presence in that area.

The southern portion of the entire Rio Grande corridor includes several peoples, named Piro and Tompiro (for their language groupings) and a region called Salinas by the Spanish. In the Piro region around present-day Socorro, occupation of a few large sites ceased in this area (Figure 5) while a number of new small late sites appear to the east of the Rio Grande. Some of these late Piro sites appear to have been situated for defensive purposes, as they are in locations that were not good for farming (Mera 1940). Two large pueblos to the west of the Rio Grande (Magdalena and Bear Mountain, LA 284 and 285) housed approximately one-third of the Piro population during the colonial period (Marshall and Walt 1984; Mera

1940), another example of Pueblo use of locations away from the river, probably to avoid the Spanish presence. The Piro population was reduced from 14 pueblos in the 1620s to four in the 1670s, at least in part because of the Spanish policy of congregation (Schroeder 1979:237), but also because of population reduction related to the Piro vulnerability to Apache attack and to their ecological situation—they were dependent on annual river flooding from the Rio Grande, and the end of the sixteenth century saw a severe drought (Schroeder 1965:296). In addition they were susceptible to European diseases; as the closest to Mexico of all Pueblo peoples and living along the route of travel, they would have been hit early and often by waves of immigrants carrying new pathogens (Ramenofsky 1996).

Benavides, a church official sent to monitor missionary activities in New Mexico, reports of the southern area that he had "baptized the majority and the important persons" before he left in 1630. Four missions he founded were apparently still in existence until the 1660s or '70s, as they are mentioned in various friars' reports (Ayer 1900: 62; Marshall and Walt 1984), each at one of the congregación pueblos remaining: San Luis Obispo de Sevilleta at Seelocu, Nuestra Senora de Socorro at Pilabo, San Antonio at Senecu, and Alamillo, about 12 miles north of Pilabo.

The area to the east of the Rio Grande, south of Albuquerque and roughly north of the Rio Salado, was called Salinas (or Gallinas) by the Spanish because of the presence of important salt deposits, and was referred to as "Tierras sin agua" (Miera y Pacheco map). Benavides (Ayer 1900) reports 14 or 15 pueblos in the 1620s housing 10,000 people, including Chilili (LA 847), Tajique (LA 381), Humanas (Gran Quivira, LA 120), Quarai (LA 95), Abo (LA 97), Tabira (LA 51), and Tenabo (LA 200), although one cannot take missionary population accounts at face value, since the friars were surely affected by the need to impress the Spanish religious hierarchy with their rate of success in conversions. Shortly before the Revolt, in 1672, four of these pueblos (Abo, Chilili, Tajique and Humanas (Gran Quivira)) were abandoned because of drought, famine and Apache attacks. Other sites in this area, such as Quarai, were also abandoned either permanently or for various periods; Quarai, like other Salinas pueblos, was no longer occupied by the mid 1670s. Churches were founded early (1613-1629) at Chilili, Abo and Gran Quivira (Scholes and Bloom 1944), but several were abandoned by the 1670s.

Slightly north of the Salinas region is the Western (or Southern) Tiwa area (Mera; Schroeder) which the Spanish called Tiguex; it extends along the Rio Grande as far as modern Bernalillo; it had 15 or 16 pueblos recorded in the 1620s. By 1640 to 1680 only three or four pueblos remained, a result of Spanish missionary policy and the fear of Apaches (Ayer 1900: 253). Isleta (LA 724), Sandia (LA 294), Alameda (LA 421), and Puaray (LA 326) were occupied until about 1680, and Sandia and Isleta exist today, but it is unclear whether or not they were continuously occupied (Schroeder 1979: 244; Haas and Creamer 1992), although they did have early churches.

In this area as well there is some evidence of a determination to avoid colonial rule. A few, mostly large sites noted by Mera (1940) south of Albuquerque, were built in a location reflecting defensive concerns. LA 489, which dates to the colonial period, is described as "a well-protected communal structure of late

occupancy built on an isolated mesa just south of Los Padillas" (1940:19), and LA 291 (probably pre-Revolt) was also defensively located. This site and a few other Western Tiwa sites were unusual in that they were not situated along river or stream courses (Mera)

Mera's Keres area on either side of the Rio Grande, with a western extension along the Jemez River (Figure 8), is characterized by two land types, high tablelands and the more heavily populated land along streams. Four important pueblos (three of them founded by Period 2) are still in existence today in this area: Santo Domingo (LA 1281), Santa Ana (LA 2049), San Felipe (LA 2047) and Cochití (LA 126) are all located along the river, as are a number of small late structures LA 7, LA 34, LA 46, as well as Potrero Viejo (LA 84), and LA 295. There is no comprehensive information about periods of occupation for these sites because they are currently occupied and occupants are "resentful of investigation" (Mera 1940:26). Limited material is known from Cochití where pottery from all periods was recovered (op.cit.: 27).

Mera believed that there is evidence for a significant reduction in population in this area sometime during the pre-Revolt period as 10 large sites were no longer occupied after 1515–1650. The Jemez Mountains area is known to have provided refuge in several large pueblos in elevated areas for many who had been involved in the Pueblo Revolt . Santa Ana and San Felipe were refuge sites and have been continuously occupied, Potrero Viejo above La Cañada (Lange 1990:8) was the refuge for people from Cochití, Santo Domingo, San Felipe, Taos, Picuris, and San Marcos (Abbink and Stein 1977: 156). Astialakwa or Guadeloupe Mesa Ruin (LA 1825), has a number of unconnected room blocks suggesting that construction may have been undertaken quickly, without planning (Elliott 1983). Boletsakwa on San Juan Mesa and Patokwa may also have been used after the Revolt, although the former also had an earlier occupation (Elliott 2002). While the Jemez mission remained in existence, some of the Jemez population presumably relocated to these upland sites. Some of this apparent loss of population is undoubtedly a temporary phenomenon, while some is due to a genuine reduction in the population as a result of environmental stress, drought and epidemic disease. Relocation continues in this area after the Revolt. Hopi, for example, was a refuge for people from Tano and Santo Domingo, and Laguna Pueblo was created by migrants from the same two pueblos (Walt 1990).

The Tano-Towa area includes a number of important sites within the Galisteo Basin, including Galisteo (LA 26) which survived until 1700, while San Lazaro (LA 91), San Cristobal (LA 80) and San Marcos (LA 98) were no longer occupied after the Revolt. Paako (LA 162), is an important site to the southeast of Sandia, with two occupations, the second being small and late (Lambert 1954). There are also some small late sites that may have been used for refuge. This is the region where, I suggest, the proliferation of missions during Period 2 may have led to local population dispersal.

Archaeological information to the north of these areas is limited. This is an area of intense modern settlement, which must have destroyed many sites, but because of the continuity of occupation, it is often not accessible to archaeologists. There was very little reduction in the number of occupied pueblos from Period 1 to

Period 2, in the area north of modern Los Alamos, while some new missions were founded. In Period 3, some pueblos were no longer being used, but the proportional loss is smaller than in most other areas. The pattern of settlement in this area on Figure 8 is restricted to a relatively small area; all sites were located along the Rio Grande or its major tributaries, and almost all were north of Albuquerque.

Changes in Period Three

This period shows the most dramatic changes in settlement. Figure 7 shows pueblos and missions that were occupied during Period 3, in 1700, beginning 20 years after the Revolt; Figure 8 indicates pueblos and missions that continued to be occupied during both Period 2 and Period 3. Figures 7 and 8 are quite similar indicating the continued persistence of these sites. Figure 9 is the most significant as it shows pueblos and missions that had been occupied during Period 2 but were no longer occupied in Period 3; there is only one new pueblo (LA 482), in the Jemez area, known to have been settled in Period 3, shown on Figure 10. In Period 3 the number of occupied pueblos dropped dramatically to 28, with 27 continuing to be used from Period 2 while 75 were no longer occupied and one was newly occupied. The number of missions also dropped to 15, but it was not as marked a reduction as that among pueblos; no new missions were constructed and 17 of those used in Period 2 were no longer in use in Period 3.

The differences between Periods 2 and 3 are much greater than those between Periods 1 and 2. A large number of pueblos and missions were no longer occupied. Many pueblo sites and missions that were occupied during Period 2 are apparently empty in the third period. The effects of the Revolt were particularly marked in the south, with a decline of settled communities in the area south of Albuquerque—the Piro and Tompiro regions—and the Salinas area. Some pueblos, or portions of them (Senecu, Pilabo and Alamillo), were reported to have been burned by Apaches around 1681 (Schroeder 1979; Hallenbeck 1926). Most scholars believe that after the Revolt the Piro area was largely abandoned (Marshall and Walt 1984; Schroeder 1979). Because the Piro lived at some distance from the Revolt organizers, they were not included in its planning; during the Revolt many of them fled south to El Paso with the Spanish (Schroeder 1979: 237). However, it seems that not all the Piro chose to go south. In 1696, a Piro living in Taos is reported to have been one of the instigators of the rebellion of that year; some residents of both Sevilleta and Pilabo are said to have fled north to Isleta or other pueblos.

Some efforts to maintain Spanish control after the Revolt are re-established in the area along the Rio Grande south of Albuquerque with the construction of new missions. One was built at Alameda (LA 421) in 1706, and one was begun at Isleta in 1710 after Tiguas, Tano and Jemez peoples settled there (Dominguez 1956: 203), the original residents of Isleta and Sandia having left the area for Hopi during the Revolt (Ayer 1900). The Sandia church was rebuilt around the same time (Hallenbeck 1926: 11; Ayer 1900: 254). It is fair to say that population was relatively unsettled during this period throughout all but the northernmost area of the Rio Grande.

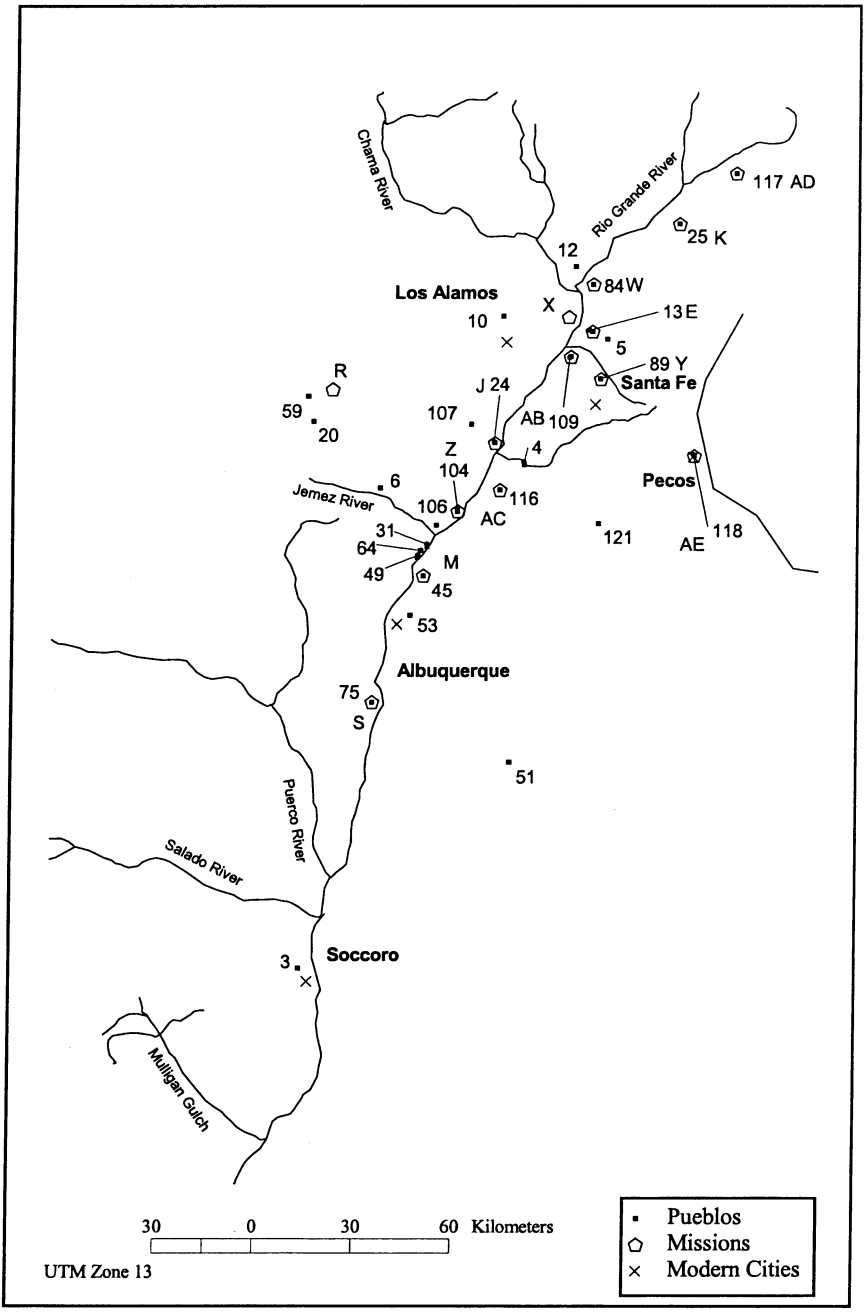

FIGURE 7. Pueblos and missions occupied after A.D. 1700 (Period 3).

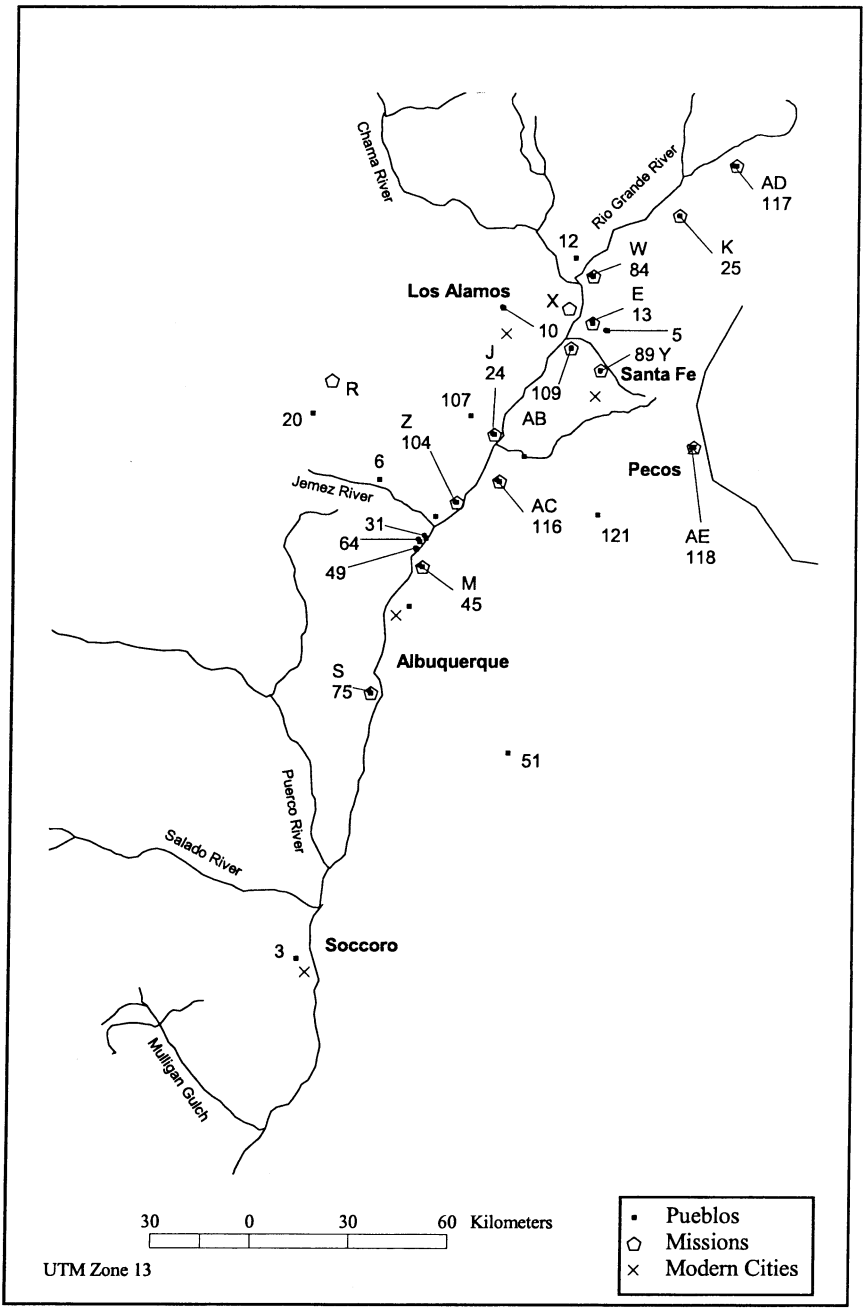

FIGURE 8. Pueblos and missions occupied during Period 2 and Period 3.

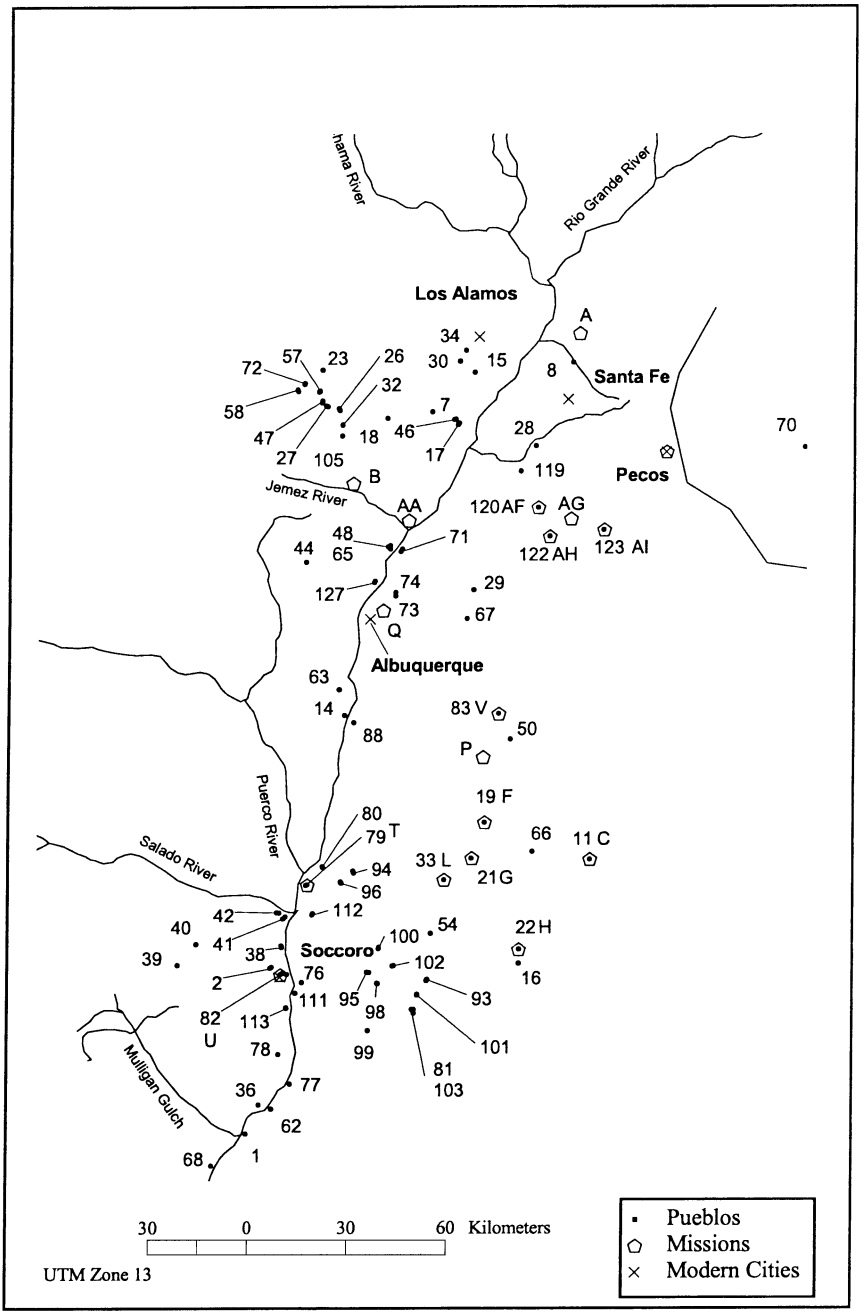

FIGURE 9. Pueblos and missions occupied during Period 2 but not Period 3.

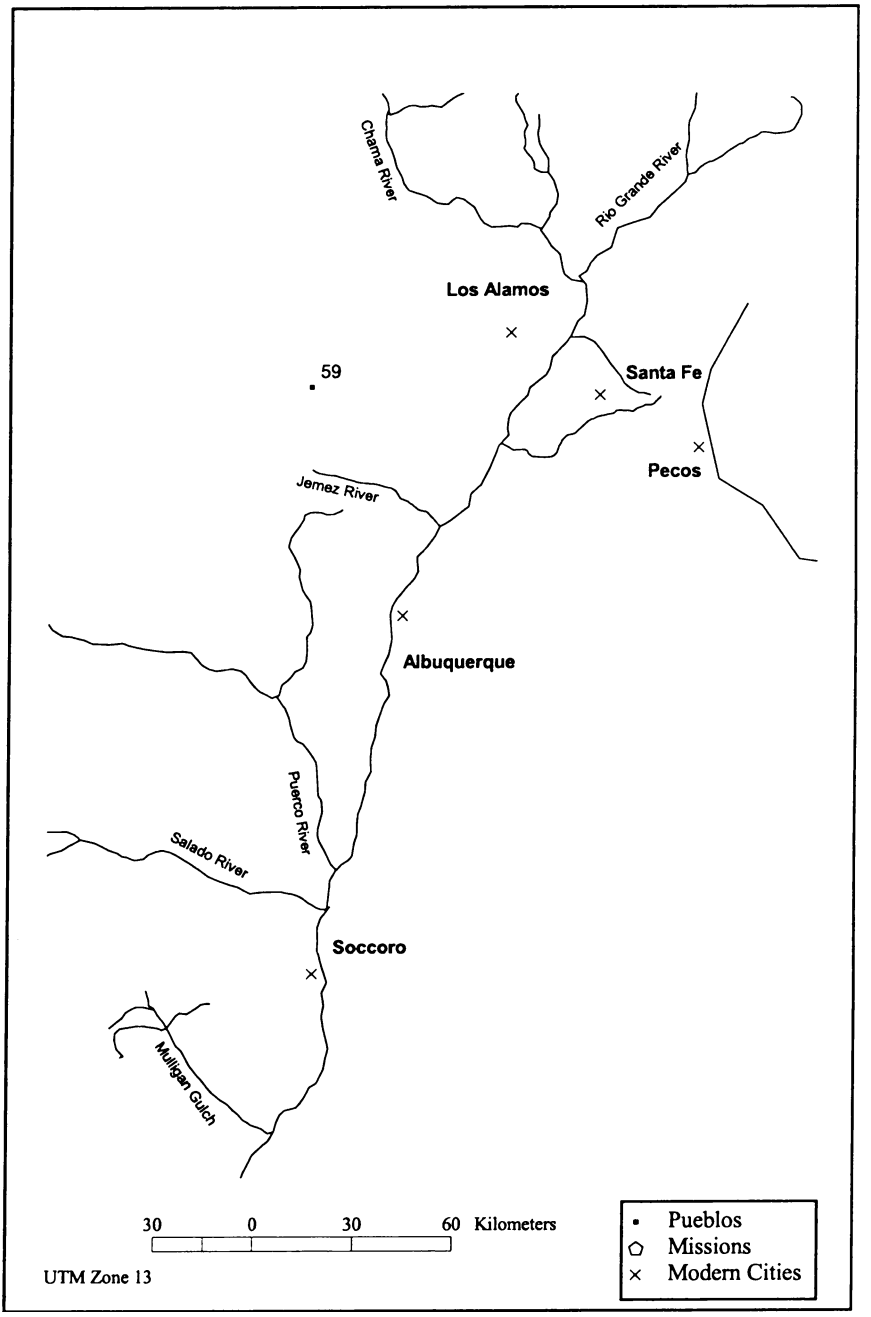

FIGURE 10. Pueblos and missions occupied during Period 3.

Spanish Community Types

Spanish settlement types consisted of missions, towns and ranchos, haciendas or estancias, but prior to the Revolt there were only missions, one town and a limited number of estancias (for livestock raising) granted by the king, the ultimate owner of all lands (Simmons 1969:7), to a relatively small number of families not associated with missions. There were also some small farmsteads (ranchos) but their locations were not recorded. Each type of community was located in reference to the resources needed for farming, for defense, and to enable control of the Indians. In the seventeenth century haciendas were placed to maximize access to good farm land and water, close to Indian settlements where the labor supply granted as part of encomienda was available (D. Snow 1992). These requirements brought them into conflict with the Pueblos who also had settled in places where water and good land were available Initially settlement rules differed in theory for priests and settlers. The missionaries (sometimes with garrisons) moved into pueblos, while settlers were supposed to stay at a distance and neither live on nor use Indian land. In reality the settlers wanted to be close to the conveniences of native goods and services (Deeds 1991); they also wanted to be close to missions. And pueblo lands were much more appealing than other lands to settlers: they had already been cleared, they often had better access to water than other areas, and houses had already been built. Most importantly, perhaps, even when settlers moved onto what appeared to be empty lands, tierras baldias, they were being used by the Pueblos for purposes other than agriculture or settlement: for collecting firewood and wild plants, for hunting game, as sources for clays, charcoal, thatch, and later for pasture (ibid.). We may assume from modern Pueblo practices that they also contained important ritual sites.

There was relatively little non-mission Spanish settlement; only eleven Spanish settlements or estancias, are known in the Rio Grande corridor between Socorro and San Juan in the mid-seventeenth century (Ivey 1988: 26); six were in Rio Abajo (the southern corridor), four were located to the south and two to the north of Socorro (Marshall and Walt 1984: 141). Only a few of the large haciendas created by fiat seem to have been actually settled. They apparently did not survive the Revolt and none are known archaeologically. The Spanish were forbidden to live in, or have their stock farms near, Indian towns (Hackett 1926: 85, 89), although this law was not always followed, creating increasing conflict over resources. The indirect impact of Spanish presence came through the introduction of domestic animals, which, as they foraged, trampled vegetation and compressed soils, making plant growth more difficult and increasing erosion, water runoff and the creation of arroyos (Calloway 1997:14).

After the Pueblo Revolt and into the eighteenth century, a new group of less affluent Spanish/Hispanic immigrants came to the Rio Grande valley and settled on smaller land holdings, ranchos or farmsteads, also given through grants, which were scattered and thus not in strict conformity with official Spanish policy (Cordell 1979: 115; Simmons 1969:10,11). Subsistence at that time involved a shift from a labor-exploitative system to one of land exploitation. Settlers rented land, brought sheep and hired herders to produce wool for the Mexican market (Abbink and

Stein 1977: 157). This new economic strategy was brought about in part because of the Bourbon Reforms, but more practically because the Indian labor supply (and population) had decreased while the Hispanic population had increased (Simmons 1969:11).

The only recognizable town for most of the seventeenth century was Santa Fe. After the Revolt, as the immigrant population grew, Albuquerque, Santa Cruz de la Cañada, and El Paso de Norte were also settled, Santa Cruz after the Tano were evicted from the river valley (ibid.). Throughout New Spain towns were supposed to be laid out on a grid plan, with certain other standardized aspects; however, the New Mexican towns did not conform to the supposed standard. Even Santa Fe had only one street in the late eighteenth century (Bustamante 1989: 65–78). The problem was that these towns, based originally on a Roman plan, were not suited to the southwest setting. Since the major resources of value in the country derived from agriculture, people wanted to be near their fields to protect them from predatory animals and raiding nomadic tribes.

Hispanic villages appeared during the eighteenth century, mostly within the northern Rio Grande area. Mid-way through the eighteenth century, a series of buffer settlements like Santa Rosa de Lima, Santo Tomas de Abiquiú, San Miguel de Carnué, Rancho de Taos, Las Trampas, San Miguel del Vado, San José de las Huertas, Tomé, Belén and Ojo Caliente were established around Santa Fe to protect the capital from marauding groups such as Comanches, Navajos, Apaches and Utes (Brooks 2002:130). These villages granted lands to groups of landless Hispanic settlers and genizaros ("detribalized" individuals who had been captured by nomadic groups and ransomed to work in Hispanic households). In spite of these new communities, the eighteenth century, as depicted on the Miera y Pacheco map of 1779, shows many areas abandoned, as raiding increased and the frontier shrank (Simmons 1969:17). This situation persisted until late in the eighteenth century, when a combination of treaties with tribal groups, (notably the Comanche, Jackson 1998), a smallpox vaccination program and increased immigration expanded settlement (Frank 1998: 37).

Landscape

The Spanish landscape in New Mexico was entirely new in the late sixteenth and seventeenth centuries, having been created by their invasion of the territory of native peoples. Their view of land was organized around several concepts, primarily its economic potential but also the manner in which it was owned. They would have perceived land as appropriate for specific activities: farming, preferably along rivers; grazing; and upland areas where wood and other resources could be obtained. Cross-cutting these divisions were others which classified territory into municipal lands; common lands surrounding town lots (ejidos); pasture lands, also in common; fields, both irrigable and non-irrigable; and private parcels, both in town and for farming (Simmons 1969:7; Church 1999). The importance of water as a resource in this dry climate meant that water rights from the main ditch, the acequia madre, were also parcelled out, along with joint responsibility for its

maintenance. There are communities in northern New Mexico today where these rights are still held and fiercely protected.

The presence of corrals, which were a Spanish innovation associated with the domestic animals they introduced, is associated with the concept of private property, alien to the Pueblos. It has been suggested that the relationships between people and animals are an important aspect of human life (Mullin 1999). In bringing domestic animals—sheep primarily, but also horses and cattle, and large dogs, greyhounds and mastiffs—the Spanish expressed their view of these animals and the land. Both were subservient to people, and both could be moved, manipulated, and used to express the will of their owners and users. Horses and large dogs were also used as instruments of power and terror against indigenous peoples (op. cit.: 4). The Pueblos saw animals as part of the natural world, having a place in that world and considerable autonomy, not as creatures which they could control. Pueblo hunters express gratitude to animals they have caught through ritual. At least one writer refers to the Spanish "conquest of the landscape, [which w]as a form of violence—this was a war waged with plants, mammals, and microbes" (Taylor and Pease 1994:5) resulting in illness, hunger, destruction of natural resources and especially the appropriation and redirection of water. The Spanish tried to eliminate indigenous irrigation systems and check dams, as they introduced new crops requiring acequia irrigation.

The Spanish/Hispanic landscape would have been both narrower and more linear than the Pueblo landscape, connecting specific places in New Mexico with one another and with places in Mexico, but confined to known routes. Their ideas of possession of land and buildings on it are reflected in documents:

> "I ordered that acts of possession for the holy churches and conventos standing and established in the pueblos of the kingdom of New Mexico be kept, carried out, and fulfilled. The same should be done for sufficient land to plant the crops required for subsistence. (Kessell, et. al. 1992: 263)

The Spanish world was structured by four cardinal directions, the Pueblo by six (adding up and down to north, east, south and west). The Pueblos also viewed their lands in terms of activities, but included many more categories: the locations of other clans, trading partners and routes to find them, short- or long-term allies, traditional enemies, and historic and sacred places (apart from kivas) would all have been part of the Pueblo landscape. Subsistence activities went beyond farming to collecting a range of wild resources and the places and times to find them. Both groups inscribed the landscape with their religious beliefs and worldview, including ideas of cause-and-effect, origins, history and the after-life.

Architecture

The form of Spanish towns and villages was prescribed. They were meant to be fortified, have rectangular blocks, and one or more rectangular plazas (Simmons 1969:8,12), although they did not always conform to the ideal. The size of the

community was standardized (Cordell 1980:46), as was the spacing between the church and secular buildings (Hackett 1923:187). The town ordinance of 1573 laid out a set of 148 rules for city and political planning; the Spanish believed that by settling indigenous peoples in towns, they could be better controlled and civilized (Jojola 1997). The Pueblos already lived in aggregated settlements that looked like towns, hence the name assigned by the Spanish. However, the layout of indigenous communities was architecturally distinctive from the Spanish, in spite of the fact that both had geometrically-ordered, walled, multi-story communities with central open spaces. Pueblo settlements varied in size and cohesion; houses were not regularly spaced; and they did not necessarily have a plaza mayor, or central place: often there were several plazas, some with kivas. In many instances the structures were contiguous, creating a defensive perimeter similar to the wall that was supposed to protect Spanish towns. Some were composed of unconnected room blocks, while others were apparently planned and built in a coordinated way. Small isolated farm structures were probably used seasonally, whereas most settlement was in year-round communities. Further, Pueblo settlements differed from towns in social ways, as the Pueblo formed socially cohesive communities, structured by kin, clan and secret societies. Spanish towns, especially immigrant towns, were often composed of unrelated families, hierarchically and occupationally stratified, although some cohesion probably developed from hardships endured together and institutions such as compadrazgo, which united people by fictive kinship ties.

Archaeologists sometimes find it difficult to distinguish Spanish and Pueblo settlements. Each group is known to have occupied settlements created by the other, although it was more common for the Spanish to occupy or remodel a portion of an empty Indian pueblo than for Pueblo peoples to live in Spanish structures. The practice probably occurred for pragmatic reasons but could also have been part of the Spanish practice of superimposing their structures on indigenous ones to indicate dominance. In terms of architecture, both built rectangular rooms, although Spanish rooms were, on the average, larger and squarer than pueblo rooms (Earls 1986:16; Lambert 1954:22; Marshall and Walt 1984: 139), with taller and thicker walls, and differently placed and designed doors and windows (Ivey 1988). Construction materials were also similar; the Spanish were familiar with mud brick architecture, originally from North Africa, and sometimes built mud brick walls on stone foundations. The Indians, too, used both stone and adobe prior to Spanish contact. Certain details can be used to identify Spanish and/or Mexican influence in addition to the grid layout, "elements such as courtyards, portals, and corral enclosures" (Marshall and Walt 1984: 139), corner fireplaces, or fireplaces along the wall, and doorsills. Spanish homes had benches and more furniture than Pueblo homes (Lambert 1954:38). The presence of corrals, whitewashed plaster on walls or floors, and selenite for windows also mark Spanish or Hispanic homes. The use of mold-made adobes, the placement of the hearth and room size may also indicate Spanish occupation, although none are totally consistent markers. Some of these traits were observed at the seventeenth-century household (perhaps the home of Lujàn, the teniente, or assistant to the Alcalde Mayor, of Cochití pueblo) at LA 34, in Cochití Springs (C. Snow 1979:219), and at LA 9138 and LA 9139, both

occupied between 1750 and 1800 (ibid). It is unclear whether Spanish and Pueblo uses of domestic space were similar. Pueblo rooms were typically multipurpose rather than single-purpose. Archaeological analysis of the location of activities has not been conducted but would be useful in differentiating the division of labor and other role distinctions.

The key element in identifying Spanish influence is the presence of churches, chapels, and garrisons. Spanish churches in New Mexico are quite different from their European antecedents, and while some have suggested that this is due to the difficult environment, leading to simpler forms, Hanlon suggests (1992) that the mission churches are the result of a fusion of Spanish and indigenous ideas and beliefs about the sacred, possible because those building the churches were Pueblos. He sees churches as conveying a mixed message, reflecting the arrogance of colonial domination in their scale and placement in the midst of the pueblo but, at the same time, sharing some attributes of kivas. For example, they were oriented on a north-south axis, closer to the axis within a kiva than to the traditional Christian east-west orientation. Hanlon also cites Ivey's analysis (1988) of the kivas found within patios at Abo and Quarai, interpreting it as suggesting a desire on the part of the friars to coexist, based on evidence that those kivas and churches were built at the same time (see above for alternative interpretations of this phenomenon).

Conclusion

Examination of the placement of indigenous and European settlements in the Rio Grande River Valley indicates the Spanish goals in settling the area. The indigenous landscape was impacted in a variety of ways. The invasion of Pueblo space produced strategies of avoidance and resistance among the Pueblos, and great numbers of domestic sites ceased to be occupied. European colonizers entered Indian lands to create entirely new places, although they attempted to use familiar models to do so. The climate and resources in the Rio Grande valley limited settlement, but the Spanish managed to impose their settlements to a considerable degree. Perhaps most significant, as seen here, is the dramatic evidence of the clash between indigenous and European constructions of the landscape, including perceptions of the land and ideas as to how best to use it. The southwest today retains the mark of that conflict.

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4
A New Landscape for Cultural Heritage Management: Characterisation as a Management Tool

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Introduction

Landscape has become an important area of endeavour for archaeologists, both for research and preservation (for example, among more recent overviews, Muir 1999, Knapp and Ashmore 1999 , Ucko and Layton 1999, Fairclough et al. 1999, Fairclough and Rippon 2002, Rippon 2004). Unlike many other parts of the archaeological (or cultural heritage) resource, however, it also 'belongs' to many other disciplines, and indeed to non-experts. Its wide field requires interdisciplinary research and wide-ranging partnerships. Archaeologists can contribute a great deal to this broad 'landscape', but doing so brings archaeology into contact with many other disciplines that have their own theories, practices and objectives and which are also struggling to become more inter-disciplinary (Palang and Fry 2003). This chapter is partly about the implications of this encounter with other disciplines.

Inter-disciplinary work at landscape level encourages critical review of ideas or behaviours that have been taken for granted, especially in the field of preservation or management. Such reflexivity might change how the cultural heritage resource is explored, explained and exploited, and might widen the range of things that are studied by archaeological methods or emphasise the value of studying recent material culture as well as ancient. More fundamentally, working through landscape might change how archaeologists perceive the role of past material culture in the present day. The ubiquity of landscape might lead to reconsideration of the best spatial scale for managing the resource. One of this chapter's main themes is that working at landscape scale requires new objectives.

This chapter is not a methodological discussion, but its ideas are set within one particular way of looking at landscape that is known as Historic Landscape Characterisation (HLC). HLC was designed to help with managing change in the whole landscape in ways that are rooted in sustainability and integrated management. It uses principles and objectives that differ from those used in traditional monument-based protection (Fairclough 1995, Bloemers 2002, Fairclough 2003a) This focus on HLC, however, is not intended to suggest that other types of landscape archaeology (such as detailed reconstruction of past environments at extensive scales, the exploration of past societies' mental landscape) cannot be equally useful and

rewarding, especially in relation to research and understanding historic landscapes. (Ashmore and Knapp 1999; Muir 1999)

In most countries of Europe (and particularly in the UK or more accurately England which is the particular perspective of this chapter), all landscape can be seen to be 'cultural' and little of it as truly natural. Almost any piece of territory, and the character of its biodiversity, can be shown to be the product of centuries and millennia of human actions or of human interaction with nature, whether through deliberate design or the indirect result of behaviour and actions. One reaction to this, because virtually no true wilderness remains, has been the creation of a new category of land - 'wild-land', land where people consciously leave room for 'Nature'; in landscape management terms, the recreation of lost habitats and attempts to restore biodiversity is very fashionable. Another reaction, at least since the1940s in the United Kingdom, is characterised by the almost casual use of the word 'countryside' as if it was a synonym for landscape. Once a simple geographic term, countryside is now a label for a particular form of rural nostalgia. It evokes feelings of loss and nostalgia, and a vanished 'golden age' of rural idyll, as powerful drivers for landscape preservation in an almost wholly urbanised society. If Heritage is a problematic word, so too is Countryside, but where heritage boasts a massive critical and analytical literature, countryside is very largely taken for granted.

Cultural heritage and archaeological resource managers have not, on the whole, worked out a distinctive and consistent response of their own to landscape change, but instead shelter behind objectives developed by amenity and nature conservation lobbies. One underlying theme of this chapter, therefore, is what a more specifically-archaeological response to landscape change might be; this paper's answer is that it should reflect archaeology's interest in past processes and change, and should not oppose all future change. Preservation is a concept suited to monuments and buildings, to fabric and collections; landscape requires something more subtle.

Concepts

Defining landscape has traditionally been as problematic as defining a response to threatened landscape. Landscape definitions have generally been quite narrow, fitting a particular disciplinary or aesthetic standpoint but being difficult to adapt to other contexts. Landscape is inter-disciplinary, but most definitions have been mono-disciplinary; additionally, definitions exist to control ideas, to divide a whole into components and to exclude what does not fit their template, whereas the concept of 'landscape' is fluid and inclusive, synthesises rather than splits up, and invites an opening up of thought and ideas. Landscape's strength and principal interest is that it is open-ended, inclusive of people's perceptions and of things, and unifying and integrating; rigorous definitions of such a concept can be counter-productive.

If landscape must have definitions, then, they should be about perception. They should be based on how people look at and experience the environment when

'constructing' landscape, not on the material things that we think it is comprised of. It is usually more useful to describe landscape—in word or image, through narrative or by description, whether anecdotally or comprehensively—than to define it. Definitions should be 'loose-fit', high level and broad, reflecting landscape's own infinite diversity and thereby being potentially inclusive and applicable to as many contexts as possible.

Before definition, however, a conceptual position needs to be taken on landscape. For archaeologists, 'landscape' should not merely be the study of archaeological remains at 'landscape-scale' (itself a problematic concept), nor simply an interpretative (or, via 'setting', a physical) frame of reference for sites. Nor is landscape in any sense a 'thing'. It is not one of the categories into which the cultural heritage resource might be divided, such as buried remains, earthworks, buildings, sites, monuments. Landscape is more than an issue of scale or size; it is not simply the largest element of the archaeological resource. Models that place landscape at one end of an archaeological continuum of scale or complexity (eg artefact to deposit to site to monument to complex to landscape or, eg Darvill et al. 1993 or Rippon 2004, 19) miss the point. Landscape is a way of seeing and understanding all these things (and many others) but it is itself not one of them. It is an overarching idea: a cultural, mental, emotional or intellectual concept which even if constructed from material objects in the environment nevertheless resides in perception (eg EPCL 2003).

In this chapter, a distinction is drawn between environment and landscape. Both exist everywhere and both can include an infinite range of comments and facets. Both are holistic and need interdisciplinary study, and both will only respond to management that recognises their dynamism. But whereas the environment (or land, or country, or territory) is a physical and material thing that can be measured and quantified, and about which there is often a single scientific truth to be discovered, landscape is ideational, exists in memory and perception, and is highly personal. It seems unlikely that the same cultural heritage resource toolkits will work for both environment and landscape.

Landscape is thus substantively different to other parts of the archaeological resource, and needs to be seen as standing apart from conventional ways of categorising and managing the archaeological resource. This is especially true if inter-disciplinary working, a pre-requisite for integrated and holistic management, is to be successful. It is from this initial concept that the question first arises of how (and whether) landscape can be protected in the conventional sense of that word.

The view of landscape as a matter of perception is central to a new, inherently inter-disciplinary approach to landscape definition and understanding that has become widely accepted in the past decade or two in Europe. This is summarised in the European Landscape Convention (the 'Florence' Convention), the first European instrument (and perhaps the first in the world) to be devoted exclusively to landscape as sees landscape as common heritage. Issued in 2000, the Convention won wide support rapidly and is already in force (at April 2005) in 17 ratifying countries while a further 12 state signatories are working towards parliamentary ratification Council of Europe 2000). While not a cultural heritage

Convention, it has a broad audience and appeal and speaks to archaeologists as well as others.

Conventions need definitions to clarify their sphere of application, but the Florence definition achieves this concisely, flexibly and inclusively, whilst preserving the concept's open-ness: landscape, it says, "means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors".

The Florence Convention is also forward-looking and inclusive (democratic) in its intentions. It recognises the need to allow and to guide, even sometimes to facilitate, future landscape change. It includes no criteria for outstanding landscape for example, and indeed states the opposite, that its measures and guidance are relevant to the entire territory of any country that signs the Convention, not only in outstanding but also in everyday or degraded areas. Landscape exists everywhere, but policies based on protection cannot be applied everywhere and nor are they effective when faced with something as ideational, dynamic and ever-changing as landscape. The human/nature interactions that lie at the core of landscape are still continuing, and landscape contains not just inanimate cultural remains but also living cultural components—trees, hedges, land cover. It thus seems clear that the goal of resource management cannot logically be only preservation or protection. Either too little will be kept (artefacts within an inappropriate setting), or too much (and landscape will be fossilised). Traditional methods of protecting fabric are appropriate and necessary for monuments or buildings, but landscape is philosophically different to those things and a more dynamic form of sustainable management is called for. This can be characterised as being concerned with managing change rather than managing things.

Perceptions of landscape change continually, too, and also need some form of 'management', although this is an even more difficult area. A more accurate way of describing this process might be to say that perceptions and how they change become interesting fields of study in their own right, and one that can inform landscape management. For example, (but it can be repeated in many areas of Europe's economically marginal uplands) many of the central French uplands, such as the Causse de Gramat, for instance, were only a century or two ago highly-nurtured closely-managed open landscapes of stone-walled sheep runs. In the absence of shepherds, they are reverting to scrub and tree cover, and more interestingly are coming to be regarded as natural semi-wilderness by the tourists whose coming and goings are rapidly becoming the primary human-nature interaction of the 21st century (and, of course, contemporary archaeology for those who wish to study it).

It is unlikely that the area can ever revert to historic farming patterns (and in any case there are earlier hidden layers of landscape here as well, megalithic tombs as well as medieval sheep-runs), and perhaps they should not be, but it is useful and valuable to expand perceptions to include the memory of the human actions (and recently inactions) that have created this 'natural' wilderness. Earlier 'layers' remain understood and valued as part of modern life, rather than being 'relicts'; understanding historic landscape character can both change perceptions and influence management. As things stand, however, the management regimes implicit in the

legal status of these areas as 'Regional Natural (sic!) Parks' (or, for that matter, in the UK until recently, in Areas of Outstanding Natural (sic) Beauty) are putting the cultural history of these landscapes under pressure just as much as modern farming techniques change landscape character elsewhere in France and Europe.

The Convention recognises the need for some methods of landscape protection, of course, for specific features or components or against particular threats, but not as the only or main way of looking after landscape. The Convention therefore also recommends two other types of instrument, landscape planning and landscape management. These are potentially more important because they can bring landscape management into mainstream areas of spatial planning and socio-economic political decision-making.

The first of these, 'landscape planning' is concerned with helping landscape to evolve further, and with deliberately changing landscape in an attempt to improve it where society considers that necessary—'strong forward-looking action to enhance, restore or create landscapes'. This is conservation and preservation as a social and economic driver, landscape practice as design.

'Landscape management' on the other hand is concerned with the regular and sustainable 'upkeep' of landscape, to 'guide and harmonise changes which are brought about by social, economic and environmental processes'. This approach, through methods such as spatial planning, biodiversity conservation or cultural resource management, is the most relevant way of managing landscapes under pressure. It sidesteps the pitfalls of fossilisation and what might be called 'museumification', and it takes what is probably a healthy as well as an archaeological view of the inevitability and inherent interest of change.

Behind all their apparent concentration on artefacts and sites, archaeologists are most interested in people, and in the processes of human, social and cultural change, even in 'historical' periods. Studying landscape changes as they happen as well as in the past is an important part of archaeology (and of anthropology, if that is at all distinct). It requires the sort of historical and cultural explanations that are archaeology's speciality. Change in the past is a central part of landscape's character, and current and future changes will add things to the archaeological resource, often quite rapidly as 'contemporary archaeology' shows). Age is not a defining factor of the archaeological resource, and archaeology is no longer as its name suggests the study of old things, but of the material remains of the past in the present¸ a past that may be very recent or even contemporary. Part of the archaeological response to landscapes under pressure, therefore, is to use archaeological methods to study current changes themselves, and to be witnesses to change (its causes and effects).

Characterisation

Many tried and tested methods exist for protecting the cultural or archaeological resource at site and monument level, both by laws dedicated to the cultural heritage and through other measures. This section mentions some of those in place

in the UK (mainly in England: even in the UK there are distinctive differences of approach, eg Cadw et al. 1998), which may not be typical because practice differs in, for example, France or the USA, and central and eastern Europe both before and since 1991 (eg Griesbachh-Naisant, D. (ed) 2003, Fairclough and Rippon). In the UK, specific legislative controls include scheduled monument or listed building consents, supported by site survey, inventory, criteria-based designation, but few protect landscape in its wide sense, other than 'designed landscapes' (Fairclough, G. J. 1999b). The UK system is currently undergoing major reform in England partly because such methods seem to be reaching natural limits as conservation aspirations grow. Protection as part of broader laws includes notably the Town and Country Planning Act, under which development control influences whether threatened sites are preserved, excavated or destroyed. There have been recent innovations such as Conservation Plans and environmental impact assessment. The new challenges that landscape brings—notably, landscape's 'everywhere-ness', its holistic character, its dynamism and the desirability of managing change not protecting fabric—needs new tools of resource management (Teutonico and Matero 2003). Characterisation—and Historic Landscape Characterisation—is one.

The UK's conservation systems grew up since 1947 in a climate of a mixed 'economy'; a delicate balance between public and private interests, between heritage-specific measures and the general spatial planning process, between market forces and planned social benefits. Part of the balance was relatively firm protection in limited defined circumstances (eg listed buildings or National Parks), but slighter (or no) influence over change anywhere else (ie for buildings not deemed to be 'nationally important or special'); only 'PPG16' (development control procedural guidance for archaeology) broke from this mould, and only in the context of mitigation by excavation. During the late 1980s and the 1990s, the balance was challenged from both sides: resurgent championing of market forces through 'Thatcherism'; and a growing concern (the 'local distinctiveness / Common Ground movement', PPG16 and sustainability principles) for un-designated 'ordinary' things and places (English Heritage 1997, Historic Environment Review, 2000)

The development of HLC also grew out of a more general shift of focus from points to areas, that is from individual buildings, habitats or sites to setting, eco-networks, landscape. This was partly a result of the recognition of the importance of context and partly because conservation's greater popular support began to demand a wider applicability. It enabled a more comprehensive view of heritage, from which grew the concept of characterisation. Characterisation—initially value-neutral but multi-use, including subsequent use for assessment, comprehensive and area-based, potentially socially inclusive, designed to help people to understand and look their environment's historic dimension—is thus parallel and complementary to traditional monument-based approaches, and is inherently suited to landscape (Countryside Commission 1998-99, Fairclough in press (b)).

The impact of very large scale ('strategic') development, for instance, which in practice is often unstoppable (it has to go *somewhere*) needs to be assessed, by virtue of its sheer scale, not only in terms of the few special buildings that might be affected but in terms of its effect on the landscape as whole. If fundamental

social and economic processes cease (eg pastoral agriculture, urban life) or if new ones are proposed (new ex-urbs or settlement, industrialised arable) then the heritage management response simply cannot be confined to the fabric of a few sites; it needs to encompass a broad view of landscape, to amend its objectives and to become part of the process of change instead of simply opposing. The lost fight against the domestic conversion of barns is a case in point: agricultural uses vanished, and domestic stepped into their place as part of a wider urbanisation of the countryside with roots deep in car culture- how could fabric be kept unchanged without process in this case?

Characterisation is a shorthand for how to cope with large-scale change (EH 2005). Instead of only retreating to fewer and fewer museum sites or protected buildings where the future can be held at bay, characterisation proposes a different type of aspiration on a broader canvas. First, it encourages generalisation and synthesis, reminding us of the value (if not the necessity) of a generalised and broad-brush understanding of the whole of an area rather than only detailed knowledge of the fabric of some components. Site data has less value without wider context. Characterisation also proposes that context can be as significant as intrinsic quality. Humble, ordinary buildings can make a bigger contribution to local character than nationally important icons. Second, it is a method best-suited to larger areas and landscape, where interactions, context and patterning can be recognised. Landscape (or townscape) reflects a thing's contribution to a wider sense of place. Third, characterisation facilitates wider involvement. It more readily draws in other communities of interest and place than sectoral and specialist approaches such as archaeology or the connoisseurship of architectural history. It also facilitates involvement of heritage management within the process of change by providing understanding designed to help guide and manage change and shape the future as well as preserve the past. Characterisation is thus a way to embed the management of the cultural heritage more deeply in social decision-making.

In this wider landscape of cultural research management, it may not be enough to say that a threatened area has value; what is needed is a more sophisticated and complex analysis that looks at heritage resources in the wider context of their contribution to local landscape, sense of place and character and which asks how new development can respect all of this instead of merely avoiding the 'best bits'. Merely identifying value (or confining Conservation Plans for example to within the boundaries of a recognised cultural asset) does not create common ground in the wider landscape beyond the valued asset. Even if successful, saving one area simply pushes development into another part of the landscape, and unlike monuments and sites, landscape has no edges or boundaries. Protecting specially-valued sites in isolation encourages confrontation rather than dialogue between those (including archaeologists) who may wish to preserve and those (such as developers or landowners) who may wish to change things. Confrontation might 'save' a single building, but it is less likely to produce the higher level of wider influence over decision-making needed if the historic character of landscape is to preserved.

Landscape, in contrast, when seen holistically and conceptually as the interface between people and place, and as an ever-changing perception, is an arena for

debate for discussion about the future in a way that a list of special protected areas rarely is. In the UK, for example, major Government strategic plans to extend Greater London by schemes such as Thames Gateway or the London/ Stansted/ Cambridge corridor, with their plans to create whole new cities by building several hundred thousand new homes, threaten comprehensive and fundamental change to large tracts of territory. Initial planning was focussed on areas to avoid, mainly high quality attractive countryside (none of them specifically cultural assets), on the grounds that a few important buildings and monuments could be singled out later on for protection once the main outline of the development had been decided. This is very well-established procedure in other respects, and one which has been quite effective in protecting special buildings, but it neither addressed the issue of landscape nor placed cultural resource management within the planning process itself, except in the role of a special interest objector. The process of characterisation is therefore trying to move on from that position, by producing generalised overviews of the historic landscape of the whole area, measuring area-based sensitivity to change and beginning to challenge the view that the historic environment consists of a few special buildings that can be considered when the plans are well-advanced (eg Croft 2004, Went et al. 2003, Green & Kidd 2004).

For this much larger landscape-based debate, concepts such as context and sensitivity may be more useful than inherent value. Instead of only avoiding special sites, it is better for conservationists and decision-makers to consider ways of fitting new development into the whole landscape as sustainably as possible. This might not always include keeping all its historic fabric, but in most cases special places will be protected through the wider approach at least as well as or better than using protective designation that separate them from wider planning and design. In historic and cultural terms, it might be suggested that 'landscape sustainability' is not wholly about preserving the fabric of the land but concerned too with maintaining of the legibility of the past in landscape, passing on to those that follow us the ability to read the past in their future landscapes.

The character-based approach to managing the landscape requires, so far as this is possible, that landscape is first understood 'neutrally ' by accepting that all areas have landscape character and celebrating their differences. It is important to do this before deciding that some areas have more valued than others, because all are probably valued by those who live in them. This is neither a plea for objectivity, because landscape and its understanding are by definition subjective, nor for relativism, simply that one of the ways in which landscape differs from other parts of the archaeological resource is that valuation should take place in respect of proposed changes, not in isolation. The effect of change should be measured, not the value of the starting point.

Neutral in this usage therefore means neutral in terms of imposed relative values and aesthetics. Whether a landscape is a protected or designated zone is not a part of its character, but one response to its character. Evaluation and other priority-based decisions need to be made both later and separately, preferably at the point of need as an assessment of the impact of known proposed changes, and they must therefore be closely contextualised (ring-fenced) within clearly articulated objectives. At

that stage value becomes a useful tool. This approach is now recognised by the national guidance on character assessment by landscape architects in England and Scotland, which recommends that characterisation and assessment are separate stages, the latter defined by its particular objectives (Countryside Agency & SNH 2002).

Clear objectives are crucial in landscape. We all know what is meant by 'saving' a building. What is the equivalent for landscape? We cannot 'save' landscape because it is always changing, and it is an idea not a thing. As mentioned earlier, landscape is significantly different to other parts of the archaeological resource; there is every reason to think that traditional objectives and methods of preservation will not apply. Landscape aesthetics is an interesting subject in its own right, but any set of guiding rules, or way of admiring, appreciating or understanding landscape, is historically specific. The Picturesque or the Sublime were products of their time and of their social and political context; and so too is the term 'countryside', with its inherent backward glance to better landscapes. Ecologists have their overarching framework for landscape management, again conservative, in the concept of biodiversity and habitat recreation; where is the equivalent for archaeology and cultural resource management?

An aesthetic for historic landscape—agreed approaches for appreciation, use and management—need not be nostalgic: archaeologists above all others can demonstrate that the past was not better than the present, just different; that landscape change over the past 50 years was extensive but not uniquely so; that any attempt to return landscape to a previous form has no authenticity to recreate but can only create new landscape. In short, today's landscape is simply a snapshot taken on a long journey whose start cannot be remembered and whose end is not in sight.

An archaeological aesthetic of landscape would start by treating landscape as a resource for knowing the past, and for connecting the past to the present and to peoples' everyday life. It might build on the key cultural characteristics of landscape of time, human agency, social process and change to emphasise change not destruction, creation not loss, interest and evidential value not beauty, human agency not nature, and historic cultural choices over geographical or topographic factors. This would sit alongside traditional cultural heritage preservation to protect archaeological remains and deposits at site scale; it would be an alternative but complementary landscape scale response to change and 'loss', or to change and 'creation' (Bradley et al. 2004).

In the UK, English Heritage and local authority archaeology / historic environment services have developed Historic Landscape Characterisation as a way to help with managing change at landscape scale. HLC follows a number of broad principles that make it different to some conventional archaeology. It deals with the historic dimension of the present day landscape, not with the past 'landscape', and in so doing it treats the past (all pasts) as still present. It deals with areas and patterns not with sites and settings. It regards all aspects of the environment as cultural in one way or another, whether because it is 'built' or humanly constructed, or because it is humanly-modified (managed trees, the location and existence of woodland, the content of biodiversity). Even the way in which human intellect or

emotion turns even remote and pristine environments, such as mountain tops into landscape simply by virtue of observation, can form part of HLC.

HLC is a spatial tool that is designed to produce a generalised overview of the historic and archaeological dimension of landscape everywhere. It does this relatively quickly from desk-based sources using GIS, which gives both great flexibility and multiple applications. It operates through the interpretation and synthesis of existing knowledge. It studies, for example, non-site archaeology and patterns of land cover and land use such as hedgerow patterns and distribution of woodland, not sites or their distribution, and in so doing it also fills a major lacuna in traditional archaeological records. When completed, it provides an analytical backdrop for understanding the survival and discovery biases unavoidably inherent in archaeological databases (Sites and Monuments Records) and thus to some extent a predictive modelling tool. HLC uses little new field work, which can come later HLC provides a new interpretation which, like all characterisation, offers frameworks and platforms for further action. Where necessary HLC tries to go beyond existing knowledge by extrapolating from where we have data to where we do not. In this sense it is modelling.

Studying large areas rapidly in order to achieve comprehensive coverage, however, requires a high degree of generalisation (though, interestingly, much more detailed other forms of landscape character assessment). This is one reason why HLC does not replace conventional forms of landscape archaeology, although it provides a new framework for them; it is also one of the reasons why other disciplines find it more accessible, important for a topic so fundamentally and intrinsically inter-disciplinary. HLC is designed to translate archaeological perspectives for other disciplines, and it does this not just by synthesis and simplification but also by conversion to a spatial level and by using a common language of landscape. Before HLC, archaeologists were failing to influence the wider appreciation of landscape that was influencing land management policy because they were offering site lists or distribution maps (point data), or specialist and detailed landscape archaeology surveys of quite small areas, data that cannot be translated into area data in ways that are meaningful to landscape. HLC was envisaged therefore as a landscape-scale interpretation of the historic environment that could be used by other landscape disciplines, 'packaging' archaeological knowledge and interpretation so that non-archaeologists—other landscape specialists, planners, land-owners and land-managers—could more easily use it in practical ways.

Much more could be written here about the mechanics of HLC, and about its uses, but this is not a methodological paper and there is a growing published and cross-referenced literature. (Herring, P., 1998, Fairclough et al. 1999, Dixon et al. 1999, Fairclough 2002a, Fairclough and Rippon 2002, Dyson-Bruce 2002, Aldred & Fairclough 2003, Macinnes 2004, Fairclough & Macinnes 2004, Rippon 2004, EH 2005). Suffice to say that the result of an HLC project (which in England usually covers a whole county, usually between 2,000 and 4,000 sq km, but is also being carried out in slightly different ways in Scotland and Wales) is a complex GIS with multiple outputs that can be used to write thematic or area-based narratives

as well as cross-referenced to Sites and Monuments Records. New developments are taking the method onto the seabed as far as the edge of territorial waters ('seascapes'), and ways are being explored of using it as the platform for landscape-scale understanding of the traditional rural architecture of areas. It is being found to have valuable practical applications in most areas of spatial planning, heritage management and research and education (Clark et al. 2004).

A final aspect of HLC worth mentioning in this summary is Hits essential subjectivity. HLC creates interpretation not data. This stems partly from the idea of landscape as perception, but also from HLC's goal of helping with the management of something complex and ubiquitous. It is not enough to base archaeological advice on managing landscape only on the hard fact of what we actually know; we also need to extrapolate and predict, and to be able to offer narratives, conditional and predictive if necessary, about the historic depth of every patch of land. Unfortunately, most archaeological databases and inventories are positivist, point-based and selective; much landscape history is constrained by documentary survival. To understand the time depth and historic character of landscape requires the land itself (or its proxies of map and air photograph) to be looked at with archaeologists' eyes and minds; it requires a material culture reading of what it contains—just like studying any other artefact, in fact. This in itself is interpretative and subjective, but, furthermore, the archaeological contribution to an intellectual, mental or emotional construct (or the study of such a construct in the present day) is necessarily subjective.

Landscape invites us to explore it through stories, not simply to record its material traces or follow the biases of survival. Landscape by its nature, scale and complexity encourages generalisation and subjectivity, and this can be strong point of the method in terms of inter-disciplinary collaboration and heritage management. It is however the point at which characterisation and scientism take separate routes and those who like to think of archaeology as an essentially scientific discipline can if they wish regard HLC as an exercise in model building that future archaeological or palaeo-environmental research will revise.

There are of course many other forms of landscape archaeology, all having in common the use of material culture to understand the past at a level higher than site (see Muir 1999). They share many common tools, but they do not all have the same objectives. Some methods (such as landscape history, traditional landscape archaeological field survey, palaeo-environmental analysis) are mainly concerned to write environmental history, sometimes using 'landscape' as a statement merely of scale. The work can be more limited, to the academic reconstruction of the environment at large scale at a single period of the past; leading to formulations such as 'Bronze Age landscape' or 'medieval landscape'. A second main school tries to understand whether landscapes were constructed in the mind by people of the past, looking for reflections in how they laid out the land itself. The understanding that such landscape archaeologies offer tells us about the past, but less directly helps with the management of the present-day landscape because the knowledge of the past that it provides is not usually clearly linked to the present, nor is it related much to modern landscape perception. In contrast to both of these approaches,

are those schools of landscape archaeology, of which HLC is one, that start with the present day landscape as a construct of perception, and then explore how the past is present in that construct. These approaches, as part of what might be termed 'applied archaeology' are for framed from the outset as tools for landscape management.

Shaping Future Landscape Through Understanding of the Past

Landscape has many characteristics. Among them are the effects, on the eye or mind of the human 'beholder', of things such as land cover and topography, contrasts between open and intimate views, the reflection to us of hidden geology and soils in building materials, or how we read artistic or literary association in the land. Landscape often creates identity and local distinctiveness, and it also has an impact on other senses such as smell, the 'hearing' of landscape through soundscape; and even in 'tastescapes', how landscape appeals to us, and feeds body as well as mind, through distinctive foods and drinks.

To this kaleidoscope of vision, experience and ideas, archaeologists (and other historic landscape researchers) can contribute a very particular perspective that dwells on some of the characteristics that are most fundamental to landscape. These arise from the passage of time and the role of human agency and behaviour, and manifest themselves as the processes of evidence and for change through time. Such concerns are central to all types of archaeology, whether excavation, field survey, artefact study, environmental science, building analysis and so on, but they gain a special value when seen them through the spatial, multi-temporal and interdisciplinary frame of landscape (see, eg, Fairclough 1999a).

Space

At its simplest, landscape for archaeologists is about spatial patterns: the interrelationship of sites, the search for patterning in site and artefact distribution, or the pattern of land-use through time. The 'space between sites' is a concept with several dimensions on a spectrum from 'non-site' archaeology to the idea that everything within an area of landscape, within the whole environment, is material culture, even the trees and woodland, hedges and heath.

Spatial considerations, via different levels of scale, also help identification and understanding of social interactions in the past, as well as nature/culture interactions, and they teach about human use and perceptions of space in the past. Spatial understanding helps us to see how these still influence current territorial patterning, settlement patterns, the regional diversity of farming methods or the layout of parish or township; they influence to this day were trees grow, and in what ways.

Space in the abstract (helpfully in terms of managing landscape) is also the basis of most forms of planning and land management, especially at strategic level. The

landscape concept and the scale at which it best operates enables archaeologists to synthesise and present their understanding of the environment and its values in modes that fit smoothly and at appropriate scales into decisions which affect the future of the landscape. Landscape provides a way of telling stories about the past and about cultural identities that are tied to place or region and to the local context within which identity and distinctiveness are forged, which are often the 'delivery points' of landscape management and planning. It also, as discussed later, provides a common framework for all environmental disciplines, which facilitates the integration of the archaeological dimension with ecological, artistic, aesthetic, economic, economic and other cultural and social perspectives.

Time

Key to understanding landscape is the recognition that any part of it contains time-depth, which is why landscape is such a key process for studying the passage of time (Macinnes and Wickham-Jones 1992, Fairclough 2003b). Time may manifest itself in landscape as a continuous stratification within the environment, as a sequence of partly-surviving landscape episodes or layers, or as a succession of humanly-led processes that are revealed by their long-term effects and remains (or lacunae); or it may be perceived mainly as an age-created patina on the surface of the so-called 'natural' (pre-cultural) topography (Fairclough in press (a)). For many people, it is often the simple observation (and enjoyment) of the presence of things of several dates that creates time-depth, a cumulative effect that reveals a long history of human intervention. Landscape is an issue of history as well as of beauty or utility.

Time and its effects could even be argued to be one of landscape's primary characteristics. It is scarcely possible to perceive landscape in an area without, consciously or not, reading human history in it, and time and its legacy are thus fundamental to landscape perception. It seems that those areas of landscape that have the most complex time-depth and chronological diversity are most popular with the general public (though this needs qualifying by saying that it applies to the UK; it may reflect a distinctively European sensibility). People talk approvingly of 'timeless' landscapes, by which (paradoxically) they mean landscape with limited recent change which thus retain clear evidence of past, deep time. Modern landscape on the other hand is often disliked for its monotony and blandness, for being the product of a single period. In other words, recent landscape layers are disliked for having swept away all that went before and thus for being too young to have developed patina or overlying time depth that might rescue older single period from disregard.

Even the most 'destructive' and disliked of present day landscape changes will become softened by time and familiarity, and eventually accepted into popular perceptions of landscape. The bright yellow of oil-seed, for example, is now a commonly admired part of the English landscape was not long ago universally disliked, as recently as the 1980s its colour being considered alien and disruptive of then-current aesthetic norms. Such changes in landscape, as new things

become a firm part of people's landscape and part of the 'familiar and cherished scene', are not uncommon. It is not a coincidence that this formulation is found in UK Acts of Parliament that set up the concept of 'Conservation Areas' for historic villages and towns: it was their familiarity, their belonging to inherited (but not usually very ancient) patterns was thought to make them merit preservation. Time affects perception as well as the environment; it is doubly an element of landscape.

Change

Change is not just something that puts landscape under pressure and provokes a desire for protection: it is also one of landscape's most important attributes or characteristics, alongside for example more obvious things such as basic relief, the rocks beneath, or plants and animals. Looking at present day palimpsest landscapes from an archaeological viewpoint demonstrates how important have been the results past change in influencing people's mental landscapes. The legacy of past change forms a very significant part of what makes a landscape, what makes it cherished and valued, and what people try to protect and maintain. Recognition that landscape management is about protecting the results of change puts a response to future change into a new light, perhaps not as simplistically as the developer's "if it's already been changed, then further change can't do any harm" (or the art historian's "this building is too altered, it does not meet designation criteria"), but it must influence our objectives in some way.

The aspect that perhaps most distinguishes one area of landscape from another, beyond their obvious topographic differences, is the different trajectory of change along which they have travelled. This 'road from the past' can be likened to a long chain of events. Not all of the links in the chain survive (visually or otherwise), and such different patterns of survival are one aspect of local distinctiveness. Nor were the chains in any two places identical in the first place. The links in the chain are not of equal size or weight, some being long-lived, some ephemeral; they might show periods of rapid compressed change or long periods of continuity, and equally there are places with long periods of change that was nevertheless slow, cumulative and almost unnoticed, and therefore rarely recorded in historical documents. Any attempt to maintain deep-seated local distinctiveness, to pass on a landscape that varies from area to area and reflects its own past rather than a national consistency, to preserve the essence of a place, needs to recognise and be sensitive to these local trajectories through time.

Managing change, even managing the evidence of change, is not always the same thing as protecting the fabric of the past. Accepting that all past change (whether 'good' or 'bad') is a part of landscape encourages us to look in a similarly unbiased way at proposed change. Some types of new change might generally be thought desirable (planting new woodland, for example), others undesirable (new housing, roads, windfarms), yet the important question is whether any development fits its (largely historical) context. A sensible aim is to ensure that people in future can still

see evidence of the earlier links in the chain in their own landscape, that the modified landscape retains a legible imprint of the past, so that it is more likely to retain a healthy—literally healthy, both physically and psychologically—connection to the past. Accepting that change is actually a part of landscape character (rather than only something which impacts on it) allows us to see modern pressures as part of an area's story, and encourages us to find ways to preserve the overall character of past change rather than only fabric. It might be helpful to think that landscape character cannot be destroyed but can only be changed; do people 'like' the new version of character or would they prefer something else? This affects how we think about threat, and emphasises outcomes more than loss. In turn this modifies aspirations from managing things (the stuff of the archaeological resource) to managing change (human action).

Process

The fourth principal concept, but obviously one already touched upon because it cuts across the other three, is that of historic processes. These operate in space and across time, and are the drivers of the change which lie at the heart of landscape character. Understanding process should therefore be one of the most important parts of landscape research and management; it is also central to archaeological practice, like the study of change. The environment, and the landscape that we construct from it, both result from culturally- and historically-specific cultural processes. Relationships between fabric (hedges, trees, farming practices, buildings, settlements) and process (how those things were and are made or used) exemplify most strongly the tensions of landscape management or protection. If a historic process behind a particular type of landscape character has ceased, then that landscape starts to change, even in the unlikely event of no further human interference. It will be under pressure without any single threat that could be countered simply previous mechanisms are no longer in action.

Processes most often die out because a new process has taken its place, bringing with it new landscape forces. This is most extreme when extractive industry, for example, or urban expansion, replace farming processes, but it also happens when farming practices simply change, and even when farming de-intensifies or ceases. Ungrazed upland moors in Wales, for example, arable intensification in eastern England, land abandonment in Portugal, or the massive agricultural changes in central and eastern Europe as those countries adapt to EU agricultural policies, all in their way threaten to change landscape as much as, if more slowly than, large scale minerals extraction.

One particularly important process in creating landscape is a non-physical one. This is the process by which landscape perception is itself created and modified: how landscape as a concept is constructed, rather than how landscape's physical components are created. Perception is as dynamic as the environment. It changes with daily or seasonal moods or even with the weather, and it changes from one social or national group to another, being different between individuals and changing

within an individual as he or she grows older, moves home or even takes holidays. In this context, landscape is highly personal at the same time as being collective (Nord Paulsson 2002).

The process of managing or protecting landscape needs to take account of the way that landscape perception is dynamic. Even large scale changes gradually become accepted, whether because they become familiar with time, or for younger people have 'always been there'; or because meaning and significance accrues to them for some other reason. In this respect, it could be said that landscape is the precise opposite of the traditional view of the archaeological resource: perhaps still finite, fragile and irreplaceable in terms of fabric, but in terms of perception, finite, robust and constantly replaceable. This is one sense in which landscape character can only be changed, never destroyed. People may initially prefer the 'old' landscape character, but sooner or later will assimilate the new one into new perceptions.

Conclusions

Historic landscape characterisation—and other types of characterisation—encourages a shift in thinking that makes it possible to think of protection and management as part of a landscape's life and evolution, so that new development builds on the past while remaining forward-looking. Landscape's ubiquity and dynamism, with change as a characteristic as well as a threat, is central to this. The rhetoric of conservation and 'rescue' has been very constructive for the growth of the archaeological discipline but it does not translate well into landscape (and is perhaps less important to traditional monument-based preservation as practices matures). Too much preservation of landscape would risk reducing the rich range of human-nature interaction to a single relationship: curator to artefact, say, rather than guardian to a ward, or steward to an estate. The landscape can usefully be described metaphorically as an artefact, but that should probably not tempt us into treating it like one. As we have inherited it, this particular artefact is still alive, and nether traditional heritage monument-based methods of preservation, nor traditional nature conservation methods of habitat recreation, however important they are for its component parts, are suitable ways to guide its future as a whole.

This raises questions about what archaeologists are trying to achieve. What are the objectives for managing change in the historic landscape? One answer is to pass to the future not necessarily all the most important surviving physical remains of the past but instead a mental landscape that is sufficiently character-full in terms of its past that future generations will be able to use it in the same ways that we do to learn about their past and create a sense of place. If future landscape remains a palimpsest, part of it will be new layers that we now see as pressures and threats and that we will perhaps have opposed.

This approach does not remove the need for traditional monument-based designation and conservation methods, which are still required for protecting the fabric of special features within the landscape. It simply recognised that there are limits

to their use, and landscape as whole probably lies beyond those limits. It is clear that the landscape as a whole cannot be preserved unchanged as a single building can be. An alternative is to manage it in terms of its attributes of time, change and process, and this means managing it as a dynamic, changing perception of the present world not of past worlds. Two parallel systems are needed: close control over a relatively few sites, and broader influence of a different kind over landscape everywhere. Engagement with landscape in the perceptual and holistic sense thus leads cultural resource management not just into new fields of archaeology but into new areas of conservation theory and action, and it does so as part of a wide inter-disciplinary debate.

A return to the past is not possible; landscape cannot be put back to any of its past forms, nor maintained unchanged in its current stage. It is really only possible to create new landscapes by managing what we have inherited or by replacing what we have inherited with something new. The reasons for making something new will be various, such as the need for new housing estates, or a desire to create new (not re-created old) natural habitats. Landscape management requires us to look forward, and no landscape can ever be recreated: too much has changed since, too many layers need to be stripped away, and what would be left would still not be past landscape because those who perceive it also do so with a 21st sensibility. The aim of landscape management therefore expands from protecting the past to include influencing the next layer' of the landscape and shaping its future.

Whether they are created by economic development, farming or for nature conservation, the aim should be that new landscapes will contain 'enough' of the past to allow people in the future to read their history. 'Enough-ness' probably cannot be measured, but it is a way of framing a debate, and is preferable to protecting a few highlights without any influence on what happens to the remainder. Sustainability for landscape (it is very arguably different for monuments) is perhaps not the preservation of fabric (or even process—few farmers are willing to use obsolete practices) but the passing on of options, one of them being the option of continuing to be able to understand the past through the evidence in one form or the other of the present day landscape.

This new landscape of practice for archaeologists—a new sphere of action, epitomised by HLC and the European Landscape Convention- has implications for how we define and perceive the whole of the archaeological (or cultural heritage) resource, not just landscape. Landscape is not simply the setting for the sites that we call archaeology. The whole fabric of the landscape (including living plants, or the composition of biodiversity which in the 'western' world at least is culturally constructed) is part of the material culture which archaeologists can use to read about people, their actions, their mistakes, their achievements and their lives. A landscape perspective, even though it does not subsume all archaeological remains, enlarges what is defined as archaeological source material. It breaks through chronological, thematic or material limits and can include the study of anything that people have made or experienced. Those branches of landscape archaeology that explore and try to reveal past perceptions of landscape are equally

important, not least for creating a 'prehistory' for the concept of landscape which we have been taught was invented in the Renaissance.

Archaeology is a discipline concerned with understanding the past. As it becomes more of an applied discipline, however (when more archaeologists work in resource management, environmental management or spatial planning than in 'research', for example), particularly when it applies its practice to landscape, archaeology is starting to study a different past. HLC naturally encourages an emphasis on the more recent past, the most influential periods on landscape character. Archaeologies of the very recent past are also becoming commonplace and the archaeology's past is sometimes now within living memory. Landscape also only exists within the present (however great its time-depth) and as a result HLC (and archaeological resource management more generally) is concerned with a 'present past', on a temporal scale where all past human time can be seen as being compressed, concertina-like, into a single contemporary present.

Most of all, landscape is a mirror that reflects archaeology's aims and objectives, and the role of past material culture in the present day. This may be beyond the scope of the present book, but it is a debate that becomes possible once we define more clearly what our objectives are in trying to manage the cultural heritage (or the historic environment, or the archaeological resource) in terms of landscape. What are we really trying to preserve: fabric or perception, process or potential evidence? We could ask whether it is landscape that is coming under pressure for change or—because landscape tests our assumptions to and beyond their limits—some of the traditional paradigms of archaeology and cultural resource management.

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The Idea of the Site: History, Heritage, and Locality in Community Archaeology

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Introduction

The 'idea of the site' is an artifact archaeologists should find useful to investigate. The creation of sites has always been a focus of fieldwork in archaeology as archaeologists define what activities and events and in what sequence produced the deposits, artifacts, and other recoverable traces that make up the archaeological record. In the sense that there are material remains buried in the ground, archaeologists engage with the existence of archaeological sites and thus the past in the present. While this process is vital to archaeology because it literally generates the substance of the discipline's principal focus of inquiry, sites themselves are for the most part taken for granted: as remains were buried, sites were created. The dominant sense is that the acts of site formation are not the result of the archaeological research but a component of past activity archaeologists can discover and understand (Schiffer 1987). This paper advises archaeologists to reconsider this approach. Rather than sites being the result of discovery, I argue for an appreciation and incorporation of the means by which sites also mediate the social action and presence of archaeology within host and subject communities. I urge that archaeologists ensure that the social forces that establish an archaeological presence within a locality and the material forces archaeologists and communities muster to create and sustain relations with one another are understood and made relevant to the way sites are defined and researched. To do otherwise can only produce archaeologies that work against communities because the interests and forces guiding the research demand communities adjust their self-understanding to accommodate that of archaeology. Certainly, this runs counter to the collaborative goals of most community archaeology projects (e.g., Marshall 2002, Shackel and Chambers 2004) and at worst may assume a hegemonic colonialist position for the purpose of signifying archaeology. Instead, archaeologists should consider how their work is already signified: as something archaeological, as research on local culture and history, and, combining these, as part of the history and culture of archaeology within a community (see Castañeda 1996). To understand these social implications of archaeology, I think we may learn a great deal by refiguring the 'idea of the site' in the modern world.

In this paper I define the 'idea of the site' in the terms of heritage, specifically the desire for heritage that constructs much of public interest in modern archaeology. The basis for this conception is the role that sites play as the essential public component of archaeology. Sites, as places to visit and claim, are the locations where archaeology emerges within the public sphere. With this appreciation of public significance, I critique the standard idea of the site by turning the typical archaeological approach on its head. Rather than using a site to generate an archaeological history, I focus on how the definition of a site is the key to its public significance as it establishes within the modern world a place for articulating community relations and subjectivities. The premise is that creating places for archaeology, history, and heritage within communities represents the 'community' to itself and others in an accessible material medium. For communities, that is, such sites are only incidentally archaeological or historical, they are more directly places that may be claimed by those seeking a meaningful social network with which to affiliate. To explain this alternative idea of the site I apply the notion of locality described by the anthropologist Arjun Appadurai (1996) and the sense of modern materiality explained by the critical theorist Theodor Adorno (1998). I then describe two public archaeology projects I have directed that illustrate how to understand and employ the issues driving the construction of modern localities in the definition of archaeological sites. To begin I want to expand on my discussion of the ideas presented in this introduction.

Sites and the Desire for Heritage

Sites are the material basis for archaeology in that through their definition, excavation, and interpretation, they place archaeology and archaeologists in the world. A space otherwise defined takes on new characteristics and meanings by being identified as an archaeological site. What is involved in this productive transformation of meaning is largely unexplored in archaeology (cf. Shanks 1992, Barkan 2001, Wallace 2004), yet it may prove to serve archaeology well by more completely associating archaeological practice with the forces outside the discipline that make archaeological research possible. These forces are taken here to be encapsulated by the desire for heritage in the modern world. Heritage may be defined as the way in which the past provides a sense of belonging in the present. What occurred with development of modernity was the articulation of a new dominant cultural sensibility that shifted the source of belonging from one's position within the world to a sense of belonging tied to a vanishing past (see Hobsbawn and Ranger 1983, Lowenthal 1996, Alsayyad 2000). Being modern, while in part defined in opposition to tradition, also cultivated nostalgia for the very traditions being lost (Lowenthal 1985). In this sense, the desire for heritage is a mystification of the modern present for it suggests that by having a heritage we become who we really are (Handler 1985), a process that overlooks the conditions that lead us question our identity and develop nostalgia, conditions that may in fact be the most useful to knowing ourselves at all.

A great deal of recent interest in archaeology is aimed at exploring the relationship between archaeology and heritage to better understand both how archaeology serves the heritage industry and the more profound cultural questions regarding whether archaeology is itself overly determined by heritage interests, industrial or otherwise (e.g. Carman 2003, Rowan and Baram 2004, Mathers et al. 2005, Little 2002, Meskell 1998, Kohl and Fawcett 1996, Bond and Gilliam 1994, Layton 1994, Silberman 1989). By focusing on 'the idea of the site' I hope to expand on this critical interest in heritage within archaeology in two directions, both of which suggest how sites themselves are an important part of historical and contemporary heritage dialogues. First, archaeologists need to consider how public interests, claims, and/or control of archaeological sites changes the archaeological research process. Seeing the acts involved in defining the site as a process engaged with the way present interest groups conceive and divide up the meanings of the past will lead to an appreciation for the way sites take on the character of the present-day forces that created them as sites as much as the archaeological remains which otherwise constitute their meaning. Second, treating the site as more than just a location of the past but equally as a source for experiencing the past, and, through heritage, knowing the self, sites must also be seen as *creating* the communities and other sorts of groups that are often taken to be the forces that create sites. In other words, sites function dialectically by simultaneously defining the heritage of communities and other interest groups with their content and, as places where communities may visit and come to know who they are, defining and confirming the existence of such groups within the modern world. This creates a problem for community archaeology because communities and groups come to think their claim on sites is based in a site's historical and archaeological content, the material that archaeologists seem to provide, while it may be more the case that their connection to it is a result s of the site's materialization of their desire to have a site that identifies their community.

By investigating what leads groups to articulate a desire for heritage, we may understand more completely the forces that lead people to want sites that represent that heritage. We need to remain aware that heritage is not a universal human fact or desire, but one created by conditions that lead people to define both materially and spiritually their historical difference from others. Is there a way we can know these conditions for claiming difference and use them to create relevant archaeologies rather than simply apply the effects of difference in the way archaeologies are produced? Is heritage not only a result of archaeology, but the cause for its being done?

To effectively approach these questions archaeologists should reflect more on the meaning of sites and their materiality in the way archaeological heritage is defined. When I mention the 'idea of the site', I am considering that the concept of the site bounds any particular realization of any site in the living world. In fact, the idea of a site is one of the few discursive fields that archaeologists share with the communities they engage with. The site as both a material space and a concept allows archaeology and its publics to occupy a community space together. What needs to occur more often is that the dialogue between archaeologists and

the public 'on site' needs to be about this process of constructing the site more so than what the site provides in terms of content. The focus of this exchange needs to be on the site's materialization of a shared present-day archaeological reality. This explicit recognition of the archaeological present highlights how any interest in archaeology (whether professional or public) carries with it an agenda framed by the conditions of the present. Thus, archaeologists and the public together can reflect on why they desire the past, a conversation that may allow for a more developed consciousness of the present, and this is the goal archaeologists should work towards as they articulate their research with heritage and its various cultural, political, and economic aspects.

The point of venturing in this direction is not simply an academic exercise. I suggest that when done strategically that the socially discursive process of creating sites, and not just the production of archaeological results, can make for more meaningful forms of community archaeology. Sites will be experienced as spaces for recognizing the historical circumstances that lead people to have interest in the past as a way to know who they are now. To clarify the implications of this thought, I review in the following section the philosophical perspectives being invoked in this approach to the 'idea of the site'. The guiding principle is 'the production of locality', an idea elaborated by Arjun Appadurai (1996) in which the contexts of community formation are given primacy over their essential characteristics and made material through the association of a group with a place. I then expand on Appadurai by turning to Theodor Adorno's (1998) sense of materiality to offer a critical sense of how communities can use produced localities as they negotiate the forces that lead them to form and which enable and constrain their effectiveness as communities within larger social arenas.

Conflict and Materiality in the Modern Locality

I consider the site to be an active production of a modern locality, and I follow Appadurai's assessment that "locality is an inherently fragile social achievement" (Appadurai 1996: 179). A locality is an occupied space that has meaning for a community. It may be a common place of residence or an imagined place of origin. Despite its particular actuality, it presence is made real by its association with the social forces that create and define a community. Appadurai highlights the fact that localities and sites may not necessarily have any material substance in the contemporary world as internet-based communities can build sites in virtual locations. Nevertheless, communities do find place and that place produces meanings that make material and/or virtual spaces conduits for realizing community identities.

This perspective provides insight in that it allows us to focus on the social forces that underlie the way we approach materiality in the modern world. All sites are created and made meaningful by social acts such as naming, occupying, and negotiating the multiple meaning of spaces that allow localities to be produced and sustained or changed. These acts of producing locality make for common shared places within communities by establishing not only a social presence but

places and objects that may be considered and spoken about. Appadurai's reference to the inherent fragility of this productive process suggests that any 'material' encounter with archaeological and other historical sites needs to be tied to the social conditions that produce and are produced by such investigations. Like any other site, archaeological sites are part of the dialogues that tie communities together and, as such, archaeological sites engage with the localities that communities employ to know themselves.

There has been little thought within archaeology in which its effect is seen as something other than the production of knowledge about the past even if that knowledge is seen as useful for living in the present. The approach here is focused on understanding the effect archaeology has on knowing the present, despite its interest in the past. The questions I am asking revolve around what it means to introduce an archaeological component to the living world. How does an archaeological presence, both that of archaeologists and of the idea of the past archaeologists introduce, effect the way people go about their lives? This is the basic question of understanding sites as the production of localities. Yet, these questions rarely drive the way archaeological research is done.

In fact, most community archaeology projects mistakenly look on localities substantial entities whose meaning is inherent or even obvious to communities themselves. The problem here is that this encourages the use of homogenized and essentialized identities by archaeologists, outsiders, and host communities. If we accept that archaeological sites are related to living communities because of their desire for heritage, we have to be aware that these communities are rarely stable formations. Defined by tactical forms of essentialized othering such as race, gender, class, ethnicity, nationalism and the various ways that these markers cross-cut each other, most communities are only partially self-defined. Furthermore, in the effort to turn their difference from others into empirical community attributes, various voices within the group will contend with each other over what is representative and thus should be highlighted as component for which a heritage could be built. These challenges to community homogeneity cannot be marginalized. Rather, they need to be examined for how they create contours of understanding that drive the community-formation process. In other words, these conflicts may in fact be the most important forces that lead people to construct a community by defining a heritage and identifying sites to illustrate that heritage.

My position therefore is that localities are transitory and polysemic because what defines communities is more often conflict than consensus. Localities as such emerge at moments when their existence serves a particular community purpose, and most often this is an effort by some to speak for all in defining the community by name, occasion, time, and place. The critical and reflexive approach to creating sites promoted here allows this place-making process to be more fully realized as a cultural act and with archaeology explored as a cultural problem.

One path for developing this approach comes from Theodor Adorno (1998; see Wallace 2004: 20–21). Speaking of art and artworks, Adorno rejects the common notion of artistic transcendence asserting that artists and artworks always reside in a context. Artworks are communicative acts by which artists define their social

position through its representation. They are proposals for social truth or, perhaps better, aspects of social architecture: there cannot be artists without artworks because artworks build 'the idea of the artist' as much as the artists produce the works. Adorno expands this critique by recognizing the problematic situation of public art. Artworks not only emerge from a context, they exist in their materiality (their enduring presence or fame) as part of that context. They embody a contradiction in the sense that they appear autonomous yet only through the social construction of something that can exist as autonomous, what he calls "the sedimentation of a historical process that constitutes its concept" (cited in Wallace 2004: 20).

Adorno argues that we typically confuse these contingent sediments for bedrock, specifically the idea of particularity and difference embedded in the object as "artwork," which is rather the socially constituting aspect that make objects artistic and persons artists. Adorno's hope is that with this discovery we may reconsider the work of art not as something substantial, but as a constant philosophical negotiation between its presence and its representation of the idea of its presence. Specifically, he highlights the dangerous aspects within any act that may unmask its purpose as sedimentary, or potentially meaningless, once its contingent foundations are revealed.[1] From this perspective, no act is ever based on bedrock or 'truth'. Agency is always established by proposals for truth that in the act are opened for discussion. For Adorno, this is emancipatory because it shows the artistic as context-producing, as setting the stage for agency or the making of the real, rather than context-revealing in which the real appears to pre-exist and determine the act.

This approach may be applied to the creation of archaeological sites because it allows the conception of their materiality to be sustained while also allowing their materiality to momentarily capture the substance of the social context in which they are defined. So, in defining sites archaeologists need to establish their presence dialectically: sites are not just there, they also act as a representation of what being there entails. To do this, archaeologists should make the site take on the story of their arrival 'as sites' in the modern world by making the research questions reflect the interests in the past and in archaeology that are discovered by working with way communities are currently building localities.

I have attempted this sort of project in Annapolis, Maryland (e.g., Matthews 2002, 2004) and in the Tremé neighborhood of New Orleans, Louisiana (e.g., Matthews 2005). Each case is an example from American historical archaeology, therefore, the present localities are perhaps more easily applied to the archaeological remains being pursued. Nevertheless, this open-ended dialectical approach is appropriate to any project, since the point is not just to tell a local past, but to discover how a site represents particular localities, most specifically the conflicting structures of feeling that make places meaningful for communities or groups within communities who are trying to speak on behalf of the whole or just for themselves.

[1] Danger here is used in the sense of Walter Benjamin (1968, 255) in his "Theses on the Philosophy of History" as well as in my book, *An Archaeology of History and Tradition* (Matthews, 2002).

FIGURE 1. Main Street in Annapolis (TBA)

Tradition and Modernity in Annapolis

In Annapolis, I benefited from previous work by the Archaeology in Annapolis project which had both explored the archaeological record of the city's historic district and developed a critical understanding of local historic preservation as a guide for the public experience of the historic district (e.g., Leone 1983, 1995, 1999; Leone et al. 1987; Potter 1994 1999; Shackel 1993; Shackel, Mullins, and Warner 1998). So, my own research was primed to see an Annapolis focused on the construction of a history that served both American patriotism and Annapolis tourism. The issue that guided me, though, was not simply the presence of a motivated historical consciousness, it was how this consciousness failed some people and the way they acted when an opening emerged for critique.

This opening came in 1994 with the decision to renovate Main Street, the principle commercial strip in the historic district (Figure 1). This project invoked debate over how the new landscape would look. While preservationists sought to re-create a Main Street appropriate to the historic landscape, store-owners hoped to make Main Street more consumer friendly, especially by building wider sidewalks that would allow outdoor café seating. The debate was resolved when store-owners teamed with local trades-people developing a campaign to "Dig It," a slogan suggestive of the removal work to be done (Figure 2). Implied in this campaign is that the change involved with excavation is directly opposed to the stasis of preservation. Ultimately, this rhetoric won the day and a new Main Street with wider sidewalks was built (see Matthews 2002: 1–6).

This debate rehearses a theme identified by Mark Leone and Parker Potter concerning the inherent value of history in Annapolis (e.g. Leone et al. 1987, Potter 1994). Each faction was highly cognizant of the meaningful landscape they

FIGURE 2. Window display mounted in 1994 during the renovation of Main Street in Annapolis showing historic photographs of the street alongside the progress of the current construction project. Note the slogan for the program is "I Dig It". Photograph by the author.

were considering. Store-owners wanted to capitalize on the historic streetscape as a picturesque backdrop for their customer's experience. Preservationists wanted the landscape to tell an accurate story of Annapolis to visitors. Yet, this shared landscape was also in conflict as each faction sought to make the landscape project their partisan perspective. Both sides knew that at stake was not just the look of the place, but the way the historic landscape embodied a particular gaze—as picturesque or historically accurate—as legitimate. This debate shows there is nothing inherent to the value of the Annapolis landscape or necessarily to any of the attributes of Historic Annapolis. Each is valuable only as they support a certain faction who came to establish their perspective as legitimate both now and in the past.

With this understanding I set to work at the Bordley-Randall archaeological site to trace the history of similar meaningful constructions over the past 300 years. The Bordley-Randall site is located two blocks from Main Street within the Annapolis historic district. The site is the location of a still-standing early 18th-century manor house and surrounding landscape that has undergone a great deal of renovation and alteration over the past three centuries. A contextual analysis of these changes through time showed they were each tied to local political and economic generational shifts that consistently required the elite residents of the house to adjust their position of authority in order to reproduce the status quo. Archaeological research at the site therefore showed that the class-based conflicts over the Annapolis landscape illustrated in the Main Street debate are, in fact, the real basis to heritage

in Annapolis in the sense that they are essential to conceiving of Annapolis in a historic sense.

The current conflict over stasis and change was situated in the public discussion of the archaeology as part of a long-term struggle that made the Annapolis landscape meaningful at all. As the city developed within Maryland's emerging capitalist system, outside forces regularly attempted to create a modern Annapolis. Yet, conservative Annapolitans like those who lived at the Bordley-Randall site consistently repelled modernity by building public and private landscapes that turned with each challenge to new sorts of local history. This included the establishment of a monumental plantation-based cultural landscape in the late 18th century, a memorialized landscape dedicated to the colonial and Revolutionary eras in the early 19th century, a landscape fitting the demands of heritage tourism in the late 19th century, and finally, the creation of an official historic district in the mid-20th century. Each of these efforts was highly visible in public both on the landscape and in print in the local press. However, they are also a record of the moments when locals and/or outsiders attempted to introduce alternatives such as urban, industrial production and transport that would have altered the city dramatically. By involving an ever-increasing segment of the landscape into the symbolism of Annapolis history, these attempts at modernization were increasingly stifled by the traditional elite. In fact, the 1994 debate over Main Street was the first instance in which those unserved by the elite preservationist paradigm were able to materialize an alternative perspective (Matthews 2002).

Understanding both this history and the significance of the current resolution, the archaeological site at Bordley-Randall was constructed in public as a reflection on a long-term community conflict between tradition and modernity that brought about the very landscape being fought over now. In public tours of the site, the city of the present, represented in the Main street renovation project, was explicitly situated in this debate allowing visitors to recognize not a slow evolution from colonial times to the present, but a dramatic conflict in which the stasis of preservation was an explicit strategy serving partisan elite interests.

Being Local in New Orleans

The Tremé neighborhood in New Orleans represents another example of a locality in conflict. My interest in doing archaeology in Tremé began when I learned neighborhood residents had initiated an effort to have Tremé recognized as a historic district by the city. As Tremé is a historically African-American neighborhood, this effort was aimed at defining an alternative history in which Tremé would serve as the historic focus for African-American New Orleans. To approach the community, I accepted the invitation of a local white preservationist to meet with the African-American minister at St. Augustine Church, the owner of the site with the most research potential in the neighborhood (Figure 3). The St. Augustine site was the first part of Tremé to be developed when the Company of the Indies

FIGURE 3. St. Augustine Site in the Tremé neighborhood of New Orleans during the 1999 excavation and public program. The archaeological remains are located in the lot to the left of the church. St. Augustine church, built in 1841, was the third parish church built in New Orleans and the first to serve a mixed-race congregation in Orleans parish. Photograph by the author.

built a brickworks there in the 1710s. The brickworks was run as an industrial plantation using the labor of enslaved Africans overseen by a white foreman who lived in a manor house on the site. After the Company abandoned Louisiana in 1731, the plantation and the slaves passed to the ownership of the foreman, Charles Morand. The brickworks continued in private operation until the 1790s when it was shut down and the property subdivided by the new owner, Claude Tremé. While Monsieur Tremé lived at the old manor house until the 1810s, the neighborhood around him (the Faubourg Tremé) was populated by a variety of people from the city center including a number of free people of African descent (Figure 4). After Monsieur Tremé died, the manor house property passed through a set of short-term ownerships before being acquired in 1838 by the Archdiocese of New Orleans who settled the Sisters of Mount Carmel there. The Carmelites used the manor house as their convent and for a school for free girls of color. They later abandoned the house after it was damaged by a hurricane in the 1920s. The house was demolished soon after, and since then the site has been used as a playground, parking lot, and a site of church and community festivals.

This history of the site and its potential intrigued the minister, though he already knew some of it. After I was finished describing the site, the preservationist interjected to emphasize the importance of the early French colonial

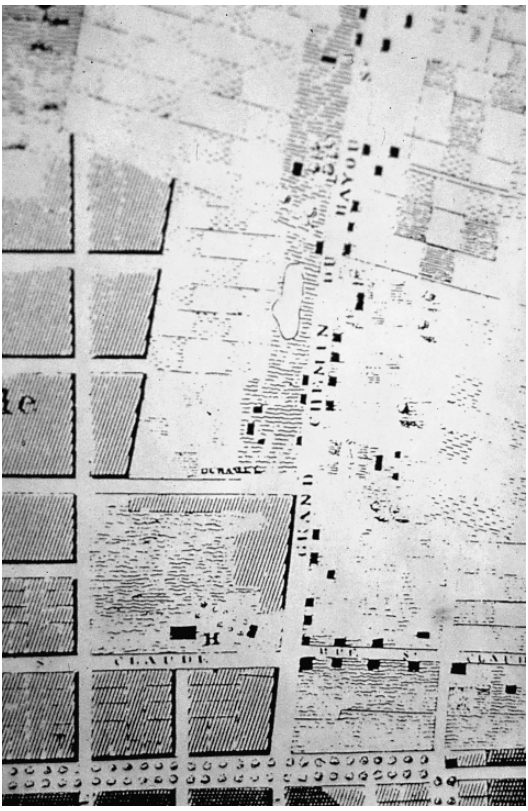

FIGURE 4. Detail of "Plan of the city and suburbs of New Orleans: from an actual survey made in 1815 / by I. Tanesse ; Rollinson, sc." showing early development in the Tremé neighborhood. Tremé is located immediately to the north of the Vieux Carre, or French Quarter, which was the area of the original settlement of New Orleans. The St. Augustine site is marked on the map. The manor house, which was the focus of the excavation, is the small structure shown to the right of the letter H at the bottom of the image. The building marked by the H was the College D'Orleans, the first institution for higher education in New Orleans. The Tremé manor was used by the College at the time this map was produced. The College operated only from 1812 to 1823 after which the college building was removed the Tremé manor house returned to private ownership. Photograph of published copy of the original map by the author.

component, which was exactly the part that the priest knew the least about. As she had mentioned to me previously when I asked her about working in Tremé, from the perspective of preservationists the St. Augustine site was worth investigating because French colonial-era sites are rare in New Orleans after two late 18th-century fires and subsequent development in the city destroyed virtually all of the French colonial structures and sites. In fact, I agreed that this part of the

story would be something to expect that many people would get especially excited about.

The minister was duly impressed with potential archaeological significance of the site for understanding early New Orleans, but mostly because he knew so little about this period of occupation in the first place. When I retold this story to others in the neighborhood, I learned that the priest was among the majority of Tremé residents who did *not* know this part of it. Everyone knew the St. Augustine churchyard, many knew about the school for free girls of color, and a few knew that the site was associated with Claude Tremé, and thus the creation of the neighborhood. No one knew about the colonial plantation that existed before that. While this makes sense as this is the oldest component of the site, and it actually pre-dates the creation of Tremé as a neighborhood, I found the pattern interesting. What the preservationist wanted to highlight was the part of the site's history that no one in the neighborhood knew anything about, including those working to gain historic district standing. I realized that this was not just an accident, but a sign of difference that could offer some insight into the communities involved with the project.

This disjuncture became a point of entry. Considering the larger historical processes at work in New Orleans, it illustrates the tensions between local and national perspectives, a factor that lies at the heart of the production of locality in New Orleans today. For preservationists, the way to tell the St. Augustine site story was to highlight the unique relevance of the site to the city's French colonial heritage. Yet, the city's continental French heritage matters only when New Orleans and Louisiana are set against the dominant Anglo heritage of the United States. Otherwise, being "French" is largely an accepted part of New Orleans culture and history.

Alternatively, the site was special to Tremé residents because of its association with prominent local aspects of African-American history, specifically the school for free girls of color and the 1841 St. Augustine church, which was the city's first mixed-race congregation. What stands out is how these associations relate the particularly local meanings of race in New Orleans. On the one hand, contemporary African-Americans are clearly affiliating with aspects of historic African-American achievement in Tremé. On the other hand, these "African-American" histories are for some in Tremé actually "Creole" histories, in the sense that the people being remembered were mostly Francophone free people of color, who lived as a separate race than would the African-Americans living in Tremé today. This point was made especially clear to me by one neighborhood activist who expressed his distaste for the current mayor who he described as a light-skinned Creole whose interest in promoting achievement in black New Orleans was no more pronounced than any White mayor's had been. His point was that even though light-skinned peoples often were identified and even identified themselves as African-American, that darker-skinned New Orleanians knew better than to claim them as their own without careful consideration. The fact that these Creole stories were widely known while the story of the plantation was not suggests that from among the stories of Tremé that could have been told (and thus the heritage

that was desired), it was that of the people who fared the best in the racial struggle that actually were.[2]

So, for both preservationists and residents, the St. Augustine site was a way to articulate locality in New Orleans today. Preservationists live in a New Orleans that is part of the United States. Their city is unique because of its continental heritage, one that is recorded in their genealogies and can (or at least should) be discovered in every historic neighborhood of the city, including Tremé. Their effort to mediate between the national and the local is an effort to establish this 'national' locality as real. Tremé residents also live in the United States, but as African-Americans they must negotiate a relationship with New Orleans history that is much more local. Not only do they lack the resources to tell a national story, they face local histories that do not have national standing. Their historic locality is complicated by being both light and dark, free and enslaved, and, moreover, consistently entwined with whites who appear unconnected to the African-American struggle as represented by the preservationists who freely and busily negotiate the national historical implications of their city and their lives.

Ultimately, these observations led to the creation of an archaeological program in Tremé that has attempted to capture the significance of these issues to the community (Matthews n.d.).[3] To construct a site in Tremé is to face the cultural inequalities that racism produces, and to see how these forces reveal the localities that people who live in New Orleans imagine. Racism blinds white New Orleanians from seeing the community in anything but national terms, the terms that they use to know and distinguish themselves from the city's people of color. Racism allows them to speak confidently for the whole of the city, despite the fact that the story they are promoting has only indirect relevance to the black majority in the city. But their racism is in part fueled by their struggle to create a meaningful locality in New Orleans, and by distinguishing themselves from the local majority of people of color in the desire to create a heritage for the city they have isolated themselves. Similarly, because they mark themselves as different from the Anglo-American majority in the United States they are left to struggle to define their identity and their authority. Their turn to the city's colonial French heritage builds a foundation for what is essentially a very precarious situation.

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[2] I am referencing here how I take the heritage of Tremé to have been developed through time. Heritage is seen not just as product of present acts but also of the long-term storytelling process by which communities come to know themselves as communities. Regarding this it is important to not overlook the class implications of this particular legacy in the sense that Creoles fared better not only by being lighter but by the material benefits that being lighter and mixed race afforded them in terms of work, property-ownership, education, and thus leadership within the colored community. However, I cannot say for sure what role this factor plays specifically. I can only guess that in claims to 'light' heritage both now and in the past as revealed in the particular stories this community told of itself, there is an unstated but powerful hoped-for affiliation with those who lived as the better sort.

[3] I am currently working with the materials recovered from excavations performed in 1999 at the St. Augustine site. These will form the basis of a book, *Creole Matters: Archaeology, Heritage and Hybridity in New Orleans* to be published by the University Press of Florida (Matthews n.d.).

Yet, this situation leaves open opportunities for living in New Orleans at a different scale, one that is out of the national line of sight. With the dominant group contending for a place on the national stage, subaltern communities have a great deal of room to make connections and develop meaningful alternatives for living in New Orleans. Living locally in New Orleans, that is, is a way for those who struggle with racism to subvert it. This discovery has been the most useful for archaeology at the St. Augustine site. It helps explain why the general knowledge of the site's history was limited to the stories most relevant to the African-American history of the neighborhood, and not the stories connected to the history of the city as a whole. It also provides an important perspective to understanding the patterns in the archaeological record of the early colonial period. The story I am writing is on the legacy of when New Orleans as a whole was out of (inter-) national consciousness and how being local in that time was practiced. After being abandoned by the Company of the Indies in 1731, for most of the rest of the 18th century New Orleans was off the beaten track. Far up the Mississippi River, traders and ship captains largely avoided it choosing instead to frequent the more developed and populous ports of the Caribbean and Mexican Gulf coast. Under these conditions of isolation, the 18th-century community that developed in New Orleans was truly local, and with the regular presence of local Native Americans, verged on being indigenous. In fact, finds such as Indian pottery on urban sites, customs like gift-exchange and inter-racial partnerships, and the emergence of a viable free-colored Creole community are all effects of the emergence of an alternative locality in the 18th century. They are the key to writing the history of Tremé, and I suggest are necessary to understanding the modern community in of New Orleans as a whole because they provide a bottom-up path for all city residents to recognize their role in the production of the modern locality of New Orleans.

Conclusion

This paper has argued that identifying alternative, multiple, and local approaches to the creation of sites may be one way for archaeologists to learn from the recent challenges posed by various marginal communities to archaeology's legitimacy (e.g., Smith 2004, Biolsi and Zimmerman 1997, LaRoche and Blakey 1997). Allowing the site to be simultaneously a material entity as well as something symbolically constructed in the process by which communities live with and negotiate conflict permits the archaeological process itself to be critical of the forces of marginalization. Relying solely on archaeological results to serve the construction of communities through a common heritage discounts the role that the desire for heritage plays in the way archaeological results are used. As such, any archaeology or heritage produced is disassociated from the issue that create communities in the living world and cannot offer any sense of understanding that might speak to people struggling now. The approach described here redefines community heritage as the conflicts within communities that lead people to seek more knowledge of who

they are in a historical sense. Sites in this approach are therefore not new markers of difference, but places that capture both with their histories and their definition in the present the conflicting forces that lead people to hope to connect with the past.

The brief discussion of the projects in Annapolis and New Orleans show some details of how communities exist in conflict and how these conflicts are themselves drive much of the substance of local histories. With archaeology we can show the development and the legacy of these conflicts, but only by articulating archaeology with the way communities exist now can sources for understanding be revealed and applied. Notably, for archaeology to discover these historical roots of the living communities we hope to serve, we must allow for community interests in the past to be collected, recorded, and understood. The way we come to know ourselves as archaeologists, through the relations we build with those who our work may be of interest to or even serve, is just as important to interpreting the archaeological record as anything that we might discover in excavation or analysis. These relations give us the capacity to look for and find meaningful stories in archaeological remains.

Unfortunately, this sort of public archaeology is too often seen as a luxury. Archaeologists committed to preserving the discipline need to work to make community participation and understanding more a part of how archaeology is practiced. Archaeologists must also be responsible *public* stewards. In coming to know a community through an engaged approach we must share the knowledge we acquire as researchers. Following the approach here this may be done by formally elaborating how archaeological sites are defined both as the presence of the past and of how the idea of desiring a past requires that sites be seen in the multiple conflicting perspectives that are currently involved in building particular localities. This process allows the site to be claimed by a community and also understood as part of the way communities historically come to know themselves in the present. It puts the site in service of history, that is, before it puts it to use in heritage.

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Part II
Methodology and Practice

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Introduction

The second part of the book contains five chapters, case studies presenting specific problems related to cultural heritage research and preservation like the selection criteria in an academic approach to investigate neolithization of Europe (Bogucki), creation of cultural landscapes and their meanings (Dublin; Simpson; Schofield, Beck and Drollinger), political, economic and social aspects of environmental policies (Simpson) and the pragmatics of large-scale projects related to infrastructural change (Emerson and Walthall).

Susan Dublin opens this section of the book by discussing cultural geography of the Zuni of New Mexico. The leading idea presented in her paper is the concept of place as an integral component in the construction of social identity. Dublin uses her own research at the Lower Prescado Zuni Village to demonstrate that places are cultural constructs composed of two elements that contribute to the significance of place: symbolic meanings and pragmatic choices. Ian Simpson points out that landscapes have to be managed according to certain economic, political, and cultural criteria. With new perceptions of land as assets, come new challenges for environmental policy makers. The most pressing question that arises is: What modifications should be made to existing policy mechanisms to further achieve conservation and environmental benefits? Simpson presents a model of predicted visual changes in Environmentally Sensitive Area landscapes as a basis for policy evaluation. Peter Bogucki examines decision-making and selection criteria that stimulate research of the European Neolithic. Economic growth observable in several European regions (Ireland, Eastern Europe, etc.) and large scale projects contribute to collecting more data on the prehistoric past of those areas. Bogucki points out to the need of the use of specific field methodology in order to capture cultural events form the past that are specifically vulnerable parts of cultural landscapes presently under a great deal of pressure. With the increase of funds spent on infrastructure and limited funds for archaeological research, such focused approach seems a well thought-out option. John Schofield, Colleen Beck and Harold Drollinger discuss the project they recognize as representative of alternative archaeologies. The authors examine the Cold War era peace camps as a material evidence of a protest against specific ideology existing during the second half of the twentieth

century. The archaeology of these peace camps presents an opportunity to understand the material remains of a significant twentieth century minority political movement. Thomas E. Emerson and John A. Walthall discuss problems related to large-scale landscape modifications. The case is the ongoing I-270 mitigation project launched in 1975. The archaeological work performed on the massive I-270 corridor and its northern extensions to the east of Cahokia Mounds drastically transformed our archaeological perspective on cultural development in the American Bottom. This project serves as a model for similar projects elsewhere.

6
Changing Places: A Cultural Geography of Nineteenth-Century Zuni, New Mexico

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Introduction

A people's association with a place is an integral component in the construction of social identity; as Keith Basso (1996:53) put it, "human existence is irrevocably situated in time and space." Many factors contribute to place-making; which predominates at any given time depends on specific historical circumstances. This paper summarizes research on the dynamics of place-making along a colonial frontier shared by three Native American peoples—the Zuni, Navajo, and Apache—and two Euroamerican groups—Mexicans and AngloAmericans. The work focused on a single place, the Zuni seasonal farming village of Lower Pescado and how the idea of that place intersected with concepts of landscape, history and social identity in nineteenth-century New Mexico.

The Intersection of Theory and Methods

Two basic concepts informed my research—the idea of place and the idea of the frontier. Not the frontier as Turner theorized it (Turner 1920), but a social and a physical landscape, a dynamic area of intense interaction characterized by fluid and permeable boundaries (Forbes 1968). Frontiers tend to exist at the edges of expanding colonial systems, and colonial programs generally include implicit (or, in some cases, explicit) concepts about territoriality and the transformation of the land. For instance, in Australia the progression of the land (and presumably its aboriginal inhabitants) moved from "wild" to "frontier" to "outback" and finally to "settled" (Morphy 1993). Colonial programs of expansion, annexation, and displacement are contexts in which landscapes and their constituent places become linked to group identity and history. These linkages are apparent in place names, myths of origin, and other symbolic and historical referents of place.

The obvious point here is that places are culturally constructed, consisting not only of spatial and temporal dimensions, but also conveying an "affective" property (Crumley 1998). In discussing Western Apache senses of place, Keith Basso noted that place is a multi-layered concept (Basso 1996b:7). Physiographic and cultural

settings constitute one layer, the role of a place in the larger landscape yet another, and the "meaning" of a place (Crumley's "affective property") a third layer. This idea of "meaning" might include symbolic or historical associations and the role that places play in social reproduction. This perspective places the site of Lower Pescado Village in a larger framework, where it becomes not only an isolated place with unique topographic and built features but also part of a Zuni landscape and a region that was used and contested in different ways by different groups.

Site-specific analysis at Lower Pescado Village was based on archaeological testing and survey directed by Nan Rothschild and myself (Dublin 1998; Rothschild and Dublin 1995). The regional analysis drew from ethnohistoric and archival sources and several surveys conducted by the Zuni Archaeology Program (Ferguson 1985, 1988, 1989, 1993; Ferguson and Hart 1985; Hart 1991, 1995; Holmes and Fowler 1980; Mills et al. 1982).

Regional Analysis

The vestiges of spatial decision-making are visible in the physical and documentary record of the nineteenth-century settlement landscape, figure 1. Among the factors instrumental in shaping this landscape were the distribution of resources in space and time; the fit between resource distribution and historic Zuni modes of production; and sociopolitical conditions that generated competing conceptions and realizations of the land. The reconstruction of the nineteenth-century environment was critical to understanding the social as well as the physical landscape. Botanical and palynological data from the site of Lower Pescado indicate that there has been little significant change in the distribution of major vegetation communities over the past 150 years (Rothschild and Dublin 1995: Appendix M). On the other hand, water and soil conditions were probably much better in 1850 than they are today, since timbering and dam siltation have caused considerable deterioration of the watershed and soil loss during the twentieth century (Ferguson 1988, 1989).

The uneven distribution of vegetation, water, and soils isolated "pockets" of land that were valuable for production at various times. Locational analysis revealed a correlation between the distribution of critical resources and historic site locations (figure 2; tables 1 and 2). Zuni satellite sites were located in areas suitable for the incorporation of introduced subsistence technologies and modes of production. Expansive grasslands provided excellent range for sheep, and proximity to range land was important in the seasonal dispersion into small satellite villages during the eighteenth century (Ferguson 1993).

European-introduced wheat required ditch irrigation (Lopinot 1986; Toll 1992:53), which in turn required a reliable water source. Sufficiently large, permanent springs are found in five localities in the nineteenth-century Zuni agricultural use area; three of these are adjacent to the Zuni farming villages at Lower Pescado, Upper Nutria, and Ojo Caliente. These villages developed in the mid-nineteenth century during a period of relatively high rainfall (figure 3; data from Rose et al. 1982), which enhanced an already hydrological situation. Wheat agriculture was

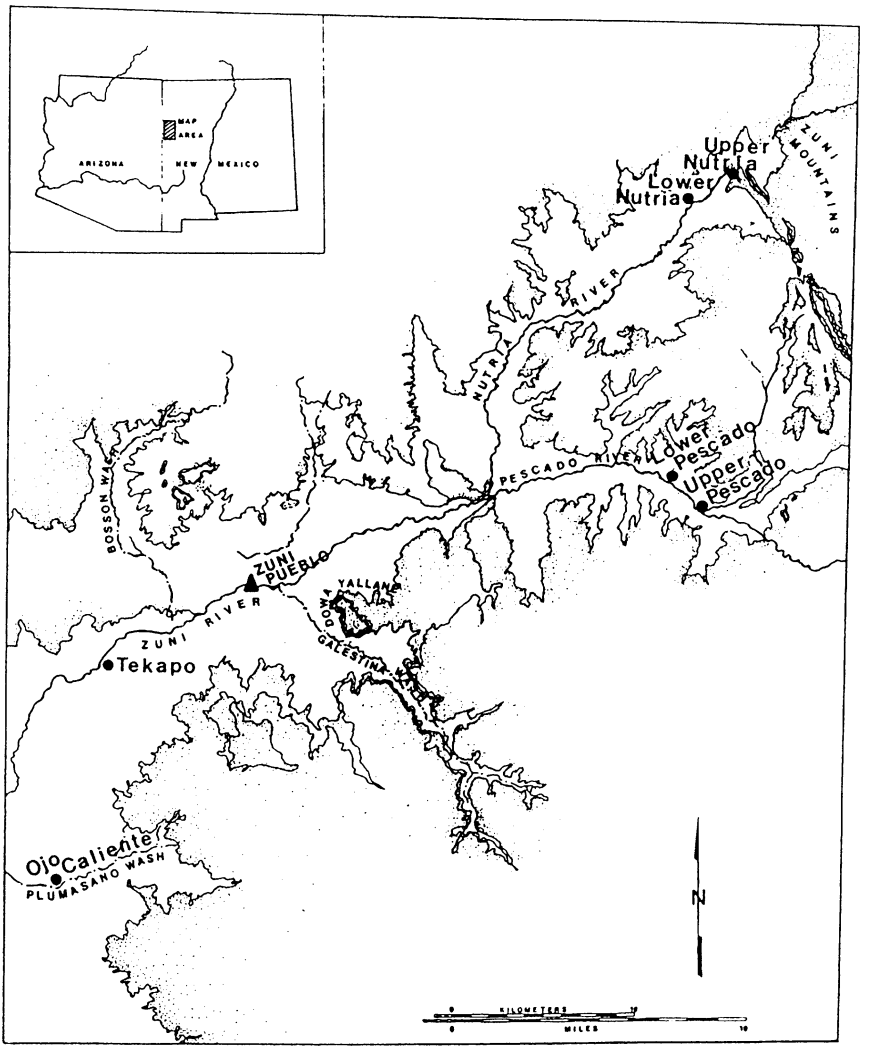

FIGURE 1. Nineteenth- and Twentieth-Century Zuni Sites.

labor-intensive, requiring the presence of relatively large groups at various times during the growing season and selecting for aggregated seasonal villages over small isolated farmsteads. There was also a market for grain during the late 1840s and 1850s, as Anglo-American forts provided a short-lived stimulus to Zuni production (Dublin 1998; Ferguson and Hart 1985). Basically, the Zuni were experimenting with irrigated wheat agriculture during a period when it would have stood the best chance of success, and the large nineteenth-century farming villages concentrated labor at places with suitable water and soils for wheat cultivation.

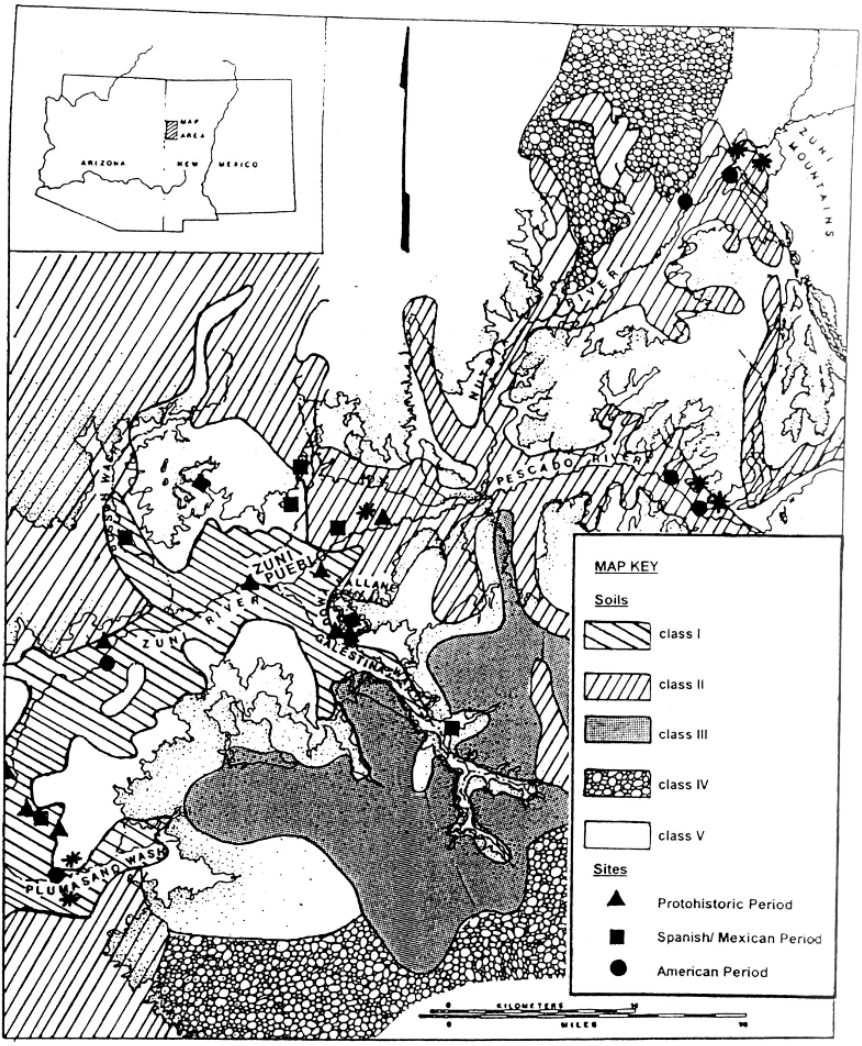

FIGURE 2. Distribution of Water and Soil Resources. Shading indicates areas with irrigable soils. Locations of the five major springs are marked with asterisks.

It is a mistake, however, to assume that the restructuring of the seasonal settlement landscape was solely a socioeconomic process. After 1875, a series of droughts and a prolonged period of arroyo cutting decreased the available water supply (Rose et al. 1982; Tuan 1966). The fact that the farming villages flourished after rainfall and erosion patterns had shifted and after the grain market had collapsed indicates that other factors contributed to shaping the landscape. I suggest that Zuni settlement decisions were related to the development of a more

TABLE 1. Expected vs. Observed Distributions of Sites and Water Resources.[1]

	All Periods		Protohistoric		Spanish/Mexican		American	
Class	Exp[2]	Obs	Exp[2]	Obs	Exp[2]	Obs	Exp[2]	Obs
I	2.2	9	0.6	2	1.0	3	0.6	5
II	2.6	6	0.7	4	1.1	1	0.7	1
III	7.3	6	2.1	0	3.1	5	2.1	0
IV	8.9	0	2.5	0	3.8	0	2.5	0
Totals	21	21	6	6	9	9	6	6

TABLE 1a. Results of the Kolmogorov-Smirnoff One-Sample Test on the Distributions of Sites and Water Resources.[1]

Values[3]	All	Protohistoric	Spanish/Mexican	American
D_{max}	.4857	.7797	.4222	.7797
N	21	6	9	6
Probability	<.01	<.01	<.10	<.01

[1] Data are from Dublin 1998.

[2] The formula used to calculate expected values was $r_i = Na_i/A$ where r_i is the expected value for a particular class of land; N is the total number of sites; a_i is the area of the class of land for which expected values are being derived; and A is the total area (Hodder and Orton 1976:224–5).

[3] The Kolmogorov-Smirnoff One-Sample Test was used to test the null hypothesis for each time period and for all the sites. This non-parametric test evaluates the goodness of fit between expected and observed distributions that are grouped in three or more ordered categories. The test statistic (D_{max}) is the maximum difference between the expected and observed cumulative frequency distributions expressed as proportions of the total sample size (Blalock 1972:262–4). The statistic is keyed to a table of critical values to evaluate significance.

complex political landscape after 1846. The major players—the Zuni (the oldest inhabitants), the Navajo, and the newly-arrived Anglo-Americans—held different perceptions of the land, which in turn contributed to the development of differing spatial strategies.

The Zuni conceptual landscape centered on Zuni Pueblo, the ancient and sacred Middle Place of the Zuni people. Zuni place names and oral histories identify an extensive sustaining area with a constellation of various "significant" places, some without any outward manifestation in the form of a built environment (Ferguson and Hart 1985). This landscape was closely associated with Zuni traditional history and wellbeing, i.e., with the condition of being Zuni.

The Navajo concept of *Dinetah* also identifies a landscape that is synonymous with the condition of being Navajo. In 1846, the boundaries of the *Dinetah* were not defined in topographic space; the Navajo, primarily herders, moved across a large area, including territory in the Zuni sustaining area (DNM 1855; Hart 1980; Kendrick 1947; Miera de Pacheco 1778; Reeve 1971). On their return from incarceration at the *Bosque Redondo*, Navajos established small communities near the Zuni farming villages (Bloom 1936; FWLB 1869; Green 1990).

TABLE 2. Expected vs. Observed Distributions of Sites and Soil Associations.[1]

	All Periods		Protohistoric		Spanish/Mexican		American	
Class	Exp[2]	Obs	Exp[2]	Obs	Exp[2]	Obs	Exp[2]	Obs
I	3.0	11	0.9	2	1.3	3	0.9	2
II	7.0	6	2.0	0	3.0	2	2	4
III	3.9	0	1.1	0	1.7	0	1.1	0
IV	1.1	0	0.3	0	0.5	0	0.3	0
V	6.0	4	1.7	0	2.5	4	1.7	0
Totals	21	21	6	6	9	9	6	6

TABLE 2a. Results of the Kolmogorov-Smirnoff One-Sample Test on the Distributions of Sites and Soil Associations.[1]

Values[3]	All	Protohistoric	Spanish/Mexican	American
D_{max}	.3810	.8500	.1888	.5166
N	21	6	9	6
Probability	$<.01$	$<.01$	$>.20$	$<.10$

[1] Data are from Dublin 1998.

[2] The formula used to calculate expected values was $r_i = Na_i/A$ where r_i is the expected value for a particular class of land; N is the total number of sites; a_i is the area of the class of land for which expected values are being derived; and A is the total area (Hodder and Orton 1976:224–5).

[3] The Kolmogorov-Smirnoff One-Sample Test was used to test the null hypothesis for each time period and for all the sites. This non-parametric test evaluates the goodness of fit between expected and observed distributions that are grouped in three or more ordered categories. The test statistic (D_{max}) is the maximum difference between the expected and observed cumulative frequency distributions expressed as proportions of the total sample size (Blalock 1972:262–4). The statistic is keyed to a table of critical values to evaluate significance.

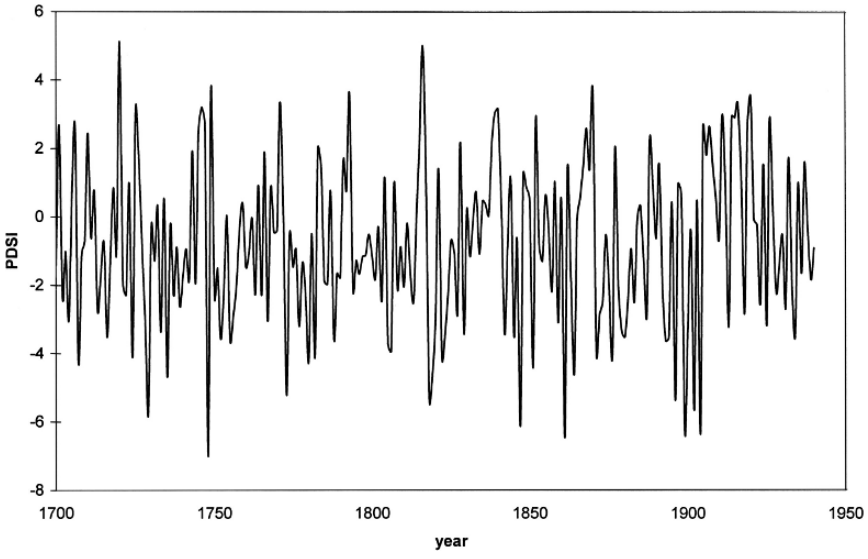

FIGURE 3. Graph of the Palmer Drought Severity Indices for the Zuni area, A.D. 1700–A.D. 1950. (Robinson et al. 1982) Values below -1 indicate potentially severe drought conditions. Note the generally favorable conditions during the 1840s.

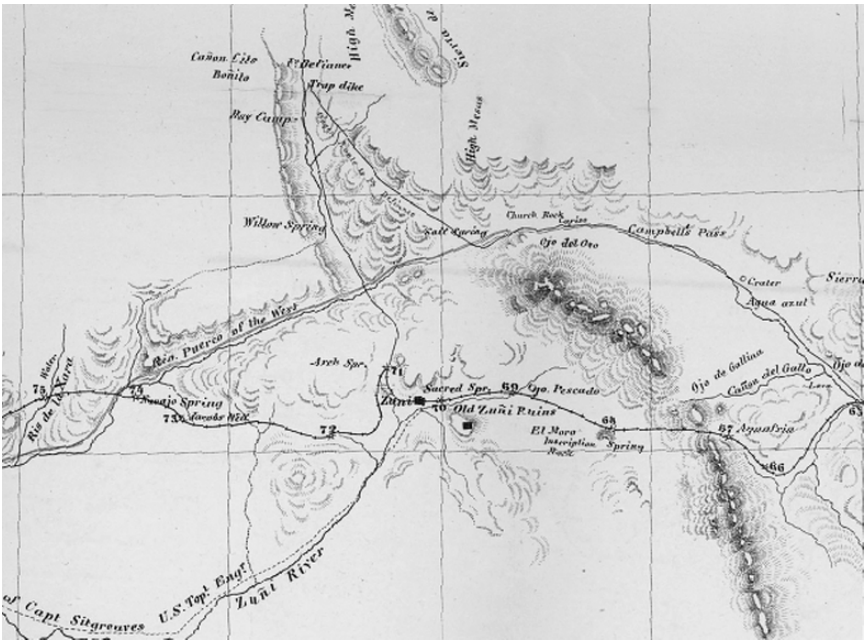

FIGURE 4. A segment of the Whipple Map of 1853, showing access routes into the Zuni area and the location of Fort Defiance, north of Zuni Pueblo.

The Anglo-American concept of "frontier" emphasized the presence of an "empty" landscape, unsettled, unimproved, and available for expansion. Initially, the Anglo-American built environment consisted of forts connected by an infrastructure of wagon roads, figure 4 (Whipple 1853). Surveyors and treaty-makers were common along the Zuni frontier in the 1850s, mapping railroad routes and drawing political boundaries (DNM 1855; Foreman 1941Lesley 1929; McNitt 1964). By the 1880s, the railroad, railroad towns, ranches, and timbering camps sprang up at the edges of the Zuni settlement landscape (Bender 1984; Ferguson and Hart 1985; Green 1990; Hart 1980; Teller 1954).

An examination of these concepts identified two crucial elements—the idea of expansion into an empty landscape and the association of the land with Zuni and Navajo political identity. By 1880, the farming villages at Upper Nutria and Lower Pescado had become "pressure points" along an expanding colonial front. Figure 5 shows the General Land Office Map of 1879; note that the reservation boundaries have been drawn, leaving the farming village of Nutria off the Zuni reservation. This was rectified during the 1880s, but only after considerable controversy (Green 1990). In this setting, the satellite villages, situated at ideal locales for the spatial expression of Zuni political identity, flourished.

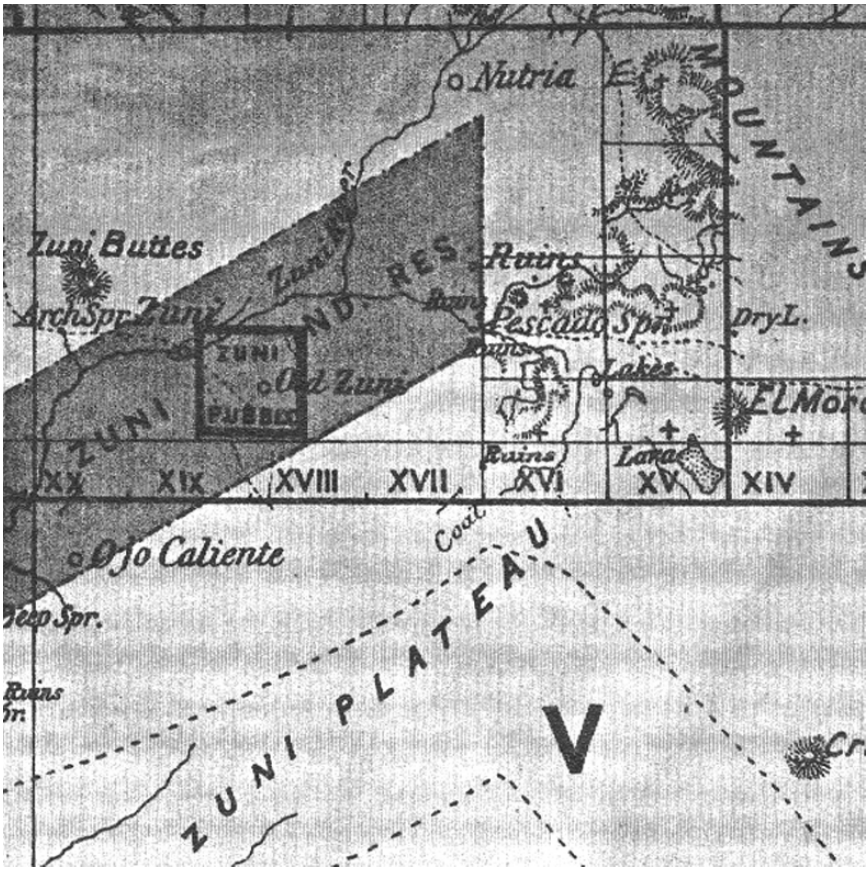

FIGURE 5. The General Land Office Map of 1879, showing the boundaries of the Zuni Reservation. Note the omission of the village of Nutria.

Both the built environment of the farming villages and their association with the historical landscape served to reinforce Zuni claims to Zuni land. I do not think that this is an unusual meaning for places. Garcia-Mason (1979:450) has suggested, for instance, that Acoma farming villages developed in response to Spanish threats to farmland along the San Jose River. After the Zuni reservation was fenced in the 1930s, Zuni ranchers built permanent facilities to claim use rights to restricted range (Ferguson 1993:104). Even today at the Zuni farming villages, the presence of three courses of standing masonry means that a building is not abandoned and that others may not build on that site (Rothschild et al. 1993:125).

The nineteenth-century farming villages concentrated the built environment at pressure points along main routes into Zuni Pueblo, visible to travelers. The farming villages were also associated with past Zuni places. Upper Nutria and

Lower Pescado were built on top of fourteenth-century pueblos, and Ojo Caliente is situated in the midst of an area rich in archaeological sites. The Zuni place name for the Pescado area—*Heshoda T'sina*, or "Painted House"—further acknowledges the connection of that place with past Zuni places. Given the non-linear nature of the Zuni historical consciousness (Holmes and Fowler 1981), I would expect that the connection of present and past places is much more significant for Zunis than it would be for Anglos, for example.

Lower Prescado Village and the Nineteenth-Century Zuni Landscape

Lower Pescado Village was a place that existed at the "edge" of a colonial frontier (although, of course, the Zuni considered it neither an edge, nor a frontier). This historic village built on the footprint of an ancestral pueblo represented a late expression of a spatial strategy of residential mobility. Tree-ring data indicate that there may have been a small occupation before 1840 (Rose et al. 1982), but the village reached its peak during the late nineteenth century (Dublin 1998). Cushing counted 580 summer residents at Lower Pescado Village in 1880 (Holmes 1983); in 1885, the village included more than 100 rooms (Mindeleff 1989). In decline by the 1930s, the site today has only two standing structures, which are used for storage and for occasional overnight stays by local herders.

The three nineteenth-century farming villages, larger and more agglomerated than their eighteenth-century counterparts, exemplified a shift in Zuni cultural geography as the settlement landscape was extended outward into strategic localities associated with valuable economic resources. I would suggest that a task of place-making at Lower Pescado Village was to balance the incorporation of desired innovations while retaining Zuni social and political identity. Anticipating that the farming village would express these economic and political meanings, I looked at the site structure (i.e., the built environment and the spaces in between) and the material culture. A comparison of the use of space at the nineteenth-century farming village and the fourteenth-century pueblo provided additional perspective.

Symbolic and pragmatic elements contributed to place-making at Lower Pescado Village. The spatial form of the Zuni past defined the shape of the farming village, which was built on an artificial mound created by two meters of fourteenth-century debris. This mound and the resulting elevation enabled it to be visible from a distance. The hollow oval layout of the farming village, shown here on Victor Mindeleff's 1885 map, figure 6, echoed that of the underlying nucleated pueblo, providing a visual structural link to the past.

Although the oval site layout was retained, the historic room blocks were not directly built on the older foundations. Rather, the nineteenth-century re-creation of the archaic settlement configuration was achieved by rebuilding the fourteenth-century perimeter wall which served as the rear wall of several of the historic room blocks. Figure 7 shows a plan view of our excavation of a segment of this wall and the adjacent foundations, all dating to the fourteenth-century component.

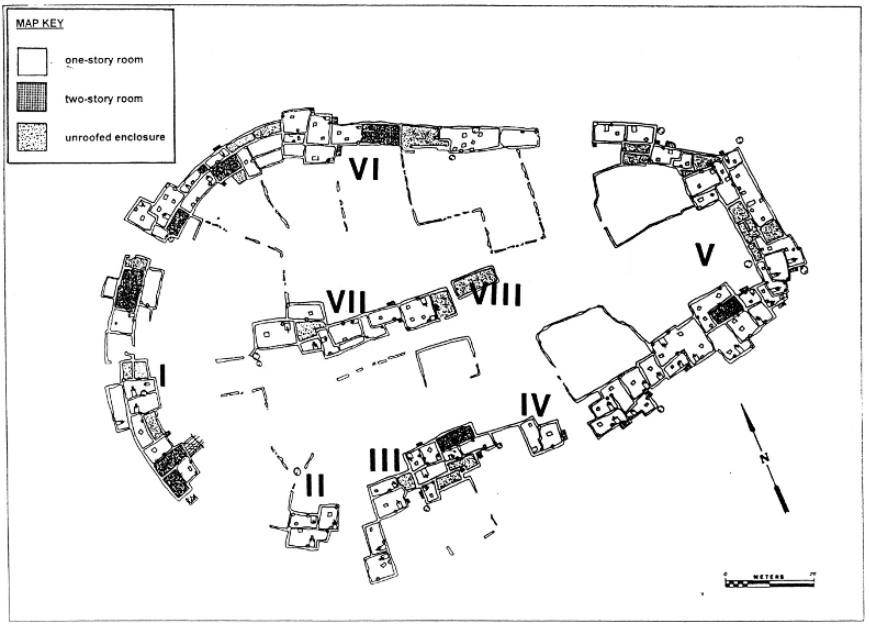

FIGURE 6. The Mindeleff Map of Lower Pescado Village, 1885.

The perimeter wall differentiated inside from outside spaces, although many of the spaces defined by this (re)built environment were used differently in the nineteenth century than they had been in the fourteenth. Aside from the disposal of trash indicated by an extensive stratified midden and areas of sheet scatter, spaces outside the wall were not used during the historic occupation. In the fourteenth century, these outside areas along the river bank had accommodated workshops and rooms. The perimeter wall and the relatively narrow openings between the room blocks limited access to the interior of the village and the central plaza. The plaza had been a social and ceremonial space in the fourteenth-century, but it was "secularized" in the nineteenth century, housing corrals, beehive ovens and other work areas, and a room block.

The formal archaic layout of the village contrasted with the informal character of the architecture. Construction techniques were inferior to those of the fourteenth century, a fact noted by Mindeleff (1989). The uncoursed masonry and a liberal use of chinking contributed to this informality, which was repeated in the use of space. Site structural analysis using artifact distributions and densities allowed a fine-grained view of how site space was used during the nineteenth century. Activity areas were overlapping and unspecialized, and generally neither bounded nor demarcated. A pragmatic and informal use of space is consistent with ethnoarchaeological models of seasonal sites (Graham 1994).

Temporal differences in the use of space reflected the needs of the time and the role that the site played in the regional settlement system. For instance, the

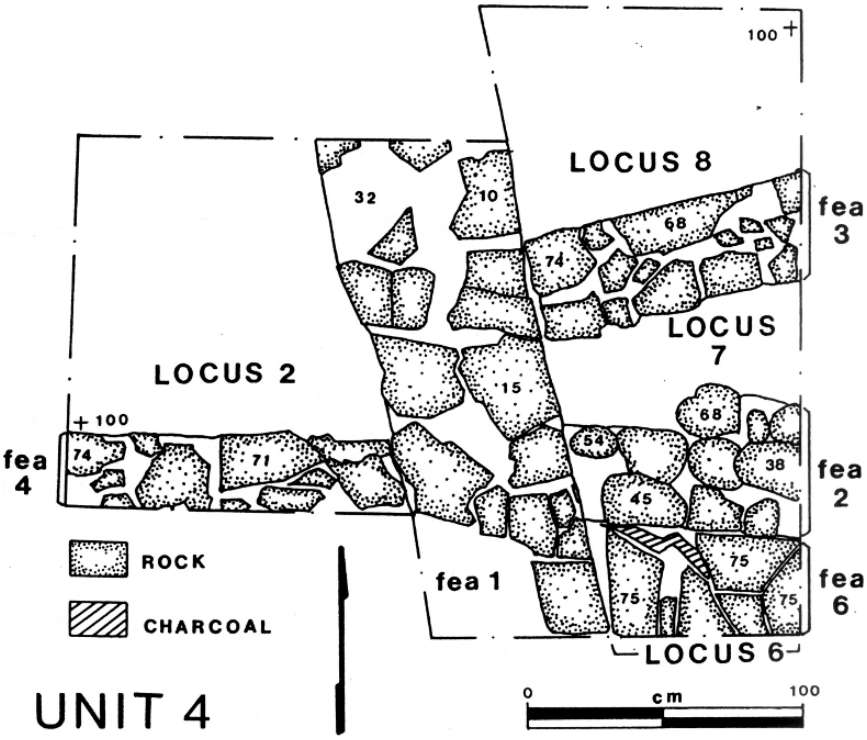

FIGURE 7. Plan view of Excavation Unit 4 at Lower Pescado Village. Feature 1 is the perimeter wall, while features 2, 3 and 4 are fourteenth-century foundations. Feature 4 underlay historic deposits.

enclosure of the corrals, activity areas, and room blocks safeguarded livestock and people from the frequent raids that occurred during the 1850s through the 1870s. The centrality of the corrals was also an indication of the importance of sheep and herding at this locality. Historic midden deposits at the site produced abundant sheep bone (figure 8), while fourteenth-century midden deposits yielded mostly the bones of turkey and small mammals–rabbits, prairie dogs, squirrels, etc.—that would be kept at villages or found in the vicinity of fields. The historic artifact assemblage is best described as "impoverished," in terms of the absolute number of artifacts and the number of activities represented by the various classes of artifacts (figure 9). Food remains and redeposited fourteenth-century sherds, the remains of sweeping, were by far the most numerous classes. Most of the nineteenth-century artifacts were kitchen-related items used in daily domestic routine, and there were few items of expensive site furniture. These findings are again consistent with models of seasonal sites (Graham 1994).

Many elements of the historic material culture at Lower Pescado Village recast new or introduced elements in older spatial or stylistic forms. Later residents used old architecture in new ways; figure 10 shows a fourteenth-century foundation that

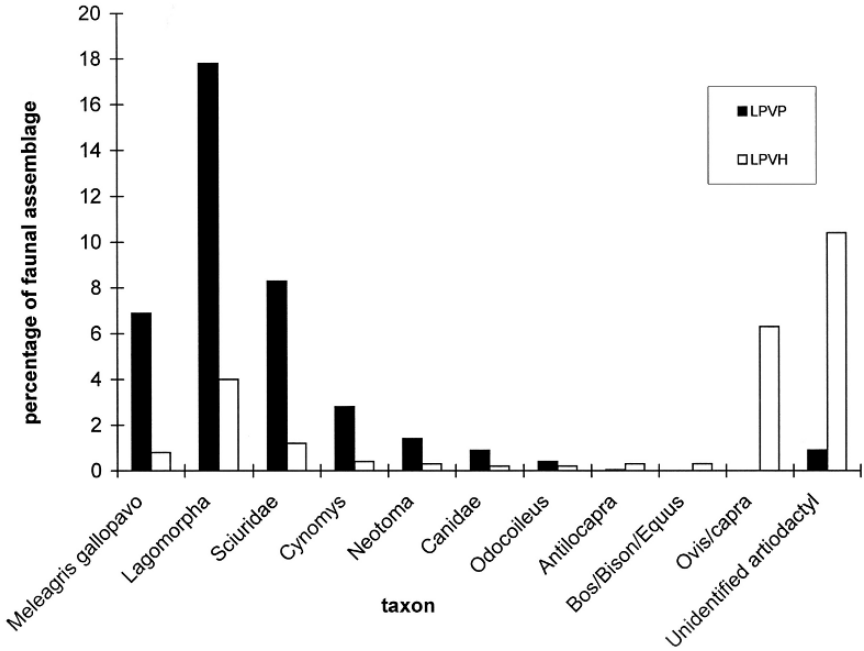

FIGURE 8. Common faunal taxa recovered from prehistoric and historic contexts at Lower Pescado Village.

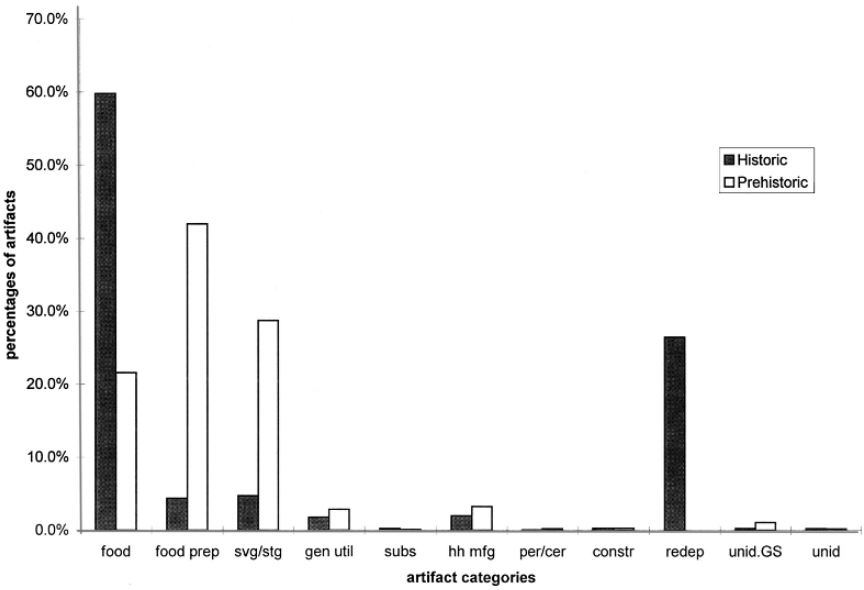

FIGURE 9. Functional classes of artifacts recovered from historic and prehistoric contexts at Lower Pescado Village.

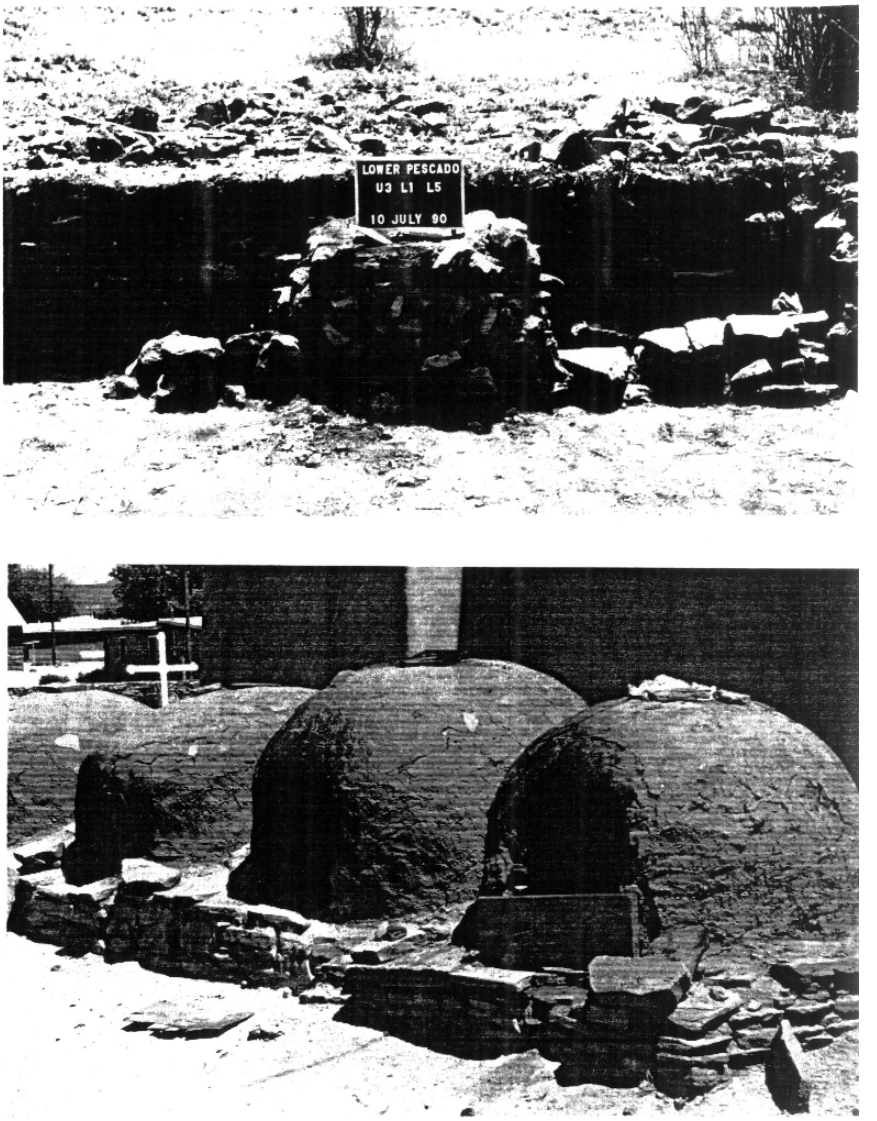

FIGURE 10. Top, the remains of a beehive oven, excavated as unit 3, Lower Pescado Village. Bottom, beehive ovens at Zuni Pueblo, 1990.

was reused as a platform for a historic beehive oven, an introduced feature type that was used for baking wheat bread, an introduced foodstuff. Other researchers have linked the persistence of Zuni ceramic traditions with the retention of social identity (Bunzel 1929; Ferguson and Mills 1982; Hardin 1983; Nahohai and Phelps 1996). Pots were also used in renegotiating cultural traditions. Two common Zuni Polychrome bowl forms recovered during the excavations at Lower Pescado

Village were used in the incorporation of introduced foods into Zuni culinary repertoires. Dough bowls were used in the processing of wheat flour for bread. Stew bowls were used for serving mutton-based soups and stews. The journalist Sylvester Baxter, who visited Lower Pescado with Cushing in 1882, described a meal at the summer home of the governor, Patricio Pino:

> Two large bowls of the smoking stew were dished out, one was set before us, and we drew around it, sitting on sheepskins and blankets spread over the earthen floor .. The dish was . . . a kind of thick mutton broth, with whole Grains of wheat to give it body . . .

AngloAmerican imports were relatively uncommon at Lower Pescado Village until the early twentieth century, almost 400 years after the Coronado *entrada.*

Summary and Conclusion

Research at Lower Pescado Village demonstrates how concepts of place and landscape can be helpful in elucidating other areas of culture. The location and built environment of Lower Pescado Village conveyed a strategic and symbolic meaning, tying the Zuni past to the contentious present of the 19th century. The use of space and the material assemblage, on the other hand, conveyed an economic and social meaning, documenting the selective incorporation of new lifeways within an ancient tradition. I think that the study of cultural landscapes and places is a potentially powerful concept for increasing our understanding of colonialism, European expansion and indigenous responses, and ultimately the making of the modern world, which as Robert Schuyler notes, is a goal of historic archaeology (Schuyler 1970).

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DNM Records of the Ninth Military District, District of New Mexico. Mss. on file at the National Archives, Washington.

FWLB Fort Wingate Letter Books. Mss. on file at the National Archives, Washington.

7
Envisioning Future Landscapes in the Environmentally Sensitive Areas of Scotland: An Introduction*

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Over the past decade and stimulated in part by the 1992 Rio Earth Summit, there have been major shifts in the perception of land, its use and its management. Increasingly, land is no longer viewed simply as resource to be developed for economic activity but is seen as an asset to maintained and improved for the well-being of present and future generations. Furthermore, land is also seen in a wider context as an essential part of the political, social and cultural fabric and of ecological balance (United Nations Commission on Sustainable Development, 2000). With new perceptions of land, come new challenges for environmental policy makers concerned with the use of land resources and their management. In addition to the conventional foundations for environmental policy formulation based on observed evidence, policy makers are increasingly required to consider future landscape scenarios, incorporate the views of local and national communities, and ensure that decisions have a sound economic rationale. Integrating these different dimensions within land resources policy formulation is a difficult task, although not impossible given new land resource data bases, modelling approaches and increasing political environmental diplomacy across international boundaries.

The paper below presents predictions of future landscape scenarios as a foundation requirement for an integrated approach to land resource decision making, using the example of the Environmentally Sensitive Areas (ESAs) of Scotland (Simpson et al., 1997). Within designated ESAs, farmers are awarded annual payments in return for following a set of land management practices designed to protect and enhance the conservation value of the landscape. The questions that arise for policy makers are what future changes these payments will bring to the landscape, whether local and national communities value these changes, and what modifications should be made to existing policy mechanisms to further achieve conservation and environmental benefits. Predicting visual changes in ESA landscapes as a basis

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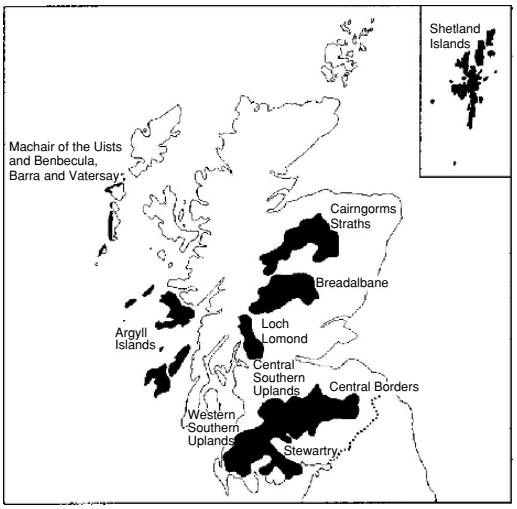

FIGURE 1. Information pack representation of predicted farmland landscapes; Breadalbane, Scotland, Environmentally Sensitive Area (ESA).

for ESA policy evaluation, with the awards policy on and off, is the subject of the paper below.

Predictions of visual changes in these ESA landscapes are based on appropriate base-line data (observed evidence), application of ecological principals of classification and succession (Simpson et al., 1996), impact assessment procedures and computer manipulation of photographic images. In undertaking these predictive procedures, substantial differences in policy on—policy off scenarios are revealed. These visual predictions provide a basis from which to develop information packs (Figures 1–3) that can be presented to local residents in the ESA areas, to those

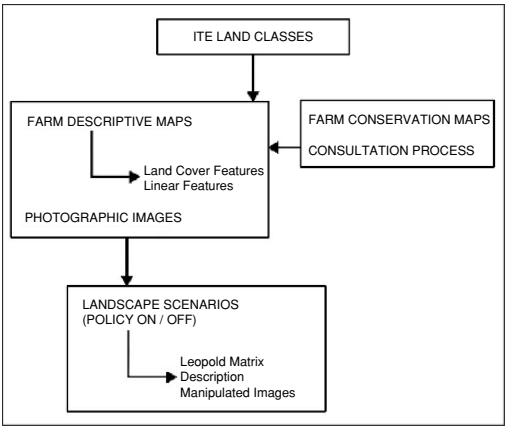

FIGURE 2. Information pack representation of predicted floral changes; Breadalbane, Scotland, Environmentally Sensitive Area (ESA).

POLICY ON

	BREADALBANE						MACHAIR	
Land Class	21	22	23	24	25	26	29	30
Landscape								
LC.dw	P,En	P,En	P,En	P,En	P,En	P,En		
LC.pw		P,En,Ex						
LC.up	P	P,En,Ex		P,En	P,En		P	
LC.hrm							P	
LC.hm		P	P					
LC.w	P	P,En		P,En	P,En	P,En	P	P,En
LC.pm							P,En	P,En
LC.d							P	P
LF.wa	P	P,En		P,En	P,En	P,En		
LF.h					P			
LF.wo	P,En							
LF.wat		P,En			P			
LF.tr	En							
PF.t								
PF.a	P	P,En						
AR.set		P			P	P,En	P	P

KEY

LC - Land cover
dw - deciduous woodland
pw - pine woodland
up - unimproved herb rich pasture
hrm - herb rich meadow
hm - heather moor
w - wetland
pm - ploughed machair
d - dune

LF - Linear features
wa - walls
h - hedges
wo - woods
wat - water courses
tr - tracks

PF - Point features
t - trees
a - archaeological features

AR.set - archaeological settlements and field systems

Cells - Conservation status
P - Protected
En - Enhanced
Ex - Extended

POLICY OFF

	BREADALBANE						MACHAIR	
Land Class	21	22	23	24	25	26	29	30
Landscape								
LC.dw	C.ug	R	R	R,C.b	R	R,(P)		
LC.pw		C.f						
LC.up	C.ig/f/b	C.b		C.b			*C.ug/rp	
LC.hrm							*C.ug/rp	
LC.hm		*C.f	C.ag/b					
LC.w	(P)*C.ig	C.b		*C.b		C.ug	*C.ug/rp	*C.ug/rp
LC.pm							*C.ug/rp	*C.ug/rp
LC.d							D	D
LF.wa	L	L		D	D	D		
LF.h					D			
LF.wo	L							
LF.wat		D						
LF.tr	L							
PF.t								
PF.a	D	D						
AR.set						(P)		

KEY

Landscape features -
as above

Cells - Change to conservation status

R Partial loss / reduced cover

C Change of land cover with change to:
f - commercial forestry
ig - improved grassland
b - bracken
ag - acid grassland
rp - rough pasture
*C - limited change to land cover

D Damaged linear or point feature

L Loss of linear or point feature

(P) Protected land cover, linear or point feature

FIGURE 3. Information pack representation of predicted changes in historical and archaeological features; Breadalbane, Scotland, Environmentally Sensitive Area (ESA).

visiting the area and to the general public with a view to obtaining economic value estimates of conservation and landscape benefits. Use of Contingent Valuation Methods (CVM) have suggested a willingness to pay (WTP/household/year) of £31.43 (open—ended CVM) for residents, £73.00 (dichotomous choice CVM) for visitors and £22.02 (open—ended CVM) and £42.00-£57.00 (dichotomous choice CVM) for policy on scenarios (Hanley et al., 1996; 1998). Choice Experiment methods (CE) have also been applied to the visual predictions of policy on—policy off, where different landscape features are ranked. Using these

methods the following ranks and a 'marginal' WTP value were obtained as follows: woodland (ranked 1—$50.46.), heather moor (ranked 2—£22.95), wet grasslands (ranked 3—£20.85), dry-stone walls (ranked 4—£11.30) archaeology features (ranked 5—£6.65) (Hanley et al., 1996; 1998).

These observations have been used to suggest that the non-market benefits may outweigh the costs associated with implementing the ESA programme, although this may vary with the methods of valuation used (Hanley, et al., 1999). They have also lead to the suggestion that awards systems are used to support key habitats and landscape features more highly valued by local and national communities, although it has been noted that this may lead to the fragmentation of an otherwise diverse and stable cultural landscape. However, irrespective of the valuations made by local and national communities and the resultant implications for policy formulation, such valuations are only as robust as the landscape predictions on which they are based and the scientific principles that underlie them.

Introduction

Since the mid-1980s, there has been a substantial shift in the objectives of the European Union (EU) Common Agricultural Policy (CAP). Prior to this period, emphasis was on stimulating agricultural production through a system of guaranteed prices and structural support, with little consideration given to emerging environmental disbenefits. More recently, partly in response to budgetary constraints arising from overproduction and partly as a result of pressures from environmental groups, has come recognition of the potentially damaging environmental impacts of intensive forms of agriculture and the realization that maintenance of traditional agricultural practices is essential if rural landscapes are to be conserved.[1]

Article 19 of EC Structure Regulation 797/85 reflected this new ethos and allows the designation of Environmentally Sensitive Areas by member states where maintenance of particular agricultural practices is likely to facilitate the conservation, enhancement or protection of areas of national environmental significance. After successful pilot programmes, such areas have now been designated in Ireland, Denmark and the Netherlands as well as in the UK. In Scotland, ten ESAs, extending to some 1.4 million ha (Fig. 1), have been designated under section 18 of the UK Agriculture Act 1986 and administered by the Scottish Office Agriculture, Environment and Fisheries Department (SOAEFD). At the heart of the current ESA programme in Scotland is a voluntary ten-year agreement, based on a conservation plan for the individual farm holding, which awards farmers an annual payment in return for following a prescribed set of farming practices designed to protect and enhance the environment. Some of these practices are compulsory and apply to the whole holding (tier 1 prescriptions); others apply to specific features of conservation interest and may be compulsory or optional (tier 2 prescriptions).

[1] See Dessylas (1990); Potter (1988); Robinson (1994); and Whitby and Lowe (1994).

In view of the large areas of countryside now covered by ESA designations and the substantial sums of public money invested, policy-makers are asking what the long-term conservation benefits are likely to be. This paper addresses the concern for the future appearance of agricultural landscapes by constructing representations of them under ESA 'policy-on' and 'policy-off' scenarios. Making such predictions requires the development of impact-assessment procedures together with protocols for the manipulation of photographic images using computer and CD-ROM technology. Two Scottish ESAs with contrasting landscapes – Breadalbane in the southern highlands and the Machair of the Western Isles – are the focus for this analysis (Fig. 1).[2] The predictions will have direct bearing upon the development of non-market costbenefit analyses of ESA programmes, on public consultation processes under 'local' Agenda 21 arrangements and, ultimately, on the formulation of future ESA conservation policies.

Developing Predictive Methodology

A number of key elements are required for the development of a robust predictive methodology (Fig. 2). An essential prerequisite is a thorough understanding of how the policy instrument under consideration operates. From this basis, appropriate environmental and land-management sampling strategies can be developed which reflect the range of landscape types and management activity in the individual holdings across the ESA areas. Indicators of change in land cover, particularly those of conservation importance, are needed together with procedures for establishing future land-management practices.

The Policy Instrument: Breadalbane and the Machair ESAs

The ESA programmes are entirely voluntary and require the farmer to enter into a ten-year agreement with SOAEFD, with an exit clause for both parties after a five-year review period. The agreement obliges the farmer to observe a series of requirements (SOAFD 1992, 1994a, 1994b) designed to protect the land from damaging farm practices; prepare a five-year conservation plan containing appropriate management measures; prepare a financial summary covering the fiveyear period; and provide an annual review of the conservation plan.

The requirements of the scheme are divided into two tiers. Tier 1 contains the standard requirements which apply to all land in a farm or croft holding within the ESA area. These are aimed at protecting existing conservation status. Tier 2 contains requirements for active management which will enhance and extend important features of conservation significance. These requirements are mandatory for woodlands, wetlands, herb-rich pastures and cultivated machair. They are

[2] Breadalbane was introduced through UK Statutory Instruments 653: 1987 and 2063: 1992; the Machair of the Western Isles through UK Statutory Instruments 495: 1988 and 3149: 1993.

optional for heather moorland, stone dykes, hedges, features of historic and archaeological interest and, on the Machair, anti-erosion measures. All features are recorded on a descriptive map of the holding. In order to qualify for payment under tier 2, the farmer must also produce a (confidential) farm conservation map, usually at a scale of 1:10 000, detailing the features of conservation interest that are to be managed. The descriptive and conservation management maps are generally produced by advisory service personnel in collaboration with the farmer.

Payments to farmers in return for conservation management are divided into tier 1 and tier 2 payments. In Breadalbane, tier 1 payments are calculated on the amount of land protected by the standard requirements of the programme. Annual payments are currently at a rate of £15 per ha of enclosed land and £1.50 per ha for unenclosed rough grazing, with a yearly ceiling of £2000 per holding. Tier 2 payments are paid in addition to tier 1 payments and are made up of two separate types: first, a flat rate payment (per ha) in compensation both for additional labour costs and for loss of revenue from output foregone; and, secondly, payments for work performed under the conservation plan based on standard costings. The annual ceiling on tier 2 payments is £4000 per holding or £130 per ha, whichever is lower. Thus the ceiling for farms in the Breadalbane ESA programme is £6000 for an agreed programme of conservation management on the holding.

For the Machair ESA, the same structure of payments exists but the recipients can include individual farmers and/or the relevant grazing committee. Tier 1 payments are currently paid at £15 per ha to a minimum of £150 and a maximum of £1000. Tier 2 payments comprise two parts, one being the annual hectarage payment and the second for specified works. The ceiling on tier 2 payments in the Machair ESA is set at £2000 for individual farmers and £12 000 for the grazing committee.

Whether farmers enter the ESA programme and implement conservation management practices is dependent upon a complex interaction of individual decision-making strategies. Trade-offs between impact on farm income and restrictions placed on farm management, and perceptions of what constitutes 'traditional' and 'progressive' farming practice are critical factors in programme uptake in Breadalbane. Other factors of significance include the role of farm advisers, previous experience with conservation designations and pressure from social networks (Skerratt and Dent 1996).

Environmental and Land Management Sampling Strategy

Recognizing that a range of landscape types occur within ESA areas and that land management activity varies between landscape types, the ITE land classification (Institute of Terrestrial Ecology 1991) was used to organize the collection of baseline environmental and land management data for policy-on/off scenarios in the Breadalbane and Machair ESAs (Table 1).[3]

[3] Ten ITE land classes are recognized within the Breadalbane ESA (classes 19–28 inclusive; see Table 1) but, for the purposes of this study, classes 19 and 20 were not considered because of their small area and class 26 was taken as representative of classes 25–27 because of

TABLE 1. ITE land classes for Breadalbane and Machair Environmentally Sensitive Areas.

Land class	Area (km^2)	Description
Breadalbane		
19	3	Steep slopes leading to broad ridges/flat tops. Enclosed upland and some forest under rough grazing
20	1	Valley with complex topography in upland and marginal lowland pasture
21	366	Peneplain with complex drainage
22	664	Dip slopes or broad glacial valleys with variable gradient. High moor with rough grazing
23	490	Ridges, scarps and summits. Steep. Open mountains with wide vistas. Limited open grazing
24	320	Glaciated valley sides to rocky summits. Very steep, rugged and rocky
25	70	Alluvial flood plain or moraine. Flat with dip slopes. Intensively farmed
26	21	Undulating valley floors with mixed landscapes. Mainly grass but also arable
27	19	Mainly valley floor with bluffs. Gentle to steep. Fenced lowland
28	17	Heterogeneous landform and landscape. Mainly flat, Pasture or rough grazing
Machair		
29	30	Indented coastline, uneven topography, complex scenery
30	128	Peneplains, variable topography
31	1	Windswept, exposed coast; open grazing on peat
32	44	Variable topography, bleak moorland with scattered lochs on peatland

Source: Institute of Terrestrial Ecology (1991).

A preliminary examination of descriptive maps established the range and diversity of conservation features to be found within the different land classes. This preliminary review also established that conservation features with potential for management form only a proportion of the total holding area. Landscape conservation features within holdings that are specifically targeted by the ESA programme can be classified as land cover, linear and point features. In Breadalbane, land cover of conservation importance, and targeted by the ESA programme, includes grasslands, wetlands, woodlands and heather moorlands and, in the Machair ESA, grasslands, cultivated machair, dune systems and rough pasture. Linear features of conservation importance include walls, hedges and water courses. Point features are predominantly those of archaeological interest. Archaeological settlements and early field systems are given a discrete landscape category in this study.

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their limited extent and close proximity to each other on the lowland edge of the highland boundary fault. This meant that six individual land classes were considered for Breadalbane. Within the Machair ESA, four land classes are recognized (29–32 inclusive; Table 1). Here land classes 29 and 30 are dominant and are the ones used in this study.

Baseline characteristics of landscape conservation features within the different land classes were obtained by examining the descriptive maps of those holdings entered into the ESA programmes by the end of November 1994 under the 1992 designation order in Breadalbane, and by the end of September 1994 under the 1993 designation order in the Machair.

Conservation Indicators

Development of conservation indicators and accounting is still in its infancy but, in this analysis, key conservation management objectives contained within the ESA prescriptions were used as a basis from which to develop indicators of the conservation quality of land cover. These objectives are as follows:

- protection: the maintenance of existing conservation quality which is largely achieved under tier 1 of the ESA prescriptions. Protection is a necessary prerequisite for enhancement and extension of conservation quality;
- enhancement: the improvement of conservation quality through active management, achieved under tier 2 prescriptions. For and cover and some linear features this generally means an increase in botanical diversity;
- extension: the increased spatial and linear extent of areas or features of conservation interest achieved under tier 2 prescriptions. Land cover, linear and point features may be extended, with further enhancement of newly developed features also possible.

A set of terms also needs to be developed to indicate negative impacts in conservation quality. For the purposes of this analysis, the key indicators are as follows:

- change: the removal of features of conservation interest, including botanical diversity, from the landscape with a change to land cover types not of conservation interest under the ESA programme;
- partial loss: loss of part of the extent and botanical diversity of the features of conservation interest (Simpson *et al*. 1996).

Future Land Use and Management Practices

Central to the predictions of visual landscape characteristics made in this study are assumptions on future land use and management with the ESA policy on and off, which need to be interpreted in terms of their impact on the conservation status of landscape. It is recognized that the ESA programme is embedded within the CAP and is an instrument by which farmers may have protection, to some extent, from current reforms towards a more market-orientated CAP. Policy-on scenarios represent the CAP with the ESA programme in place; policy-off scenarios the CAP without the ESA programme. Such scenarios would mean that farmers were eligible for other agri-environment measures, notably the Habitats Scheme (SOAFD 1995a) and the Heather Moorland Extensification Scheme (SOAFD 1995b). Uptake of these schemes across Scotland has been poor, however, and they are unlikely to have a significant conservation impact under current arrangements (Darkin 1996). A precise time period of change in conservation status under the ESA programme is not given due to the uncertainties surrounding rates of change for different conservation features but the predictions made represent the time when the ESA programme reaches maturity for all features of conservation interest. This has been variously estimated as being between ten and 80 years with, for example, features such as walls and hedges being rehabilitated earlier than deciduous woodland.

Policy On

These scenarios are based on the general requirements that farmers and crofters are obliged to undertake on entry into the scheme (SOAFD 1992, 1994a, 1994b) and the more specific management practices contained within the farm conservation plans that form part of a holding's application. Conservation plans include precise and detailed financial arrangements for targeted management activities closely matching local environmental requirements. Farmers are obliged to undertake these detailed management activities with the timescale of activities varying from holding to holding; agreements are monitored by SOAEFD to ensure compliance.

Proposed management practices were examined in the range of holdings currently entered into the scheme, providing a secure basis from which to make predictions of change in conservation status in both Breadalbane and the Machair ESAs. Further refinements to the predictions were made after discussion with the statutory agencies and the project steering group.

In practice, there will be two types of policy-on scenario: one related to the tier 1 level of management and the second related to the tier 2 level. Under tier 1, there is prevention of damage to features of conservation interest by agricultural operations, prevention of overgrazing and the nonapplication of herbicides, pesticides and fertilizers. This means that the integrity and conservation status of all conservation features will generally be maintained at their existing level. Small-scale forestry activity on the enclosed areas of Breadalbane will occur but will avoid sensitive habitats.

Under the mandatory tier 2 requirements, there is additional control of the number of domestic stock grazing herb-rich pastures, wetlands and woodlands as well as removal of livestock over the late spring and summer period from herb-rich pastures. This is intended to allow flowering plants to set seed and woody species to regenerate, resulting in the maintenance and enhancement of species diversity. The extension of these important habitats will also occur on some holdings through tier 2 management activity. Where farmers enter land under the optional tier 2 prescriptions, enhancement and extension of heather cover along with increased lengths of dykes and hedges will occur. Archaeological features will be enhanced by the removal of overgrowing and damaging vegetation, and by preventing stock access.

Policy Off

For this scenario, assumptions were made after consultation with SOAEFD, Scottish National Heritage and Historic Scotland officers with responsibilities for the two ESA areas, the MLURI (Macaulay Land Use Research Institute) ESA monitoring team and after discussions within the project steering group. During the discussions, a number of policy-off options emerged. These ranged from moderate intensification, based on general post-1945 agricultural trends and the need to maintain incomes within the context of declining agricultural prices, to abandonment of agricultural land resulting from continuing decline in agricultural prices under current and projected CAP and GATT (General Agreement on Tariffs and Trade) reforms. Livestock production dominates agricultural activity in the two ESA areas and, in view of the existing limits on livestock subsidies within the Less

Favoured Areas (LFAs) together with downward pressure on agricultural prices, the general consensus was of a gradual but limited decline in livestock production and movement towards other forms of economic activity. It is accepted, however, that a few farmers in certain specific localities might respond to current and pending economic constraints with a moderate degree of intensification but that such farmers will be in the minority.

A decline in livestock production carries a number of implications for the conservation status of both inbye and rough grazing areas. In the inbye area of Breadalbane, land covers of species-rich grassland and other habitats with arrested successions will be threatened by undergrazing. Here, successional development will be towards scrub woodland and bracken cover. Some areas of better quality inbye will be given over to small-scale afforestation where maximum benefit will be gained from the Farm Woodland Premium Scheme and the better land supplement of the Woodland Grant Scheme. In such circumstances, valuable habitats, from both the landscape and botanical perspectives, will be lost where they are not protected by Sites of Special Scientific Interest (SSSIs) designation. The postulated decline in grazing pressure will not, however, be sufficient to allow natural regeneration in established woodlands where, as elsewhere in the inbye area, stock-control walls will continue to deteriorate. Here, there will be an ageing tree population and, in the understorey, grasses will increase at the expense of herbs. On the few farms where moderate intensification occurs, there will be an increase in the area of improved grassland and of big-bag silage production. This will be achieved through small-scale drainage works on wetland areas and by reseeding unimproved pastures. With increasing grazing pressure, woodlands will deteriorate rapidly.

On rough grazing areas in Breadalbane, there will be localized overgrazing. This will mean an increase in acid grassland cover on heaths and cotton grass on bog substrates at the expense of heather cover. Unless the revised Woodland Grant Scheme leads to a commercial change, there is no evidence that future large-scale afforestation will be a significant issue, with applications for large-scale afforestation in Breadalbane now minimal. Any revision of the scheme would clearly alter this position. Where coniferous forestry is already wellestablished, surrounding areas may be taken into forestry to improve economies of scale.

Within the Machair, there will be a gradual loss of land cover diversity due to reduced livestock grazing. It is significant that farms not entered into the current ESA programme are those where agriculture is less intensively managed and reversion is taking place. Blackland areas will revert to unimproved grassland/rough grazing and there will be a parallel loss of cultivated machair. On the dune systems, storm damage is less likely to be repaired, with dunes advancing onto the machair plain in some areas. It is likely that there will be an increase in the amount of scrapped agricultural machinery littering the landscape.

Envisioning Future Landscapes

One holding from each of the eight ITE land classes under examination was selected to develop future visual policy-on/off landscapes. These holdings were chosen as

being closest to the mean occurrence (number) and extent (ha) of key conservation features (Fig. 3) in a randomly selected 20 per cent sample of holdings entered into the ESA programme within each land class. The eight selected holdings are considered, therefore, to offer a representation of the range of features of conservation interest in the two ESA areas. A general statement of the landscape conservation implications of policy-on/off scenarios for these eight holdings is contained in the Leopold matrix of Figure 3, with details discussed below.

To provide scenes from which predicted landscapes could be developed, photographs were taken during September and early October 1994. These were taken from two fixed points in each of the eight selected sample holdings. Photographs were chosen from this set to form the medium onto which policy-on/off scenarios for individual holdings were developed after consultation with the project steering group and trials with three general public focus groups. Colour visual representation of policy-on/off scenarios as photographic images was achieved through an AppleMac computerbased image-processing system.[4] Black and white examples of the manipulated images are presented in Figures 4a and b, 5a and b, and 6a and b.

Land Class 21, Breadalbane

Policy On

On the lower slopes of this landscape unit, woodland areas will be protected and enhanced by fencing. This will encourage natural regeneration which is currently not in evidence due to excessive grazing and poaching. The landscape consequence of this management activity is a slight increase in woodland cover. Further upslope, the wetland/herb-rich grassland mosaic will be protected through fencing to prevent overgrazing and by stopping further drainage of the areas. This will maintain and slightly diversify the existing landscape structure. Recently planted small-scale coniferous woodland areas will modify the landscape structure over the timescales of the ESA programme. Archaeological landscape features, in particular the standing stone, will be protected within the area, maintaining its current position (Fig. 4a).

Policy Off

The areas of woodland, including linear woodland, will gradually degenerate and disappear, being replaced by grassland, as in other areas of this landscape class. This process will be particularly marked in the lochside woodlands.

[4] Photographs for manipulation were converted to CD-ROM pixel-based imagery and imported into the computer via a CD drive. Experimentation with the images established 1536 × 1024 pixels per photograph as the optimal resolution. Manipulation of the images was undertaken using Adobe Photoshop and a photographic library developed for each of the eight land classes. Text was added to the manipulated images using Adobe Illustrator software. The manipulated images were output to an external hard disc for printing and storing. Each image required a memory of between 3–4 MB.

FIGURE 4a. Land class 21, Breadalbane; policy on.

FIGURE 4b. Land class 21, Breadalbane; policy off.

Where wetland/herb-rich grassland mosaics are not protected by SSSI designation, bracken will replace the herb-rich pasture, while the wetland areas will be maintained. An alternative possibility is that, if there is a moderate degree of intensification, the wetland areas will be subject to small-scale drainage, which is

already evident on this sample holding, and replaced with more intensive forms of grassland production. Small blocks of commercial forestry will also be introduced to this area, as has already happened. The archaeological features will be retained, although they may be damaged if stock levels increase. The general impression from this sample holding is that moderate intensification is just as likely as agricultural decline under policy-off scenarios (Fig. 4b).

Land Class 22, Breadalbane

Policy On

This will result in protection of the existing landscape structure on the moorland fringe, which includes areas of grassland, wetland and deciduous woodland, through stock management practices. Additional management measures will result in an extended birch woodland cover and extension of the unimproved pasture. Linear and point landscape features will be protected and enhanced through the rebuilding of dykes and by clearing the disused limekiln. On the moorland, landscape diversity will be enhanced and extended through the exclusion of stock and natural regeneration of Scots pine. This will occur predominantly on the drier substrates, except where archaeological sites are present, resulting in a complex mosaic of wetter rush-dominated areas, with small patches of scrub birch, and a drier Scots pine-dominated land cover (Fig. 5a).

FIGURE 5a. Land class 22, Breadalbane; policy on.

FIGURE 5b. Land class 22, Breadalbane; policy off.

Policy Off

On the moorland fringe, landscape diversity will be diminished through the gradual reduction in birch woodland cover; the herb-rich pasture and the wetland area will be replaced by extended bracken cover. Dykes will become derelict and archaeological features will be overrun by vegetation, increasing the damage to these features. Currently, the moorland area of the holding is surrounded on three sides by coniferous forestry plantation and it is almost certain that this area would be used in the same way to improve economies of scale under the policy-off scenario (Fig. 5b).

Land Class 23, Breadalbane

Policy On

This land class is subject only to tier 1 prescriptions, except in areas of deciduous valley woodland. Landscape structure will be protected from overgrazing and management activities to improve vegetation productivity, thus remaining constant in the absence of active conservation management measures. Managed burning of heather (muirburn) required under tier 1 will contribute to the conservation of landscape structure by creating heather mosaics of different ages. Coniferous forestry plantations, already planted, will continue to have a significant influence on the structure of this landscape type.

Policy Off

This will involve preferential grazing by sheep, with a consequent localized overgrazing. The reduction in heather cover will be replaced on the upper sloping areas by acid grassland while, on lower slopes, there will be an expansion of the bracken area.

Land Class 24, Breadalbane

Policy On

Here diversity of landscape structure will be protected and enhanced through stock-control fencing on the herb-rich grasslands and the wetlands. Landscape structure will also be enhanced and extended through birch regeneration. Stockproof walls within holdings will be maintained and additional walls repaired using local stone and traditional turf capping.

Policy Off

The diversity of landscape structure will be reduced. Bracken cover will increase as it is already well-established in these land classes, minimizing birch regeneration. The small area of herb-rich grassland will be undergrazed with the consequent appearance of ragwort and thistle prior to being replaced by bracken. It is likely that the wetland area will also suffer bracken invasion around its fringes. Walls will become increasingly derelict.

Land Class 25, Breadalbane

Policy On

Deciduous woodland will be protected and enhanced. Protection of these woodlands will be achieved through the total exclusion of stock and enhancement through the removal of conifers, sycamore and rhododendron. Unimproved pasture is enhanced through bracken management and the exclusion of stock during the flowering period. The wetland area will be protected and enhanced through the exclusion of stock during the summer months with some additional scrub woodland cover emerging. Dykes and hedges will be repaired and made stockproof. Archaeological sites will be protected under tier 1 but are not subject to additional conservation management.

Policy Off

This results in a reduction of deciduous woodland cover, linear woodlands and individual trees in this landscape. Other land cover types are likely to remain similar to their present-day condition as this is already a moderately intensive landscape. There will be increased dereliction of dykes.

Land Class 26, Breadalbane

Policy On

Existing landscape structure will be protected and enhanced through the exclusion of stock from the woodlands and by fencing off wetlands which will allow the exclusion of stock during the flowering period. Woodland cover will be maintained and the area of wetland will extend slightly.

Policy Off

The woodland cover will deteriorate and be reduced except where it forms part of an SSSI as, for example, around some lowland lochs. The wetland area will be subject to continuous grazing pressure and will deteriorate to semi-improved grassland cover.

Land Class 29, Machair

Policy On

The emphasis of conservation management here is on protection rather than enhancement or extension. Landscape structure and diversity will be maintained through the protection of unimproved pasture, herb-rich meadows, wetlands, the dune system and cultivated areas of machair. Archaeological features will also be protected. A limited enhancement will be achieved through an increase in the cultivated area of machair and the repair of damaged dune systems.

Policy Off

There will be an increase in the area of unimproved grassland and rough pasture at the expense of other land cover types. Storm damage to the dune system will not be repaired and scrap metal may well start to litter the landscape. Although not directly related to landscape conservation, some bird species, notably redshank (*Tringa totanus*) and dunlin (*Calidris alpina*), are predicted to benefit from this scenario because of the reduction in cultivated machair (Hanley *et al*. 1996).

Land Class 30, Machair

Policy On

Wetland and unimproved pasture land cover in this landscape will be protected and enhanced through the regulation of livestock grazing at sensitive times of the year, while scrap metal will be removed. Rotational strip cultivation of the common land Machair plain will serve to protect and enhance landscape structure and diversity, and erosion damage will be repaired (Fig. 6a). There will be no, or very limited, extension of land cover of conservation interest in this landscape.

Policy Off

There will be a gradual loss of landscape diversity under this scenario. The general trend will be towards increasing areas of unimproved grassland and rough pasture

FIGURE 6a. Land class 30, Machair; policy on.

with an associated decline in the extent of cultivated area on the Machair (Fig. 6b). There will also be a trend towards apportionment of the Machair with subsequent fencing. Damaged dune systems are unlikely to be repaired and are likely to increase in extent. Wetland and unimproved pasture of the blackland areas will maintain their current position in the landscape.

Conclusions

The identification of future landscape change serves to highlight the consequences of underlying social constructions of the landscape. The ESA policy instrument is widely regarded by government and the general public to represent the notion of 'stewardship', with farmers becoming responsible to the wider society for care and maintenance of the rural environment, despite the likelihood that farmers themselves are motivated to become involved in the ESA programme for economic and farm management reasons. Embedded in this notion of stewardship is the demand for a return to a 'traditional', pre-intensification, agricultural practice, even although fencing off woodland and wetland areas under the ESA programme can hardly be regarded as traditional. These contradictions notwithstanding, the analyses suggest that ESA programmes in agricultural areas will direct the visual appearance of landscapes in ways that maintain and increase diversity of land cover and linear features.

The direction of landscape change will be similar across Breadalbane, with deciduous woodland cover, herb-rich grasslands and wetlands maintained and

FIGURE 6b. Land class 30, Machair; policy off.

enhanced; in the Machair, cultivated areas and dune systems will be maintained. The full spatial extent of these diverse landscapes remains to be established but, given that the emerging uptake of the programme by farmers in the two ESAs under consideration is high (SOAEFD, pers. comm.), it seems likely that they will be extensive. It should be noted, however, that constraints on the payments available to farmers for conservation management will restrict the full development of a diverse landscape under current ESA arrangements.

The policy-off scenarios considered here may be viewed as a return to the environmental *laissez-faire* seen in agricultural landscapes prior to the 1980s. This time, however, increasingly market-orientated economic conditions are likely to dictate a decline in agricultural activity and a shift to other landbased economic activities rather than intensification in most of Breadalbane and the Machair. Without the ESA programmes, the Breadalbane and Machair landscapes are likely to become significantly simplified. Furthermore, simplification of landscape structure will be accompanied by a decline in botanical diversity in many areas (Hanley *et al*. 1996; Simpson *et al*. 1996).

In view of the way in which different constructions of landscape can change landscape character in fundamentally different ways, making realistic predictions of future landscape characteristics will continue to be demanded as a means of informing policy decisions. It will also be a challenge to landscape geographers, particularly in landscapes where environmental conditions are changing and there are several varying policy goals. The development of a policy impact-assessment procedure for ESAs has provided a framework within which different scenarios can be identified and explored. Its link with the presentation of future scenarios through manipulated images offers a powerful means of communicating the potential visual

impacts of policy to both policy-makers and the general public during consultations and exercises in which values for conservation benefits are sought. Currently, these visual images rely on interpreting scenarios into a visual form but future developments will allow spatially based geographical information system (GIS) visual simulation processes (Orland 1994).

The approaches developed in this paper are likely to have wider application in future rural environment policy development. New models of environmental decision-making, driven by Agenda 21 (United Nations Conference on Environment and Development 1993), are beginning to emerge in which the general public are made aware of processes leading to landscape change to the extent that they can participate in directing these processes. Visual approaches are critical in increasing environmental awareness, particularly amongst those who are relatively less aware of environmental issues (O'Riordan *et al.* 1993). With the introduction of countryside stewardship schemes in England, the pending introduction of a countryside premium scheme in Scotland (SOAEFD, pers. comm.), the current development of community forest programmes across the UK and continuing leisure, housing and mining development in rural areas, visual representation of future landscape alternatives will be critical in allowing an informed consensus to emerge in a participatory democracy. Visual representations of future landscapes will, however, be only as realistic as the impact assessment procedures from which they are derived.

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8
Critical Data for Understanding Early Central European Farmers

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Encompassing an area of nearly a million square kilometers, central continental Europe (defined as the modern territories of Switzerland, Austria, Slovenia, Hungary, Slovakia, the Czech Republic, Germany, the Netherlands, Belgium, Luxembourg, and Poland) has perhaps the densest archaeological record in the world for an area this size (FIG. 1). From the initial appearance of Homo erectus in this region about 500,000 years ago, about 25,000 generations of prehistoric inhabitants have left their remarkably well-preserved traces. This region is seismically stable with limited volcanic activity, with soils that are generally favorable to the preservation of all inorganic archaeological materials. In many areas, organic materials have also been exceptionally preserved in waterlogged deposits. The major enemies of the archaeological record in central Europe are human beings, both as agents of disturbances to the lithosphere and as archaeologists.

I study the early farming societies of central Europe. The major cultural outlines of these societies were sketched out a century ago, but the gaps in the picture are still being filled in. Chronologically, this corresponds to the Neolithic period between about 5500 B.C. (recalibrated dating) and 2500 B.C. Major research questions include the process behind the establishment of farming communities across this area; the consequences of agriculture and the adoption of farming by indigenous foraging peoples; the development of societies which could be called "transegalitarian" in which temporary differences between individuals and households in status, power, and wealth emerged; the appearance of mortuary ceremonialism in the form of large burial monuments; the use of animals for so-called "secondary" products, especially animal traction; and evidence for conflict between individuals and communities. All these questions require a very high-resolution corpus of data, and luckily this is generally available in central Europe.

Field research on early European farmers has long been driven by rescue archaeology, and many major advances have arisen directly from the excavation of sites threatened by modern activity. In the 1930s, the site of Köln-Lindenthal in Germany was discovered by workers doing landscaping for a park in Cologne (Buttler and Haberey 1936), and Brześć Kujawski in Poland was discovered as a result of gravel digging (Jażdżewski 1938). In the 1950s, suburban sprawl in the Netherlands brought the sites of Sittard and Elsloo to light (Modderman 1985). In the 1960s

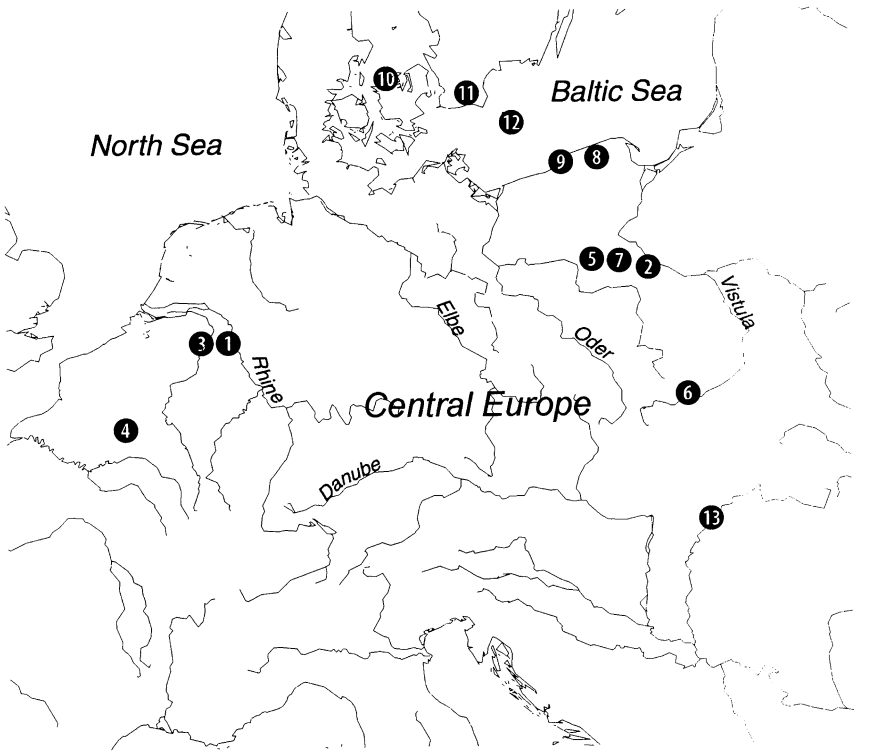

FIGURE 1. Map of central Europe showing main localities noted in text. Key: 1—Köln-Lindenthal, Aldenhoven Plateau; 2—Brześć Kujawski, Osłonki, Pikutkowo; 3—Sittard, Elsloo, Maas valley; 4—Cuiry-lès-Chaudardes; 5—Bożejewice; 6—Kraków, Nowa Huta, Aleksandrowice, Olszanica; 7—Siniarzewo; 8—Łupawa; 9—Dąbki; 10—Saltbæk Vig; 11—Skateholm; 12—Limensgård, Grødbygård; 13—upper Tisza valley.

and 1970s, brown coal extraction in the Rhineland resulted in the exposure of whole Neolithic landscapes (Lüning 1982), while the continued need for gravel drove the excavations in the Aisne valley of France of sites like Cuiry-lés-Chaudardes (Ilett 1983). Recently, excavations along a pipeline right-of-way in Poland brought to light an apparent Neolithic longhouse at Bożejewice (Czerniak 1998). Without the impetus at crucial points provided by large-scale rescue projects, the study of early European farmers would be far behind where it is today.

The degree to which rescue archaeology and especially developer-funded archaeology can change the picture of prehistoric settlement has been demonstrated most recently by the virtual explosion in the number of Neolithic houses known in Ireland in the last decade (Grogan 2002, Armit et al. 2003), increasing the sample from a tiny handful to several dozen. The majority of these are rectangular structures constructed from planks set in bedding trenches, clearly reflecting substantial permanent structures. The discovery that Neolithic houses in Ireland were neither flimsy nor rare has caused a reconsideration of the prevailing academic

model of the British Neolithic which emphasized mobility over sedentism (see discussion in Rowley-Conwy 2004). The appearance of so many houses in Ireland is in the context of the country's dramatic economic growth experienced since 1990, creating conditions for infrastructure and industrial development that have also emerged in the former communist countries of Central Europe.

The purpose of this paper is to attempt to identify the critical data needed at the beginning of the third millennium A.D. to understand better what happened in the sixth through third millennia B.C. in Central Europe. It is especially important that a clear understanding of the key data be in hand as the modern landscape of eastern central Europe begins to be transformed by major infrastructure projects such as highways and pipelines and as residential and industrial zones expand from their current concentrations into farmlands and pastures. Some rescue archaeology projects have already been completed, and others are underway, but these are just the beginning of many decades of work. Since my own field research has taken place in Poland, my thoughts here are cast with special reference to research in that country, but these concerns are relevant more broadly throughout this region.

Site Formation Processes

Before proceeding to my catalog of critical data that we need for examining the research questions listed above, it is important to understand the ways in which these Neolithic sites appear to have been formed and have survived until the present. Central European open settlement sites (let us leave behind the matter of caves and specialized cases of waterlogged sites, as well as burial monuments such as barrows and megalithic tombs) are generally formed in a uniform manner:

1. Prehistoric people cleared forests, usually deciduous, and established settlements. In the course of building and occupying these settlements, they disturbed the earth to various degrees for house posts, clay extraction, storage, and graves. These disturbances penetrated through the humus into the subsoil to various depths.
2. The pits and postholes that resulted from this disturbance were filled with rubbish, decaying posts, corpses, and humus.
3. Topsoil, largely through vegetative accumulation and alluviation, covered these occupations and sealed them. Subsequent prehistoric reoccupation of settlements disturbed these features with its own excavations for the same purposes.
4. Expansion of plough agriculture, largely in the last 1,000 years, accelerated the erosion which began to remove topsoil from these sites. Intensive agriculture, especially in the last 100 years, has had a particularly pernicious effect. Modern deep mechanized ploughing, especially in the last 50 years, has been devastating. Reclamation projects to bring marshland into agricultural production have extended this devastation to many previously-safe waterlogged sites.

The result is that virtually all central European open occupation sites consist almost exclusively of the lower parts of rubbish pits and postholes which had

penetrated relatively deeply into the subsoil. Prehistoric living surfaces, such as might have remained after post-depositional disturbance in antiquity, are generally thought to have been eroded and ploughed away. The patterning of human activity on these sites is defined primarily in the arrangement of features, and chronologies have been established primarily on the basis of overlapping features.

In many cases, a "cultural layer" intervenes between the plough zone and the subsoil features. Unfortunately, archaeologists do not have a satisfactory procedure for dealing with this phenomenon, and on sites with multiple occupations, artifacts from different periods are generally intermingled in the cultural layer almost to the same degree as the plough zone. On the other hand, dense concentrations of artifacts in this layer often lie above rubbish pits, and sometimes burials appear in the cultural layer, suggesting that it is indeed intact midden in places. Usually, however, it is excavated in "spits" or arbitrary levels, with only minimally greater attention than the plough zone receives.

It is important to note that many central European open occupation sites cover large areas, sometimes several hectares. Such dimensions are rarely found elsewhere in the world in the absence of major visible prehistoric monuments such as mounds or earthworks. A modern agricultural landscape in central Europe can mask a remarkable amount of archaeological data barely a few centimeters below the surface. From personal experience, I can describe our recent work at Osłonki and nearby sites in Poland (Grygiel and Bogucki 1997). Discovered in survey in 1985 and tested in 1987, the site of Osłonki was excavated between 1989 and 1994 with approximately 12,000 square meters being exposed. There were almost no surface indications of this site until the mid-1980s, when progressively deeper ploughing began to pull ceramics and stone tools to the surface. On the basis of abundant surface finds, a sondage was placed into the site, revealing the presence of a Neolithic longhouse. The site has yielded a sample of 30 Neolithic houses, 80 burials, a fortification ditch, a sample of approximately 20,000 animal bones, palaeobotanical samples, and a remarkable inventory of artifacts.

In 1995, my colleague Ryszard Grygiel decided to investigate the area lying on the other side of a palaeo-lake basin from Osłonki. Sondages at Miechowice revealed still more longhouses, and excavations exposed a settlement of comparable size to Osłonki. Thus, where before 1985 we had no idea there was anything to be found, an enormous complex of settlements has been discovered in the last 20 years. A program of explicitly interdisciplinary palaeoenvironmental research (to use the distinction illustrated at this workshop by Tom McGovern) is now studying the impact of Neolithic settlement at Osłonki and environs on the prehistoric landscape in collaboration with geomorphologists and palynologists (Nalepka 2004; Nalepka, et al. 1998).

Critical Areas for Investigation Under a Salvage Fieldwork Regime

I would like to outline here what I think are the critical areas that need to be addressed in the study of early European farmers, particularly in which much of

the work is to be done under a salvage fieldwork regime. Some of these points are strictly methodological, while others are interpretive, but I believe that they all relate to a perspective in which sites are seen within the context of a larger picture both environmentally and culturally.

1. Excavation of contiguous, preferably large, areas rather than dispersed sampling units is desirable in order to examine site patterning and to excavate structures and their surrounding features.

Early farming settlement sites in temperate Europe have a very high degree of internal organization and structure. There are usually many well-defined features, including houses, clay borrow pits, storage pits, burials, and fortification ditches. These are very different from the thin ephemeral features of the Eastern Woodlands of North America, for example, where a few fire-cracked rocks or a hearth are often the sole elements of internal site organization. It is critical that we be able to examine the size and relationships of these features within the research area, either by opening large areas or by sequentially excavating contiguous areas.

Perhaps the most notable accomplishment of this approach in central Europe was the work done on the Aldenhoven Plateau in the Rhineland in the 1970s (Lüning 1982). Here, thanks to massive funding from the brown-coal company that was strip-mining the region, not just single sites but whole Neolithic archaeological landscapes were exposed. The results for our understanding of the internal patterning of early farming communities were phenomenal. While I am not advocating such wholesale excavation for highway projects, nonetheless I would urge against the application of small-unit sampling techniques in favor of the excavation of as large a contiguous area as the budget can stand.

I have long felt that an excavation strategy worthy of emulation in such large infrastructure projects in east-central Europe is that followed by the FAI-270 project in the American Bottom region of western Illinois during the 1970s and 1980s (Bareis and Porter 1984; Emerson and Wallthal, this volume). Large contiguous areas were excavated at over 100 sites, permitting the analysis of household features and other aspects of community organization. The many volumes of substantive results from this research attest to the value of such an excavation strategy.

There are many areas of east-central Europe with concentrations of archaeological remains comparable to the American Bottom. The Polish equivalent of the American Bottom, the fertile floodplain and river terraces east of Kraków in southern Poland along the north bank of the Vistula River, saw a tremendous amount of archaeology from the 1950s onward (Bazielich 1983) in connection with the building of the Nowa Huta steelworks. Although it does not immediately appear to be threatened directly by construction of the A-4 highway, urban growth and road construction will require sustained archaeological research in this area during the next several decades. Along the A-4 right-of-way, large-scale excavations at the 5-hectare Roman-period site of Aleksandrowice near Kraków provide a glimpse of the scale of the archaeological remains that are encountered elsewhere in this region. Of more immediate concern is the path of the A-1 highway between Toruń and Włocławek along the east bank of the Vistula in north-central Poland, which leads through some of the richest archaeological terrain in central Europe, again

comparable in abundance of sites to the American Bottom. Many sites in this region will also require large areas to be excavated in order to study their internal organization. In October 2004, large-scale excavations of over 3000 m^2 near the location of a future A-1 interchange at Pikutkowo revealed a large Lengyel settlement with multiple longhouses comparable to those found at Osłonki and Brześć Kujawski (Ryszard Grygiel, personal communication).

2. From early agricultural sites, make a concerted effort to recover carbonized grain from wheat and barley and bones of sheep and goat to establish unambiguously the earliest agricultural presence in an area.

The dating of the first appearance of agriculture in various parts of central Europe is still not fully established with the degree of resolution that those of us who study this question find satisfactory. As a result, many researchers believe that we should make a concerted effort to obtain AMS dates on carbonized grain and sheep and goat bones in order to produce a high-resolution map of the spread of agriculture across Europe. Why grain and sheep and goat? These items are unequivocally of Near Eastern origin, and there is no question that their appearance in an area marks the appearance of food production. Cattle and pigs have conspecific wild counterparts in temperate Europe, so despite the fact that they appear to have been domesticated initially in the Near East, perhaps Anatolia, there is always the chance that any individual bone in temperate Europe comes from a wild individual.

3. Where is the Late Mesolithic? Everyone assumes it's present, but no one can see it outside of a few limited areas.

This problem is particularly acute in the uplands of riverine interior central Europe, less so on the lowlands of the North European Plain, and has been brought back to the fore recently because the case has been made that the introduction of agriculture to interior central Europe involved its adoption by indigenous peoples to greater degree than has been hitherto thought (Whittle 1996, Kind 1998). The orthodox view, to which I still subscribe, sees the earliest farming communities as being established through the cumulative effects of many short-distance and a few long-distance population movements rather than the wholesale effect of the simultaneous adoption of agriculture by indigenous foragers throughout an area of 750,000 square kilometers (Bogucki 2000, 2003). We cannot exclude some degree of participation by indigenous foragers in this process, as the anomalous La Hoguette and Limburg wares suggest, but they were not the key actors in this transition. Only in the Alpine foothills and in some parts of the North European Plain and Baltic Coast can we truly speak of the last hunters as having also been the first farmers. But if the case is to be made that the first farmers throughout central Europe were also the last hunters, as they were in southern Scandinavia and the Alpine Foreland, then we need to see them archaeologically. Riverine zones and wetlands take on special importance. The Late Palaeolithic and Early (Boreal) Mesolithic is not an acceptable proxy for Late (Atlantic) Mesolithic settlement. This question received considerable attention at a 1998 meeting in Venice of those of us who study the earliest European farmers (Ammerman and Biagi 2003). While

the latest foragers are very visible in coastal zones, they are invisible in much of interior Europe. Does this mean they weren't there, or that the high Atlantic forests were so inhospitable that they all headed for the coasts? Maybe, but we will not know for sure until we really look hard for them.

4. Where are the cemeteries of the earliest Polish farmers?

Burials of the Linear Pottery culture are virtually unknown in Poland. The ample traces of settlement are not complemented by mortuary evidence. This situation contrasts with that in other parts of central Europe, where large Linear Pottery cemeteries with a dozen or more graves have been known for over a century (Jeunesse 1997). Some Linear Pottery cemeteries are very large. For example, the cemetery at Wandersleben in Germany has over 200 scattered burials, while the recently-discovered cemetery at Schwetzingen in southern Germany (Behrends 1997) may also contain several hundred. Other important Linear Pottery cemeteries include those at Nitra (Slovakia), Vendenheim and Rixheim (Alsace), Aiterhofen-Ödmühle (Bavaria), Flomborn and Sondershausen (central Germany), Elsloo (Netherlands), and Niedermerz (Rhineland). Yet none have been found in Poland. The only definite Linear Pottery burials known in Poland were found at Samborzec and Szczotkowice in the 1950s and 1960s, both single graves (Kulczycka-Leciejewiczowa 1979: 94).

Linear Pottery burials do not occur among the houses and rubbish pits of settlements, unlike the burials at Lengyel sites like Brześć Kujawski and Osłonki almost a millenium later. They thus are not found in the course of excavation of localities with high archaeological visibility but rather are "off-settlement" finds whose discovery requires a sharp archaeological eye. Moreover, in the loess regions, the graves themselves are often ephemeral. For example, at Elsloo in the Netherlands and Niedermerz in Germany, the acidic loess destroyed the bones and left only stains in the soil and grave goods to indicate the location of a grave. Linear Pottery cemeteries are simply not going to be found through the techniques of archaeological prospection that discover settlement sites. Rather, their discovery requires large-scale disturbances such as those that might occur during infrastructure projects and strip mining. Indeed, most Linear Pottery cemeteries in central Europe have come to light in this way. Such massive disturbances have rarely occurred in Poland on the scale that they have elsewhere.

Archaeologists involved with infrastructure projects in Poland must be aware of the possibility that they will discover the elusive Linear Pottery cemeteries. Just as the presence of Linear Pottery longhouses in Poland was established only through the large-scale excavations at Olszanica in the 1960s, it will take large-area excavations of non-settlement localities to reveal the first Polish Linear Pottery cemetery. The evidence for these is so ephemeral, however, that they could easily be obliterated unless there is direct and knowledgeable archaeological supervision. Such sites are surely out there, yet they remain one of the few major categories of archaeological data that have eluded Neolithic archaeologists in Poland. Expect some to be found in the next decade during highway or pipeline construction.

5. Establish the relationships between burial monuments and contemporaneous settlements.

Later in the Neolithic, after about 4000 B.C., burial monuments come to dominate the landscape, and archaeological attention shifts largely to them. Yet we do not know much about settlements during the later part of the Neolithic nor about their relationship to burial monuments. For example, only in a handful of cases, such as Łupawa in Pomerania (Jankowska 1980), can settlement remains of the Funnel Beaker culture be directly associated with the earthen long barrows known as "Kuyavian Megalithic Tombs." In most cases, the Funnel Beaker settlements, which are fairly numerous, are some distance away from the burial monuments. Who built the tombs? Still later, settlements of the Globular Amphora and Baden cultures are relatively poorly known, and Corded Ware settlements are extremely rare. Almost everything that we currently know about these cultures comes from their graves.

As with the early Neolithic cemeteries, finding these Late Neolithic settlements will require going "off-site" (that is, away from the burial mounds) and hoping that their features will come to light in the highway or pipeline right-of-way. Settlement traces at Żabno and Siniarzewo found in the path of the Yamal pipeline are especially promising signs that such sites can be identified (Czebreszuk 1998). These Late Neolithic settlements will generally not be spectacular, but they are of immense research importance. Without them, we have only a partial picture of Late Neolithic land use.

6. Early farming settlement in the South Baltic Coastal Zone is virtually unknown.

The stretch of Baltic coastline between the Szczecin Lagoon and the Bay of Gdańsk is distant from academic centers of archaeological research, and the early farming societies of this region have been markedly under-studied. The Funnel Beaker settlements and barrows along the Łupawa river near Słupsk (Jankowska 1980), the Ertebølle-like settlement at Dąbki near Darłowo (Ilkiewicz 1989), and the Rzuczewo complex of the Vistula estuary (Król 1992) are notable exceptions to this generalization. Much more remains to be discovered about early farming settlement in this region, however. The small river valleys of the Baltic coastal plain surely harbored Neolithic settlement. Although this area is not affected by the first phase of superhighway construction in Poland, it is only a matter of time before the Baltic cities of Szczecin, Koszalin, Kołobrzeg, Słupsk, and the Gdańsk agglomeration are connected to the network. When this happens, some research questions need to be in place.

First of all, how far did the earliest Neolithic settlement penetrate to the north? The presence of Linear Pottery settlement just south of Szczecin suggests that the earliest farmers of central Europe reached at least the doorstep of the Baltic basin. Did they get any further? Second, what were the late foragers of this region like? The Dąbki materials provide a hint that the Ertebølle foragers of southern Sweden, Denmark, and northern Germany extended far to the east along the southern Baltic coast. Keeping in mind that the great Ertebølle cemeteries like Skateholm and Vedbæk were almost unknown 30 years ago (Larsson 1993), we should be prepared

for similar remarkable discoveries in this area. These might not take the form of classic Ertebølle shell middens, but rather might be inlet or estuarine settlement complexes such as the one at the Saltbæk Vig in Denmark (Price et al. 2001).

The significance of the south Baltic coast for the establishment of agricultural communities in the Baltic basin is highlighted by recent Neolithic finds on the island of Bornholm, 100 kilometers north of the current coastline. At the sites of Limensgård and Grødbygård, large Funnel Beaker settlements with timber longhouses have been discovered (Nielsen and Nielsen 1991). Bornholm is about 40 kilometers from the Swedish coast, so from either direction reaching it required crossing open sea. The inhabitants of the substantial Funnel Beaker settlements on Bornholm could just as easily have been in contact with the northern coast of Poland as they could with nearby parts of southern Scandinavia.

7. We should carry out extensive bone chemistry studies to establish the degree of population movement at various points during the Neolithic.

The question of population movement across the landscape is critical to the understanding of early farming settlements in central Europe. It would be nice, however, if we could investigate the scales of these population movements. Artifact types are so homogenous that they are of little help. A promising technique has been developed in the Laboratory for Archaeological Chemistry at the University of Wisconsin comparing strontium isotope ratios between bone and teeth (Price, Grupe, and Schröter 1998). Dental enamel forms in childhood and retains the strontium isotopes from the local geology of that individual's childhood. Bone, however, is continually chemically remodeled throughout the lifetime of an individual, and so the strontium isotopes in individual bones reflect the local geology during the last year of residence. So, if an individuals dental and bone strontium isotope ratios match, then that individual can be presumed to have lived from childhood in the same area, whereas if dental and bone ratios do not match, and especially if the ratios in the teeth do not match the local geology, the individual can be inferred to be an immigrant to the area in which he or she died. If carried out on a large scale in central Europe, this method could reveal to what degree people really were moving around at key moments in the establishment of farming communities. Initial results of analyses of early Neolithic samples show considerable promise in this direction (e.g. Bentley et al. 2003).

8. We should conduct soil chemistry studies to study occupation intensity and activity zones within sites.

When sites are excavated in a salvage fieldwork regime, it is important to get as much information as quickly and economically as possible about the patterning of human activities. One critical source of such information comes from the chemistry of anthrosols, or soils that have been influenced by human activities in comparison with that of adjacent natural soils. The value of such information has been recognized for phosphorus for decades (Eidt 1977), and rigorous sampling protocols have been established for collecting soil samples on a uniform grid over the

excavated surfaces of habitation sites. It is now emerging that elements other than phosphorus are also signals of anthropogenic changes in soils. I would urge that when central European sites are excavated under rescue conditions that anthrosol data be gathered quickly, using a rigorous sampling method, for future analysis.

9. GIS methods will provide important insights into the geography of early European farming.

Good maps are now available of eastern-central Europe. No longer do archaeologists have to hunt for 1944 Wehrmacht 1:25 000 maps that required top-secret clearance to carry in the field. Having good maps, however, does not make much difference if archaeologists are still locating sites just by putting dots on them as they walk across fields, as they did 50 years ago. New survey data need to be entered into a large scale GIS database to be truly useful. Making fancy maps is not the main benefit of GIS techniques. Rather, they provide an important and powerful tool for the investigation of the spatial relationships among prehistoric sites and their landscapes (Wheatley and Gillings 2002).

The establishment of farming communities in central Europe and its consequences pose fundamental geographical problems: colonization, migration, land use, trade. We need to be able to trace these phenomena dynamically rather than as the series of static snapshots as they are traditionally presented. Correlating and filtering many different variables will surely lead to new insights if used within a problem-oriented research strategy. Two important examples of such problem-oriented GIS applications include the study of the Neolithic communities of the Maas Valley in southern Netherlands (Wansleeben and Verhart 1995) and the investigation of the Middle Neolithic cultural landscape of the Tisza Valley of north-east Hungary (Gillings 1995).

A GPS receiver and a notebook computer should be standard equipment for survey teams working on infrastructure projects in east-central Europe. Simple GIS programs like ARCview (http://www.esri.com) and AGIS (http://www.agismap.com) are inexpensive and run on Windows platforms. This was not the case a decade ago, and archaeologists in this area need to move quickly to embrace the possibilities this technology affords.

Conclusion

The current explosion of infrastructure projects in east-central offers exciting new possibilities for the generation of new data on early European farmers, just as earlier projects in western Europe provided a similar impetus to Neolithic research. Superhighways and pipelines in Poland and neighboring countries are impinging on rich archaeological terrain just as FAI-270 cut across the American Bottom in Illinois, or brown coal mining exposed the Aldenhoven Plateau in Germany, or industrial and residential development is now yielding Neolithic houses in Ireland. Archaeologists working under salvage conditions need to be armed with a set of research questions as they approach this work, however, since the speed at

which these projects proceed may overtake any more languorous approach to field investigation. The points made here may provide a start in generating a list of such questions and alert archaeologists to the types of data which would be most useful in advancing our knowledge of early farmers in this area.

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9
Alternative Archaeologies of the Cold War: The Preliminary Results of Fieldwork at the Greenham and Nevada Peace Camps

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It could easily be assumed that the archaeology of opposition at Greenham, Peace Camp and other such places, is intangible, bearing little by way of visible or extant remains, contrasting with the huge, robust and monumental architecture on the military estate. But recent work at Greenham Common and Peace Camp has started to expose the complexity of this archaeology of opposition, demonstrating that although more subtle and more symbolic in its expression, the impact on the landscape is no less significant and no less interesting and challenging in terms of how it can be understood, managed and interpreted.

Introduction

Opposition and discord is a key characteristic of the period of the Cold War (1946–1989), both in the ideological opposition between East and West and, in the West, between those who believed in the nuclear deterrent and those opposed to its deployment. During the second phase of the Cold War, and in the 1980s especially, protests and protest events were commonplace, by the Campaign for Nuclear Disarmament (CND) in the UK, and by CND, the American Indian community and other anti-nuclear groups in the United States (Pritchard 1999). In England, Greenham Common became a focus of attention, with the actions of peace women being relayed on television news programmes around the world; and in the 'States, at Peace Camp outside the Nevada Test Site, where protesters also sought to express opposition, and in doing so, draw the issues of nuclear arms and environmental pollution to the attention of a global audience.

Most anti-war protests have taken place on streets and in parks and cities, leaving little if any material remains of the protesters' activities. Exceptions are protester's or peace camps, one just outside the entry of the Nevada Test Site in the United States, another beside the Ground-launched cruise missiles Alert and Maintenance Area (GAMA) at Greenham Common, West Berkshire, England. In order to understand the nature of protest occupations, the archaeological research at these two

protest sites is focused on the material culture of the occupations and the use of landscape and space thereby recognizing the presence and spatial differentiation of both the profane (camping places, caches) and the sacred (symbolic features and artifacts) at these sites.

What follows is an outline of the archaeology of both of the peace camps—first Nevada and then Greenham—followed by a short summary drawing out some of the themes addressed by this research programme. Further publications will describe the archaeology of these sites in greater detail.

Peace Camp, Nevada

Peace Camp is in southern Nevada adjacent to the Test Site, a government controlled-access facility of 3,600 sq kms situated some 100 kms northwest from Las Vegas. The population of Las Vegas, beginning in the 1950s, embraced the testing programme with enthusiasm (Johnson 2002). It had a massive influence on the city, on its growth and development. The Test Site was the United States' primary nuclear weapons testing facility from 1951 to 1992, where more than 900 above and below ground nuclear devices were tested (Beck 2002). The legacy continues today with different aspects of nuclear research being conducted at the site. The nature of the activities at the Test Site attracted anti-nuclear sentiment and demonstrations began taking place at the entrance to the facility (Futrell and Brents 2003). For several decades, the protesters have gathered together and camped on undeveloped public land to the south of the entrance at a place called the Peace Camp. These protesters are from the United States and other countries and include more than two hundred groups with different environmental interests. Protests continue today but there are fewer participants since the 1992 moratorium on nuclear weapons testing.

When we began our study, there was little information available about the camp or indeed generally about this alternative archaeology of the Cold War. Our survey has shown that Peace Camp covers about 240 hectares, with over 800 individual surface features, and at least five spatially-defined areas: an old camp, a new camp, Pagoda Hill, the 'Tunnel of Love' and the entrance to the Test Site. Walking across the landscape, much remains (Figure 1 and Figure 2). Features include evidence of domestic occupation in the form of camping areas (tent pads and sleeping areas, willow structures, private hearths, caches, gardens where rocks enclose vegetation, and wood piles); and the symbolic, representing protest and opposition as well as connections to the landscape and life.

The symbolic art is made from locally-available rocks and pebbles, and is most found on flat land surfaces and low alluvial ridges that dissect the site. Simple to elaborate designs have been produced by using colour, size, and shape of the rocks. Some of the designs are recognizable, such as peace signs and spirals; others are unclear. Some are of special interest. On one small ridge, and within an oval configuration meant to be a sort of thematic gallery, albeit rudimentary, the word "peace" is written in English, French, Russian and Chinese, the languages of the countries with nuclear weapons in the 1980s. There is also a feature known as the 'shadow children,' life-sized plaster casts, now much damaged, believed to be

FIGURE 1. Recording a stone circle at Peace Camp. (Photo: Harold Drollinger)

associated with a visit to the Camp by Hiroshima veterans (Figure 3). A phallic rock was also recorded (Figure 4).

A number of artifacts have been deliberately placed throughout the site and surrounding area as offerings. These include crystals, dream catchers, ceramic

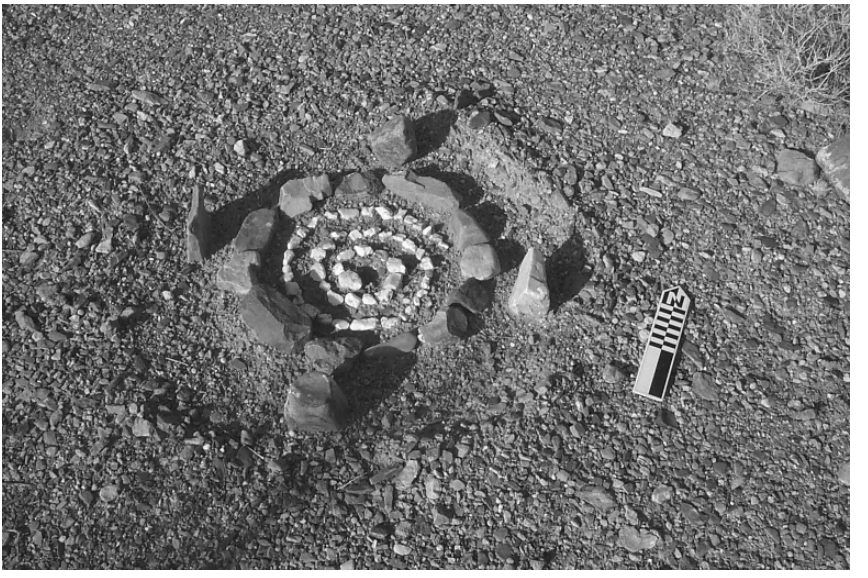

FIGURE 2. A rock spiral and compass. (Photo: Harold Drollinger)

FIGURE 3. The 'shadow children'. (Photo: Harold Drollinger)

masks (Figure 5), knives, and shells. The masks are generally placed within rock circles, while smaller objects are typically votive offerings, set within cairns or circles. In several instances, single artifacts have been placed as offerings in the surrounding landscape such as on high ridges. Discarded items are rare, with only a

FIGURE 4. Phallic rock arrangement. (Photo: Harold Drollinger)

FIGURE 5. One of several ceramic masks found at Peace Camp. (Photo: Harold Drollinger)

bottle or two, and small items, such as nails, and children's toys, the broken neck of a guitar and occasional protest banners and symbols, probably lost or overlooked.

The name 'Peace Camp' is written in small, aligned stones at the entrance of the old camp. In this area are tent pads, sleeping areas, hearths and rock cairns. There also is a rock memorial garden to Ben Linder, an engineer and activist killed in 1987 by the Contras in Nicaragua. A path, its sides defined by lines of rocks, leads onto a ridge on which there is a rock ring, a hearth, and rock forms depicting a heart, peace signs, a dove, and the initials TTW, presumably for Terry Tempest Williams, a prominent environmentalist, writer, and occasional participant in demonstrations at the Test Site.

After abandonment of this old camp, activity shifted eastward to the current camp area. This new location has direct access to the highway underpass road and then directly on to the entrance of the Test Site. For most protesters, the focal point is this entrance, representing a boundary to the Test Site. It was once demarcated by a cattle guard that has been replaced recently. Currently, a white line across the paved road defines the boundary where protestors lined up on one side and security forces on the other. Protesters talk and write about crossing the boundary line as if it were a rite of passage and that their willingness to be arrested shows their commitment to the cause. Beyond the entrance is a trailer for security personnel on one side of the road and holding-pens for protesters detained by the sheriff's department on the other. A public area immediately beyond the Test Site entrance on the protestors' side contains hearths, rock cairns, stacked rocks, rock arrangements, and ephemeral rings in the ground created by dancing for sunrise

ceremonies. A wire fence extends along the Test Site boundary in both directions from the entrance. Still tied to it near the entrance are remnants of cloth placed there during demonstrations.

From the old and new camps are paths that lead to Pagoda Hill, which holds a commanding view onto the Test Site and the surrounding region (Figure 6). Dominating the crest of the hill are two large rock cairns and one smaller cairn, created by protesters carrying a rock to the top on each of their visits. Offerings have been placed on and inside the cairns on Pagoda Hill. Between the cairns is a pole with arrow designs on its east and west sides and engraved with the words "Healing Global Wounds," and "May Dignity and Peace Prevail." On the west side is a red clay sculpture of a female, laying on her back on the ground. She appears pregnant and has radioactive symbols on her body and an amulet with the words, "DOE Nuke Waste Dump." She faces towards Yucca Mountain, a sacred hill to the Western Shoshone, the traditional owners of the site, and the site chosen for depositing nuclear waste.

In contrast to the top of Pagoda Hill and its open aspect with commanding views is the 'Tunnel of Love', built under the highway for drainage but which had huge significance for protesters, as a place of shade and shelter, of interaction (it was used at times as a bowling alley), a gallery and message board, and the main access from camp to Test Site. The tunnel contains a complex display of graffiti slogans, poems and messages covering at least twenty years of opposition (Figure 7). Following the first season of our survey and publication of a short news item in the local Las Vegas Review-Journal (March 24, 2002), someone whitewashed the graffiti visible from outside of the tunnels. It is possible that we were drawing too much attention to it.

Our research has produced a map of protest activity at Peace Camp, and set that within a simple chronological framework, partly defined by Futrell and Brents' (2003) outline of anti-nuclear activism in the Nevada Desert. We have been surprised by the extent of survival, the complexity of the sites, the diversity of remains and the difficulty of interpreting field remains of such recent date. We have received offers of help from former occupants of the camp, and from the Western Shoshone. This guidance, and oral historical evidence will be critical for interpretation. Finally, there appears a general acceptance of the validity of this study of the contemporary past. Research into the Test Site has been underway for over a decade now; its our view that this archaeological study of Peace Camp is a critical part of that wider research, and central to interpreting Test Site remains, for example at the new Atomic Testing Museum, due to open in Las Vegas early in 2005 (www.ntshf.org).

Greenham Common

It is interesting to see much of the same symbolism at Greenham Common, despite it being a different landscape and an entirely separate protest community. In both places the fences are decorated, to subvert them; make them look less military;

FIGURE 6. Pagoda Hill. (Photo: Harold Drollinger)

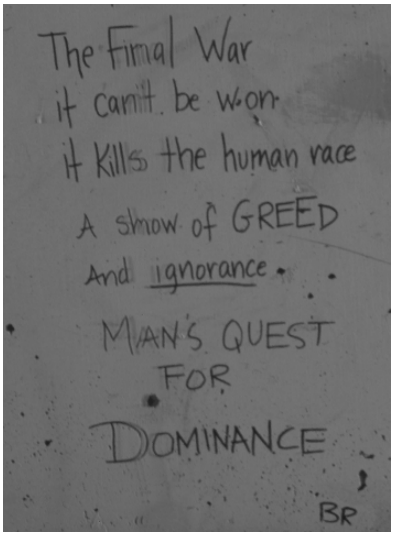

FIGURE 7. Graffiti in the 'Tunnel of Love'. (Photo: Harold Drollinger)

less male . . . more ridiculous. Spirals are a common feature, at Greenham in the form of graffiti on public roads and in sculpture created within the newly opened peace garden. Rock-lined gardens also exist at Greenham, enclosing flower beds again within the peace garden.

Greenham saw protest activity over a similar period to Nevada, but with a clear focus in the 1980s when ground-launched cruise missiles were housed within the so called GAMA (Ground-launched cruise missiles Alert and Maintenance Area) site at the west end of USAF Greenham Common (Cocroft 2001). One of the main differences between Greenham and Nevada is the way the landscape and the base's position within it have influenced the geography of opposition. The airbase had many gates, giving access to public roads that encircle it, and at each gate was a peace camp, each with its own community, its own character and separate names. There were three names for most: a name given it by the authorities (a number), and a colour of the rainbow (Green Gate) and a description (the Musicians' Gate; the 'Gate of the Intellectuals') given by the camps' occupants. On occasion these separate communities came together for coordinated protest events, but for the most part they remained separate (see Schofield and Anderton 2000 for more on the archaeology of GAMA, including the peace camps; see Roseneil 2000 for a detailed study of Greenham).

The archaeology of these camps contrasts strongly with that in the desert. The various camps were dispersed for a start, and constrained by the presence of public roads and property and by the fence; in the desert the only constraint is the boundary fence. And because the camps were small and compact at Greenham Common, they could be easily removed, bulldozers often erasing all trace of these transient

settlements. When the women returned following evictions they inevitably found their camps and possessions gone. Yet they typically reclaimed the site and started again, often with help and provisions from local inhabitants. This archaeology is very different therefore, and in a sense more conventional than that in Nevada. These are buried ephemeral remains with occasional artistic representation on roads, buildings and fence posts, the camps being reminiscent more of seasonally occupied stone age camp sites, contrasting strongly with the characteristically modern missile shelters inside the fence. The lifestyles of those within and outwith the fence reflect this distinction, being reminiscent of frontier communities, where modern and Indigenous worlds meet.

Given the close spatial proximity of protesters and military personnel within the base, forced in part by the extent of public space around the Base and the tight constraints of its surrounding roads, the fence had even more of a focus here. Caroline Blackwood, a former occupant, described how the fence close to Blue Gate (north of the airfield) often attained a quilt-like colourfulness, albeit for short periods. Women darned the fence with brightly coloured wools, an action which sought to spare them from nuclear destruction, enabling them then to patch up the holes the men had made (1984, 79). As Blackwood describes, however, this ironic symbol was lost on the soldiers guarding the base who were quick to tear it down. Fences were also often decorated with symbolic items: childrens' clothing and photographs; placards and leaflets. Finally, mirrors were held up to the Base, to reflect its evil back into it, and webs were woven to represent the strength and unity of the women (ibid).

Related to and following work in Nevada an archaeology project has been proposed at Greenham involving a team of volunteers from the various constituencies influenced by Greenham Common's recent past (protestors, archaeologists, military personnel, the local community, bailiffs etc) in the survey excavation of some of the peace camps. The preliminary stages of this project have been completed, though in that initial work different views about the nature of the wider project have been expressed: should the project be inclusive, reflexive and post-modern in scope; or should it instead be rather more conventional, involving only those who can truly feel attachment to the camps under investigation, namely the peace women that occupied them? This matter is yet to be resolved. Nevertheless, a website (www.soton.ac.uk/∼kmp401) has been established to engage a wider community, with invitations to contribute ideas, reflections and memories as the project unfolds. Another idea is to engage local schools as part of their education on local history and Cold War studies. One connection perhaps worth exploring is that between archaeological investigation and artistic intervention, the art providing a separate and often very different interpretation of the archaeological process, of sense of place and community engagement with its past (eg. Holtorf 2004). Lucy Orta may work alongside us as the archaeology project progresses. One of her previous projects was *Life Nexus Village Fete*—an evolving architectural and social configuration that sought to expand collective principles. She used this work to create the sense of a nomadic community, and generate dialogue

FIGURE 8. The site of the former peace camp at Emerald Gate. (Photo: Kristin Posehn)

amongst all members of the wider group that her project embraced (Pinto et al. 2003, 53–7). Her involvement at Greenham would most likely be along similar lines.

To date preliminary work has been undertaken at one of the four camps identified as having sufficient surviving remains to merit excavation. A topographic survey at the short-lived and compact camp at Turquoise Gate has been completed and followed-up with surface collection of an area of some 100 sq m. Some eighty artifacts have been recovered, from cans and bottles, to cigarette lighters, jewelry, toys, and parts of a car. Of interest are 1980s Budweiser cans of American origin, found within the peace camp. Were these the missiles some women recall being lobbed over the fence into their camp at night? The car now has been identified, as was a painted post pointing the way to Emerald Gate, a small camp occupied by three women who watched missile movements at GAMA nearby (Figure 8). Here a preliminary survey, with a former occupant of the camp, found the cache of benders (Figure 9), the coffee pot (Figure 10) and three mugs hidden away for future use. The most significant results will begin to emerge however once these other camps have been fully investigated, oral historical evidence taken account of and comparisons made. Roseneil's (2000) research highlights the differences between the camps, in terms of the occupants and their lifestyle choices. How far is this reflected in the archaeology? What are the theoretical contexts in which

FIGURE 9. Ploythene sheeting stored at Emerald Gate. (Photo: Kristin Posehn)

these material and social differences can best be understood? Work over the next two years will begin to explore these questions.

Discussion

The archaeology of Peace Camp and the various camps at Greenham is the archaeology of mostly non-violent dissent and activism. The camps themselves are material evidence of social reaction to nuclear testing and arms, that has grown to encompass broader environmental and cultural issues, such as Western Shoshone Indian land rights. In Nevada, Test Site workers are curious but reluctant to enter the space of those opposed to their activities; while the protesters seek to enter the Test Site to disrupt activities. The Nevada Test Site is significant in the history of the Cold War as a testing ground for nuclear weapons. In opposing the work at the Test Site, the camp is connected to the facility; it is part of that same archaeological record. Together, the Test Site and the Peace Camp represent a duality of Cold War views. It is also about diversity, in the sense that a few of Las Vegas's diverse religious community united in opposition, and alongside the land's traditional owners. Greenham Common represents another set of views. In this case a place where weapons were deployed and readied for use became the scene of

FIGURE 10. Coffee pot at Emerald Gate. (Photo: Kristin Posehn)

opposition and protest, taking in a very different diversity of interests; Greenham was for women only for instance.

The archaeology of these peace camps is an opportunity to understand the material remains of a significant twentieth century minority political movement. Anti-nuclear activists wanted to be rid of all nuclear weapons as a means to attaining

world peace and harmony, ending pollution of the earth, and honouring all living things, while the subject of this opposition serves as a representation of government policy, seeking to gain stability and peace, albeit an uneasy one, through the strength of nuclear arms. Each side has its monuments and symbols. Those at the peace camps are variously of stone, spray paint or the buried and ephemeral remains of transient occupation; all are relatively small, simple, and individualistic. On the Test Site and at GAMA are various industrial complexes and monumental functional architecture, built of concrete and metal by government agency or in the case of GAMA within the terms of a military and political alliance—NATO. At Nevada, remnants of past nuclear tests dot the landscape, with a few towers remaining as the symbols of previous testing programmes. Instead of engaging in acts of destruction to express their desires, the people at Peace Camp have put their efforts into creating symbols in the desert as testimony to their intent, establishing their own permanent cultural legacy. Recording this legacy, and interpreting this archaeology of opposition is every bit as significant as the more substantial remains inside the fence.

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10
Archaeological Practice in Large Transportation-Related Corridors: The I-270 Archaeological Mitigation Project

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The most stimulating excavation program in my recent experience has been, and still is, that of the Federal highway I-270 project…

James B. Griffin (1985:16)

St. Louis, Missouri and its sister city, East St. Louis, Illinois straddle the intersection of the Mississippi, Missouri, and Illinois rivers, one of the major riverine transportation hubs in the midcontinental United States. Historically this area controlled access to much of the western and northern American continent. It was the jumping off point for French, and later, American expeditions to the west including the most famous of these, the Lewis and Clark expedition at the opening of the 19th century. The continuing growth of the St. Louis metropolitan area is supported by an increasingly complex transportation infrastructure that includes riverine, railway, highway and air facilities.

I-270 Project Origins

One aspect of this development has been the construction of a large interstate highway system creating a beltline that circumscribes the metropolis. On the Illinois side of the river this highway was known as I-270 (now renamed I-255). The design proposed in the early 1970s called for the initial construction of a 34 km long segment of 91 m wide 6-lane highway that would include 9 large-scale intersections and 27 grade separations (i.e. over or under passes). At a minimum the actual highway corridor (Figure 1) would impact 427 ha of the large floodplain areas of Monroe, St. Clair, and Madison counties. These figures do not take into account all of the frontage road construction, the relocating of utilities, the modifications of secondary roads and myriad other land modifications that follow from such a massive highway project (Figure 2). In addition, to obtain materials for grade and bridge-cone construction, contractors

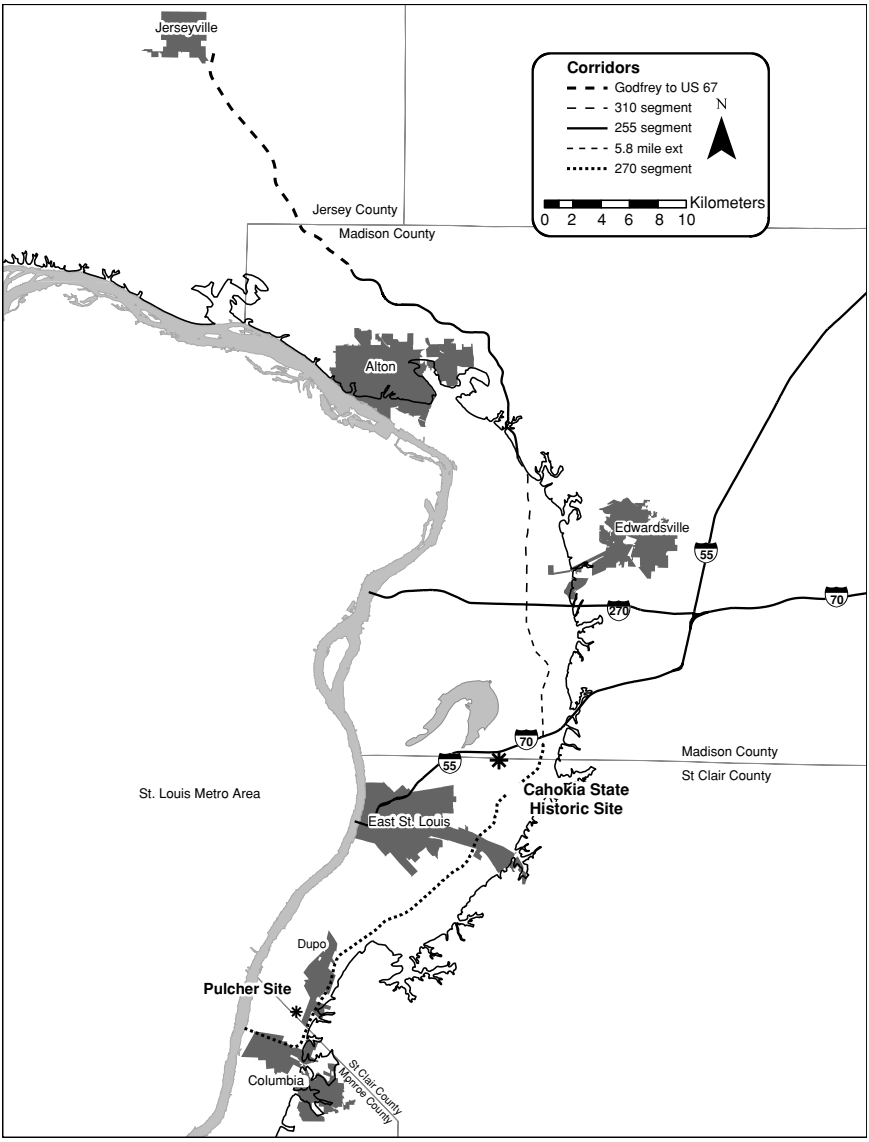

FIGURE 1. The I-270 Project Location on the Mississippi River in the Midcontinental United States (Used with permission of the Illinois Transportation Archaeological Research Program).

would require an additional 15 million cubic yards of fill, to be obtained from 40 to 50 borrow pits primarily located on the archaeologically rich adjacent loess bluffs (Porter and Bareis 1985).

FIGURE 2. Aerial of I-270 Corridor under Construction (Used with permission of the Illinois Transportation Archaeological Research Program).

This floodplain, which stretches along the eastern side of the Mississippi River for about 145 river km, is known as the American Bottom and was, prehistorically, one of the most unique and complex areas in midcontinental America. The floodplain reaches from Alton, Illinois in the north downriver to where it pinches out at the point when the Kaskaskia River enters the Mississippi Valley at Chester, Illinois. The broad floodplain was carved out of

the soft Pennsylvania limestone by glacial rivers. In the northern valley a veneer of gently sloping colluvium covers these limestones but in the south the harder Mississippian period limestone create sheer bluffs rising up to 60 m.

North of Columbia, Illinois a wide expanse of the floodplain covers over 500 km2 and varies from 4-16 km in width. It is the heart of the prehistoric development containing the first, Cahokia, second, East St. Louis, and fourth, St. Louis, largest mound groups in the Eastern United States. It is bordered on the west by a 55 km long stretch of the Mississippi River channel and on the east by a highly dissected bluff line. It contains a diverse landscape with many features that can be traced to the dynamic actions of the river. These features include abandoned river channels containing oxbow lakes, marshes, or sloughs as well as accompanying point bars, natural levees, and terraces. In addition, much of the floodplain surface has been subsequently buried by vast amounts of colluvium and by the many alluvial fans that emanate from the adjacent uplands. Crosscutting all of these features are the numerous winding channels of multiple tributary streams that link with the main channel of the Mississippi River which borders the western bluffs of the valley. While the river has been stable in modern times, we know that in the past the channel wandered across the floodplain. Over two dozen abandoned river meanders have been identified. The floodplain area, in fact, is so dominated by the resulting sloughs, marshes, and lakes that it more closely resembles a lacustrine than riverine environment.

The I-270 construction corridor hugged the eastern valley edge and crossed virtually all of these diverse environmental settings including numerous ridges and swales, more than 16 distinct meander settings and wide portions of colluvial fills. While the majority of the corridor traversed rural areas, about one-fifth of it ran through existing municipalities with the consequent logistical problems caused by various utility pipes and lines, traffic flow, and numerous civil bureaucracies. While St. Louis had been aggressively expanding, East St. Louis, which had been highly industrialized, was slowing declining. So archaeologists were also faced in some parts of the corridor with extensive tracts of abandoned industrial debris and waste, often toxic in nature, as well as all aspects of inner city social problems.

Initiated by field surveys in 1975, the ultimate scope of what became known as the "FAI-270 Archaeological Mitigation Project" (I-270 Project), conducted under the auspices of the Illinois Archaeological Survey with the prime contractor being the University of Illinois at Urbana-Champaign (UIUC), was unforeseen. It is clear from the early documents that the participants in those initial planning sessions conceived of the project as having a length of no more than a year or two of fieldwork followed by a similar period for analysis. They were mistaken. Three decades later, this continuing project has to date, because of three additional corridor extensions to the north, more than doubled in magnitude to a corridor over 77 km in length. It has provided a north-south transect across the archaeologically complex American Bottom and into the northern uplands. Corridor survey and testing has been continuous since 1975. Comprehensive site excavations have been underway since 1978 with the exception of a one-year gap in 1986 and a three-year gap from1995 to 1998.

The original I-270 Project ran from the point where the Jefferson Barracks Bridge crossed the Mississippi River north to join existing I-55 just east of

Cahokia Mounds State Historic site (Figure 1). The succeeding northward progression of the highway corridor, labeled the 5.8 Mile Extension Project, impacted ca. 10 km and 135 ha. It connected I-55 with an east-west section of I-270 near the now mostly destroyed Mitchell Mound center. The second extension, the FAP-310 Project, covered 137 ha and stretched a further 10.5 km north to the base of the bluffs where it met IL 143 just west of Edwardsville. The recently initiated FAI-255 Project covers about 273 ha as it continues from the Wood River Terrace up onto the bluff for 22.5 km across the uplands to its terminus at Godfrey. These three extensions, all in Madison County, included another sixteen intersections and the same number of grade separations. The 247 ha.,19 km long, Jerseyville segment of the corridor that is currently in the planning stages will run straight north across the uplands from Godfrey to Jerseyville in Jersey County. At present, archaeological survey, excavations and research in the FAI-255 segment continues as the highway corridor moves out of the broad floodplain and the Wood River Terrace into, and across, the adjoining uplands to the north. This year (2007) represents the thirty-third year of fieldwork on what has become colloquially known as the "I-270 Project". It has investigated over 970 ha of terrain in the main corridor transect reaching ca. 77 km north-south. Many dozens more hectares were archaeologically investigated as a result of associated borrow pits, and secondary highway development.

UIUC archaeologists have a long tradition of research in the American Bottom beginning with the pioneer work of A. R. Kelly and Warren K. Moorehead at Cahokia Mounds in the 1920-30s followed by extensive work in the 1960s and 70s by Professor Charles J. Bareis, and the more recent work of Timothy Pauketat. To a great degree, this long-term experience in the archaeologically rich area of the American Bottom served to develop and focus many of the research approaches that were employed by the I-270 Project. The over half-century observation of the increasingly rapid and massive destruction of the regional prehistory with the loss of prehistoric mound centers, villages, and cemeteries imparted a sense of urgency to the work as well as a sense that this may well be the last chance to record the pre-Columbian cultures of the American Bottom.

Consequently, UIUC archaeologists argued against the common practice of archeological preservation through "site avoidance". For similar reasons, they argued for large-scale, 100% recovery of the archaeological record to be impacted by highway development. The archaeological justification in both cases was straightforward. Direct and historical observations in the Midwest had shown that site avoidance as a method of historic preservation was flawed. (In fact, "preservation through avoidance" is surely the greatest misnomer ever imposed on the preservation community). Transportation infrastructure has as one of its primary goals the encouragement of local development. Such development is first and foremost tied to the highways. Invariably, after highway construction the prime lands for development were typically those adjacent to the road, i.e., those containing the "preserved" sites that had been "avoided" by road construction. During the early planning stages of the I-270 corridor, IDOT engineers, in fact, became aware of several development projects that would have destroyed such "preserved" sites if the corridor had been changed to avoid them. For example, ultimately this was the fate of approximately one-half of the large Range site that fell outside the IDOT right-of-way. It was quickly

destroyed by a new subdivision. The two-thirds of the Hopewell period Dash Reeves site not mitigated in the highway corridor was rapidly destroyed by a gas station and utility lines that were built as a direct result of the road construction. It is clear that construction avoidance of important archaeological resources, unless it is coupled with a program of public ownership and protection, is their death knell. The only thing "avoided" in such instances is the ethical and legal responsibilities of the involved parties to preserve the nation's heritage. In addition, corridor design changes were, in many cases, so costly that typically it was inordinately more economical to scientifically excavate sites than it was to redesign the highway around them. Fortunately, IDOT administrators and engineers agreed.

Of course for every generalization there are exceptions. Even in the context of the opulent archaeological resources of the American Bottom there were sites so large, so scientifically important, so significant to American heritage that they simply could not be adequately mitigated without many years of effort. We clearly encountered such resources in the northern floodplain at the partially state-owned Cahokia Mounds Historic Site (Figure 1). This enormous late prehistoric center is almost too large to conceptualize in the context of North American archeology (e.g., see Emerson and Pauketat, eds. 2002; Fowler 1998; Milner 1990, 1998; Pauketat 1994, 1998a). The ceremonial-administrative center at the heart of this complex contains over 200 earthen mounds, including the largest in North America, Monk's Mound, and stretches nearly 13km east-west and encompasses, perhaps, two km2 of prehistorically occupied area. This site is on the National Register of Historic Places, the National Historic Landmarks lists, and, during the initial phase of the I-270 project, was added to the UNESCO list of World Heritage sites.

We were faced with a somewhat similar situation in the southern end of the corridor where the Pulcher site (Figure 1) was encountered. The over one hundred hectare site contained as many as thirteen mounds and was a major satellite or perhaps even an early competitor of Cahokia during late prehistory (Kelly 1993). Again, both economics and existing preservation ethics dictated that this National Register of Historic Places site be avoided. Unfortunately, in this instance, the site is completely in private ownership so its long-term preservation is unlikely.

But why advocate the total excavation of impacted sites? This issue, perhaps, raised the greatest debate within the midwestern archaeological community with a number of colleagues arguing that such an approach would produce unnecessary and redundant data. UIUC excavators and a small number of others disagreed. The logic employed was, again, fairly straightforward. Large segments of regional history had already been obliterated by development and the rate of destruction that even in the 1960s was substantial would be increased many-fold as a result of the new highways. (Since the building of I-270 the rate of landscape destruction in the floodplain and for new subdivisions in the adjacent uplands has dramatically increased). Additionally, the total highway corridor represented only a minute fraction of a percent of the archaeological record; to sample this already infinitesimal sample (as some of the archaeological community suggested) would be outrageous. Previous archaeological site

FIGURE 3. Heavy equipment clearing plowzone from an FAI-270 Project archaeological excavation. (Used with permission of the Illinois Transportation Archaeological Research Program).

excavations in Illinois, e.g. at the Orendorf (Conrad and Emerson 1974), Mitchell (Porter 1974), and Knoebel (Bareis 1976) sites had shown that techniques aimed at total recovery using earthmoving equipment could produce data hitherto unavailable to most researchers (Figure 3). That same research had also shown that, counter intuitively, it was often more economical to excavate whole site areas than to sample them.

Based on these experiences with the use of large-scale earth moving equipment for plowzone removal at such sites, the UIUC proposed a research design that focused on community-scale investigations (e.g., Figure 4). As they did so, they noted, for example, that despite the crafting of sophisticated models of community and settlement patterns by regional researchers, not a single small

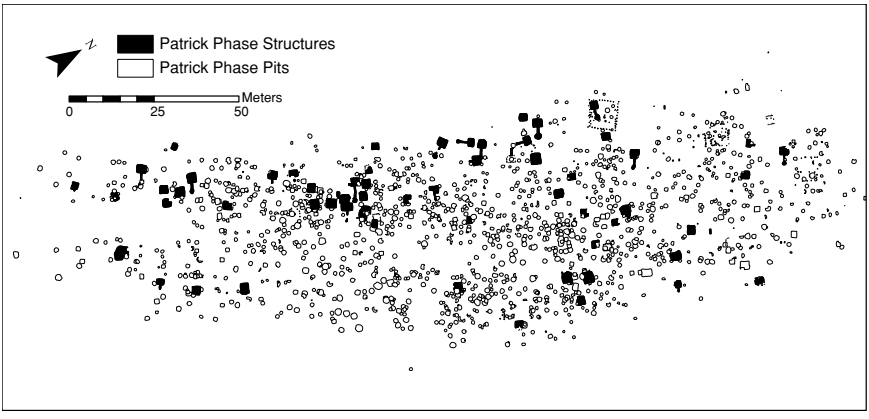

FIGURE 4. Patrick Phase Occupation at the Range Site circa A.D. 600-900 (Used with permission of the Illinois Transportation Archaeological Research Program).

Mississippian farmstead had ever actually been completely exposed, excavated and analyzed. The prehistoric communities from other time periods were totally unknown. Consequently, UIUC researchers focused on methodologies that would provide information on the variation and similarity of architectural features, their internal arrangement within sites, and the distribution of various sites across the landscape, i.e., the stuff of which prehistoric communities are made. However, I-270 researchers recognized the value of surface materials and most sites were subjected to multiple controlled surface collections and hand testing prior to stripping. Eventually this approach allowed the examination of excavation blocks from as small as 2000 m2 to as large as 60 ha (in the case of individual borrow pits; Figure 5). It revealed, as never before, the structure of prehistoric communities ranging from the earliest seasonal campsites of Archaic hunters and gatherers to the complex multi-tiered sites of the Middle Mississippian Cahokians. For the first time in North America, archaeologists were actually able to "see" the development of sedentary village life. An often-unrecognized value was that it also revealed that there were vast portions of the landscape that had no visible surface or subsurface signature of native occupations. We now had firm evidence of both where native inhabitants utilized the land and where they did not. This effort was combined with a solid emphasis on building the necessary cultural-historical sequence for the region.

Best known as the location of the world famous Cahokia Mounds and long known as an important center of Middle Mississippian culture, the archaeological sequence of the American Bottom region was poorly understood prior to the I-270 Project. Despite broader scientific advances in the discipline from the 1960s onward, our knowledge of the American Bottom Archaic and Early, Middle, and Late Woodland cultures and sequences was virtually

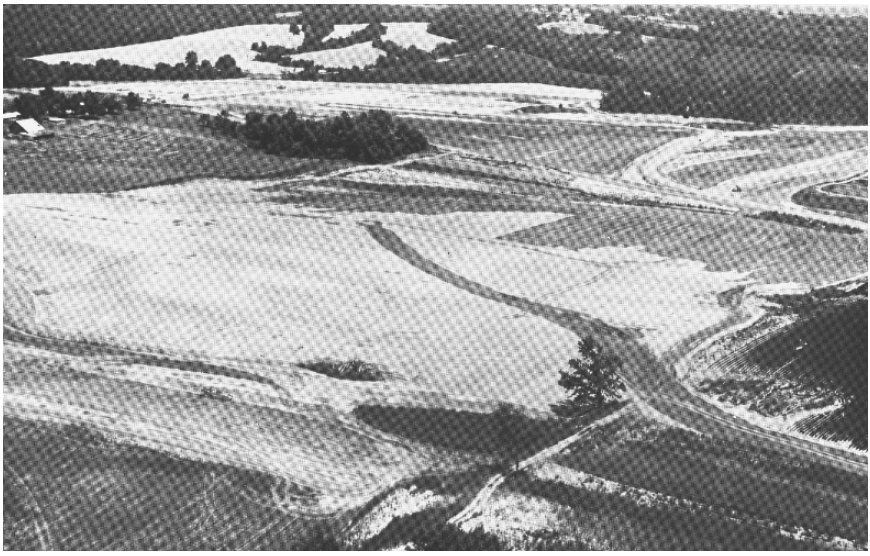

FIGURE 5. Aerial of FAI-270 borrow pit (Used with permission of the Illinois Transportation Archaeological Research Program).

nonexistent. Previous research had been concentrated on the large Mississippian mound centers with sites from other time periods and areas outside the centers noticeably neglected. Although it was the location of the largest mound centers and most complex cultural formations in North America, we had little or no knowledge about the development or collapse of Cahokian Middle Mississippian culture. The archaeological work performed on the massive I-270 corridor and its northern extensions to the east of Cahokia Mounds drastically transformed our archaeological perspective on cultural development in the American Bottom. This focus on building a culture history through the investigations of prehistoric communities was combined with an intensive research program of archaeo-botany and zoology, physical anthropology, and regional geomorphology. At this point in time (2007), the project has impacted several hundred sites, and using earth moving equipment has stripped off overburden from and investigated 1,539,479 m2 (or 153 ha) of actual site area; 149 sites were subject to large-scale investigations with 15,216 houses, pits, and other features excavated and 200 ^{14}C dates have been obtained. This research has lead to the definition of 27 new cultural phases in the midcontinent and a reorientation and reformulation of the trajectory of Eastern North American archaeology. The recent recalibration of the dates and a re-evaluation of the cultural sequence in light of new data and theoretical perspectives have recently produced a new synthesis of the American Bottom cultural history (Emerson, editor 2006; Fortier et al. 2006).

Actively promoted by John Walthall, IDOT Chief Archaeologist, and Charles Bareis, UIUC Project Coordinator, the mantra of the I-270 Project was "publication". Even while the crews and supervisors were still engaged in field excavations the Project managed to publish the *Archaeology in the American Bottom: Progress Report of the FAI-270 Archaeological Mitigation Project* (Bareis and Porter, eds. 1981). The archaeological research of the first decade of the project was rapidly summarized in *American Bottom Archaeology: A Summary of the FAI-270 Project Contribution to the Culture History of the Mississippi River Valley* edited by Charles. J. Bareis and James W. Porter (University of Illinois Press, 1984). Since 1980 nearly ninety archaeological site reports have been completed and, beginning in 1983, twenty-eight volumes have been published on the I-270 and the 5.8 Mile Extension excavations by the University of Illinois Press. As major new sites in the new FAP-310 and FAI-255 sections of the corridor have been excavated and analyzed they have formed the corpus for a new series of reports entitled *Transportation Archaeological Research Reports*, published by the Illinois Transportation Archaeological Research Program, UIUC.

It would clearly be an almost impossible challenge to summarize here, in a few paragraphs, the impact of the extensive new research and interpretations that the I-270 Project work has produced over the past thirty-three years. Perhaps its early importance has been captured best by the comments and observations of our colleagues: "One of the really major events in Mississippi Valley archaeology during the past two decades has been the major excavations and the rapidly completed publications of the I 270 project under the general direction of Charles J. Bareis of the University of Illinois, Urbana... No where else in the East has major contract archaeology done so much to provide a such detailed and chronologically controlled sequence from Early Archaic times to the

protohistoric period." Dr. Stephen Williams, Harvard University (personal communication 1992). "The FAI-270 project is without doubt the most ambitious archaeological undertaking to ever have been conducted in eastern North America since the WPA era. Yet despite the enormous scale of the endeavor and the staggering volume of data recovered, the overall quality of the data produced is absolutely outstanding..." Dr. James Stoltman, University of Wisconsin (1987; also see 1989). "It is no exaggeration to state that (the FAI-270 project has)... capture(d) in summary form the enormous strides that a single, large scale project has had in completely rewriting the history of the bottom and in propelling the area from the intellectual status of a marginal study area to one of major importance in the interpretation of cultural evolution in the Mississippi valley." Dr. James Brown, Northwestern University (1986). "The FAI-270 Project is one of the most ... productive large-scale archaeological endeavors yet undertaken in the United States. The organizers were experienced in the Cahokia area and had a firm institutional base….Above all, they had the cooperation of …. (IDOT), which was alert to difficulties of cooperation among highway engineers, contractors, landowners, and archaeologists, but sympathetic to the value of the archaeological program….In terms of information recovered and analyzed in great detail, and prepared in publishable form, the FAI-270 Project has been one of the best archaeological programs conducted under any auspices….The ability of this program to allow a large group of excavators and specialists in various facets of prehistoric studies to interact for most of the project's life has been of extraordinary value. Seldom if ever has so much been added to archaeological knowledge..." Dr. James B. Griffin, Smithsonian Institution (1984: 253, 261).

The success of the I-270 Project was further recognized when Charles J. Bareis, the former Program Coordinator, was presented the "Award for Outstanding Public Service to Transportation and Historic Preservation" by Secretary Elizabeth Dole, U.S. Department of Transportation and the Public Service Award by Secretary Hodel, U.S. Department of the Interior (DOI), for the excellence of the program's research and, specifically, for the creation of "a program that splendidly serves the professional community and the American people". This is the highest award that can be given by USDOI.

Transportation Archaeology in Historical Perspective

To comprehend why the FAI-270 Archaeological Mitigation Project came into being in the American Bottom in the mid-1970s we must look at the historical context of archaeology, and, especially, transportation archaeology, in Illinois. By the 1930s midwestern archaeologists, particularly those in several Illinois institutions, were on the cutting edge of North American archaeology both intellectually and methodologically. The University of Chicago field schools and large-scale excavations at sites such as Kincaid Mounds trained an entire generation of American archaeologists. This scale and level of archaeology continued into the 1950s and early 1960s with large reservoir projects. The involvement of the Illinois Department of Transportation in archaeology began

shortly after Congressional passage of the 1956 Federal-Aid Highway Act. This legislation allowed (but did not mandate) the use of highway construction dollars for the salvage of archaeological sites threatened by potential highway construction. Each state was given the prerogative to implement this section of the act; some did, many did not.

In Illinois, two events occurred subsequent to the Federal-Aid Act that established an enduring climate of cooperation between engineers and archaeologists. In June of 1956, Illinois Department of Transportation Administrative Memorandum No. 45 was issued in Springfield that established policy for the preservation of cultural properties found in highway rights-of-way (R.O.W.). In the American Bottom IDOT engineers even extended this preservation philosophy to include borrow pits outside the R.O.W. Shortly afterwards, in direct response to this IDOT policy statement, archaeologists from the University of Illinois (UIUC), Southern Illinois University at Carbondale (SIUC), and the Illinois State Museum (ISM) formed the state professional organization, the Illinois Archaeological Survey (IAS). Professor John McGregor, UIUC, a principal founder of the IAS, stated that the major function of the association was 1) to act as a lobbying group for archaeological concerns, 2) to serve as a liaison between the archaeological community and state and federal highway officials, 3) to establish an archaeological site file and recordation system, and 4) to assign member organizations surveys and excavation work on a noncompetitive, regional basis (Emerson 2006). IDOT and the IAS signed a cooperative agreement in 1959 that initiated a long partnership.

During the first 20 years of transportation archaeology, funds were allocated only for field investigations. No money was available for laboratory processing or report preparation. The funds that were programmed for archaeology allowed only partial survey of proposed rights-of-way and led to the selection of small numbers of the most promising sites for excavation. The logic behind this arrangement was that the highway dollars were to be expended to remove artifactual and contextual data from the area threatened by construction; archaeologists were then to obtain other funding, theoretically in the form of grants, for analysis and write-up. After four years of limited salvage, the proposed construction of I-55 and I-70 through the American Bottom floodplain across the Mississippi River from St. Louis led to the first major test of the highway archaeology program in Illinois. In the path of these new highways was a major portion of the vast Cahokia site and one of its major satellites, the Mitchell site to the north.

Cahokia is now recognized as the preeminent Mississippian (AD 1050-1350) civic-ceremonial center in North America. The Cahokia salvage program, which lasted from 1960-1964, resulted in extensive excavations of residential areas of this temple town and led to the discovery of a series of large woodhenges, huge circular patterns of tall wooden posts, thought to have had astronomical and/or ceremonial functions. After years of field work the massive task of analyzing and interpreting the data from the I-55/70 Project began. Outside grants were obtained to aid in this effort, most notably several from the National Science Foundation. Although no major synthesis resulted from this project, a series of reports was issued which tremendously advanced knowledge concerning this major prehistoric site. Over the intervening years, a number of theses and

dissertations, and resulting publications, have been produced utilizing the data generated by this project, including Patricia O'Brien's UIUC thesis on the Powell tract work (1972), James Porter's 1974 University of Wisconsin dissertation on the Mitchell site and Timothy Pauketat's recent (1991) dissertation at the University of Michigan on the excavation of residential zones in the shadow of Monk's Mound at the center of Cahokia. More recently IDOT has incorporated the analysis and reporting of some of these earlier excavations into ongoing related research to ensure that this valuable information will become available to the professional community and the public (e.g. Timothy Pauketat 1991, 1998b and his current analysis of Cahokia Tract 15B; Emerson 1997; Galloy 2002; Mehrer 1995).

In the late 1960s and early 1970s new federal preservation laws increased both governmental and public awareness of historic resources. In 1975 the IAS and IDOT signed a new Cooperative Agreement that included the hiring of professional archaeological staff by IDOT and the establishment of a systematic program of archaeological surveying, evaluation, and mitigation within transportation corridors. In 1976 new regulations were issued to strengthen the National Historic Preservation Act enacted in 1966. Now, for the first time, identification of archaeological and other cultural resources was mandatory in project planning and, importantly, funds were allocated for laboratory analysis and report preparation. Academic faculty associated with major universities and museums dominated archaeology in Illinois during this period. Research was the byword. Simply going out and surveying a proposed highway corridor was no longer acceptable. A research design was now required. The importance of a site was delineated by its research potential and projects were judged by their contribution to research. In Illinois this period was also structured by the research universe, i.e., each major institution had traditional research territories and was assigned work in that particular area of the state. This system was organized so that each university would have a corps of trained archaeologists familiar with their geographical region to provide expertise concerning survey and evaluation strategy. Projects could be accomplished in an efficient and less costly manner since the resident experts had intimate knowledge of the cultural resources in their regions. This system, while it had its problems, was fairly successful. Funds were not wasted in repetitious evaluation exercises and were quickly allocated to the investigation of significant resources. Reports were generally submitted in a timely fashion since preparers were already experts in their regions.

By the mid 1970s the number of transportation related construction projects were increasing rapidly and archaeological work reached new heights and levels of complexity. At this time pedestrian surveys within two of the highway project corridors, the I-270 project in the American Bottom, and the FAP-408 project in west-central Illinois, were initiated resulting in the discovery of over 1000 archaeological sites. Data recovery efforts began almost concurrently on these two massive projects. With crews numbering over 150 workers in each area, the peak years 1977-1987 were tumultuous, exciting, and exhausting. The inclusion of funds for laboratory analysis and report preparation in the budgets of projects was particularly significant. Every project held unprecedented potential to yield significant new information concerning regions of especially intensive and

complex prehistoric occupation. Ongoing destruction, by urban sprawl and modern farming and flood control, of much of the cultural resource base in these areas added a sense of urgency to the recovery efforts. Archaeological investigations along these two highway corridors were viewed by regional archaeologists as perhaps one of their last opportunities to investigate region-wide patterns of prehistoric life ways and cultural change and complexity.

While a number of large-scale projects located largely in riverine floodplains, like I-270, have received considerable attention, significant discoveries have also been made concerning human adaptation in the uplands region of the state, which is a portion of the eastern extension of the Prairie Peninsula, a huge tall grass savanna stretching westward into the Plains. The need for fill materials (borrow) for highway construction (which is contractor furnished in Illinois) also resulted in the survey of long transects of bluff top uplands above the Illinois and Mississippi River valleys. These surveys, and the excavation of many of the sites located, have provided a more complete picture of regional settlement systems. In addition hundreds of IDOT archaeological surveys are conducted annually on state routes and local roads resulting in distribution and excavation information from throughout the state.

IDOT archaeological efforts were also required not only on highways but were also expanded to include several major water resources programs as well as areas for proposed new airports. The recent survey of a 10,000 ha area in Will County for a new Chicago airport is an example of the potential magnitude of some of these non-highway transportation projects in Illinois. Recently a survey of some 1000 ha in the Silver Creek uplands for the proposed MidAmerica Airport adjoining Scott Air Force Base, resulted in the discovery of over 100 prehistoric sites (Holley et al 2001). This upland drainage region is situated 20 km east of the American Bottom and was largely unexplored archaeologically. The excavation of the sites to be impacted by proposed construction yielded large numbers of house remains and other features. The analyses of this data led to a new understanding of the developmental and economic relationship of Cahokia and interior upland settlements.

Besides such major projects, thousands of small-scale surveys and excavations have been conducted for internal improvement projects like bridge replacements and highway widening. Over 2000 archaeological sites have been found as a result of such smaller scale transportation projects in the last decade alone. Many spatially diminutive archaeological sites, which in the past would have been ignored by researchers, have now been intensively studied. Whole new perspectives on prehistoric occupations of the many and varied physiographic regions of Illinois have been produced by these efforts.

Managing the I-270 Project

This brings us to one of the question that we are dealing with here – why did the I-270 Archaeological Mitigation Project succeed? All the odds were against it. Anyone who has studied the history of large-scale archaeological projects in North America quickly realizes that the path to success is littered with the debris

of all too many failed projects (e.g. the roughly contemporaneous New Melones Project in California). It is an unfortunate story of missed deadlines, unrealistic timetables, cost overruns, incomplete and inadequate excavations, unanalyzed materials, and unfinished or superficial reports. While both authors were, and still are, deeply involved in the I-270 Project, we also believe we have a uniquely broad perspective from our involvement in many other large projects as professional archaeologists, managers, and regulators to unravel some of the factors that made the I-270 Project more successful than other similar projects. We would like to suggest a few of those factors here.

The FAI-270 project emerged out of a two decade long cooperative stance between the professional archaeological community and IDOT. During this period both archaeologists and engineers came to understand each other's concerns and to work together in a situation of trust. This twenty-year relationship was a critical precursor to the smooth interaction between archaeologists, construction personnel, and IDOT administrators under the stressful conditions of large-scale construction project. The successful interaction was also facilitated by the presence of IDOT's own archaeological staff that often acted as intermediaries between project archaeologists and the various bureaucracies.

In addition, the tradition of having archaeological investigations as part of the highway program created opportunities to train a number of archaeologists and students in the techniques of working within a construction environment. They were exposed to the large scale stripping of sites, to learning techniques for the rapid excavation of large numbers of structures and pit features, to organizing projects at a scale not encountered in the world of academic archaeology, and to balance the needs of construction with the ability to perform efficient, timely, and thoroughly scientific excavations. To manage the concurrent excavation of from five to as many as eight sites, for example, is no small matter. These are skills that are not taught in the standard academic environment. They have to be learned in the field. The I-270 Project benefited from this training and was able to employ the skills of these individuals to great effect.

The I-270 Project began life as a "project" run by committee. The Illinois Archaeological Survey created a committee representing the various archaeological research institutions within the state. By 1976 four institutions had submitted proposals to begin excavations on the 59 known sites that needed to be tested. The UIUC was to serve as prime contractor with all other parties to be subcontractors. Within less than two years two of the institutions had failed to complete their responsibilities and were removed from the project. It became obvious that many factors contributed to these problems including too many layers of bureaucracy, too many chiefs without clear chains-of-command, an absence of competent and experienced field supervisory personnel, and a lack of unity and of focused efforts. In the cases of the institutions that had withdrawn from the project, it is apparent that a primary deficiency had been the failure to build a strong project organization. These groups had operated under the older paradigm of summer field seasons tucked into an academic year and had relied primarily on student labor and faculty supervisors. The I-270 Project was simply one of many obligations they had and suffered accordingly. They failed to adapt to the new requirements of doing archeology on a massive project on a tight

time schedule operating on a year-round basis. This experience colored much of the I-270 Project leaders future actions and led to a fairly strict juncture against any subsequent subcontracting and a distaste for academically oriented archaeology.

During the initial period, the I-270 Project was subject to continuous and frequent monitoring by IDOT, the Federal Highways Administration, the Interagency Archaeological Services of the Department of the Interior (DOI) and the Society of Professional Archaeologists (SOPA). Dr. Bennie Keel (DOI) and Dr. James B. Griffin (SOPA) were continual visitors who were variously inquisitors, judges, mentors, and colleagues. Our archaeological colleagues were always a tough sell since many of them disagreed with our excavation strategies. These monitoring visits, as much as project personnel disliked them to some extent, were a critical factor in forcing us to constantly evaluate and access our actions and accomplishments on the project. We were forced to explain, and, sometimes defend, our field excavations, lab procedures, analysis, and interpretations - every aspect of our activities. As noted above, some groups were unable to pass through this process unscathed.

The utility and efficiency of a project's organizational structure and logistics may be the defining feature in its success or failure. The maxim that an "army travels on its stomach" may be as true for a large archaeological project as it is for a military operation. In fact the two types of operations shared many similarities. The I-270 Project followed a strict military hierarchy in its organizational structure beginning with the Program Coordinator at the UIUC down through the Field Director to the various Site Directors with their subordinate site supervisors and crew leaders. A strict chain-of-command communication policy was enforced. While the Program Coordinator was based at the UIUC campus, the entire remainder of the project was established in the American Bottom including the residences of the staff as well as all the necessary administrative offices and laboratories. Essentially the project and its staff were logistically and organizationally self-sufficient and totally project focused. The six Site Directors (Thomas Emerson, Andrew Fortier, John Kelly, Dale McElrath, George Milner, and Ann Stahl), each with their staff of from ten to forty crew members, operated independently in the field but each were supplied through a central field laboratory and supported by project specialists in ethnobotany, archaeozoology, geomorphology, photography, cartography, and other fields. This tie to the research area was reinforced by the project policy of a preference for hiring local residents and training them as archaeological technicians. Economically it meant that the funds were being pumped back into the local communities where the projects were based.

The project structure was also held together by the establishment of a uniform field methodology that was strengthened through the use of an extremely thorough field manual for all aspects of excavating, including instructions on taking all types of samples ranging from pollen cores to archaeomagnetic blocks. This also included the creation of a set of standard forms for all field excavation exercises from daily log sheets to posthole forms. Perhaps the most critical portion of the recording system was a requirement that all field forms and maps be verified and signed-off daily by the field supervisors. While it meant many late hours for the supervisors, it resulted in the most thorough and

error free data recording system we have ever encountered. Each specialty laboratory had similar manuals and procedures to ensure uniformity of process.

This daily regimentation was overlain by a series of monthly and annual reports that kept precise track of all activities. These daily and monthly reports were primarily directed toward ensuring that sites were excavated in a timely manner under a controlled process. These reports detailed on a site-by-site basis such activities, for example, as the number of artifact bags and ethnobotanical samples collected, features excavated, square meters of plowzone removed, and person-hours spent. These reports visibly demonstrated the progress or lack thereof by each site director and allowed the measurement of production rates by determining the number of person-hours per features ratios. While archaeologists are not usually attuned to meeting "production goals", these deadlines were critical to the ultimate success of the project.

While there certainly was a fairly rigid overall project organization and structure, site directors operated rather freely at the site level. Essentially, within the general project guidelines, site directors had a great deal of independent decision making ability regarding excavation strategies and techniques. This ability to make pragmatic decisions in the field maximized the archaeologists' ability to tailor site excavations to the often changing field considerations and allowed the best use to be made of the particular skills and insights of the individual site directors. This approach was carried over into the analysis and report preparation stage of the project. A team of researchers under the supervision of each site director performed the required analysis. This team approach allowed for the rapid production of reports. The site director served as the major author or editor for each volume and was the unifying force to ensure internal compatibility. With several such teams of analysts operating simultaneously what did occur on some occasions was a loss of comparability between sites. However, this was never so great as to be insurmountable for future researchers. It was a small price to pay for the stimulation, interaction, and feedback it created among researchers who learned from one another's successes and mistakes. The value of this approach was reinforced by the obvious examples of a few cases where the team philosophy of excavation, analysis, and report preparation were not implemented. These were typically some of the last reports to be completed, usually with cost overruns and a failure to meet due dates.

This internal self-sufficiency of the project carried beyond the archaeology to all the relevant specialists in such fields as archaeobotany, archaeozoology, and geomorphology. Project leaders quickly realized that outside consultants or fellow academics could not meet project deadlines, nor did they have the needed intellectual or logistical focus because of the many diverse demands on their time. Consequently all specialists were brought into the project organization to ensure that research issues were addressed as site directors needed the information. This policy even extended to the realm of radiocarbon dating where the project hired an assistant for the Illinois State Geological Survey's radiocarbon lab who was responsible for processing I-270 Project radiocarbon samples. It also included that often neglected aspect of archaeological research - publication. In order to ensure the smooth production of the multiple reports a staff of editors, photographers, cartographers, graphic designers, and computer

technicians were employed. They created an internal process that took the manuscripts from a rough draft stage to finished publications.

We would suggest that another key to understanding the attainments of the I-270 Project was the selection of a research design that was both intellectually fulfilling and was specifically geared to the large-scale nature of the project itself. This is one of those unique situations where research design, methodology, and construction needs blended flawlessly. This strong centralized research theme that focused on obtainable and explicitly stated goals unified the project. One aspect of the project that has not been stressed before was what we might almost call its "service-orientation". There was a mostly unspoken recognition that the data being collected and the basic chronological and cultural sequences being created were done as a "service" for future researchers. This philosophy was reinforced by the fact that personnel held year to year appointments and were generally encouraged to consider themselves short-term employees. This situation was enhanced by a series of strict deadlines for site analyses and report completions. The format for early site reports followed a rather narrow cultural history paradigm, i.e., a basic description of cultural life ways focusing on chronological placement, cultural definition within the newly created cultural sequence, and subsistence practices. In retrospect the project as a whole was very much linked to elaborating the in situ unilinear evolutionary development of American Bottom cultures.

That paradigm has changed dramatically over the years. In reexamining existing data and with new data being continually gathered we now tend to stress the apparent discontinuities in the sequences and have become more interested in examining their social and political implications. One of the advantages in employing regionally focused research institutions in projects such as I-270 is that research continues regardless of the fate of the project and its funds. As we noted the I-270 Project has had its ups and downs during the past thirty-three years with a number of instances when funding totally disappeared. Yet the research has been continuous and progressive throughout that period.

While we now look back at the earlier research philosophy as being somewhat naive and limiting, it is also apparent that it served the purposes its creators intended. These efforts built a strongly supported cultural-historical sequence based on tremendous data and ensured that this basic information was available to the greater archaeological community in an extremely rapid manner. These primary reports have also served, as it was hoped, to encourage much additional research of I-270 data by widely diverse scholars from across the Eastern Woodlands. The rapid dissemination of information was greatly facilitated by, what in retrospect can only be thought of as a stroke of genius, the American Bottom Summary Volume. This volume presented, in straightforward terms, the broad conclusions of the project researchers, both archaeologists and specialists. It is even more amazing that this volume was written in a matter of months the same year that the I-270 crews were coming out of the field. Published in 1984 it became widely disseminated, reprinted twice in hardback and finally in paperback - a real archaeological best seller. We are currently in the planning process for a new summary statement - dozens of new sites with new components and 20 years of additional archaeological advancements have made our previous compendium sadly out of date (e.g., Fortier et al. 2006).

This goal to "spread the word" was also carried to the general public. At the local level this was accomplished in two ways. During the course of the field work two public outreach brochures were printed for distribution to the local citizenry. These brochures explained the various historic preservation laws and illustrated the value of archaeology through the discoveries being made in the highway corridor. Information was also spread thorough various newspaper articles and talks to the local citizen groups. A wider audience was reached with the production of two half-hour television specials that were broadcast on the state public television channels, as well as being shown at regional and national archaeology conferences.

I-270 Project Lessons

While we have written positively about the strengths of the I-270 Project we would be amiss if we did not briefly discuss what we perceive as shortcomings of the early work. Like many of their colleagues trained in the 1950s through early 1970s, early project leaders did not adequately comprehend the implications of such a massive quantity of archaeological materials for long-term curation and data management. The initial focus of the project was very much excavation and analysis oriented. This was in keeping with fairly widespread practices in American archaeology, especially those of archaeologists who had worked in the previous era of true salvage archaeology. Most practitioners thought that they had completed their task when the materials were boxed and on the shelf or when the report was published. As anyone who is involved in curation knows, it is at that point, the work of curation and management is just beginning. Consequently, for the last decade we have been faced with the mammoth job of bringing all of the collections into line with modern curation standards. In addition, the I-270 Project bridged that period that saw an explosion in computer technology. Again, in the early I-270 Project, the issue of the newly introduced and rapidly changing computer technology and digital data preservation was not even perceived to be a concern. How quickly we learn. Today, with a full-time curator and curation staff, curation and all types of data preservation are major concerns of the I-270 Project ITARP-UIUC staff.

Carrying out excavations at the scale of those on the I-270 Project also made us very aware how important it was at every stage of the project for supervisors and crews to work as an integrated team towards a common goal. The internal organization of crews was left in the hands of the Field Directors. Those who were most successful trained their crews to be skillful excavators and observers and consulted with them in the interpretations and recording of archaeological features they had worked on. This feedback served to encourage excavators to be both observant and sensitive to the archaeological context of their work. It also made the recordation forms more sensitive to the process of observer variation and interpretation than it might initially appear. All of the forms included long narrative sections for both excavator and supervisor discussions, interpretations, and comments. Because most of the excavations involved were

on shallow surface sites that contained distinct features such as pits, hearths, activity areas, or houses all recordation was in terms of cultural rather than arbitrary units. This made the recordation units culturally reflective and provided the excavators a very human scale in which to interpret their excavation units and the site as a whole. The I-270 Project for the most part dug "houses", "storage pits", "work areas" etc., that to some degree, reflected the conceptual units of those that originally made them. The most effective Field Directors on the Project were engaged in the "reflexive practice" of field archaeology long before the term became commonplace in the literature (i.e., Hodder 1999).

Another major lesson learned from the I-270 Project history was the critical need for centralized management of a large research and mitigation program. The UIUC and IDOT had had archaeological contractual relations beginning in the mid-1950s. This relationship took a new direction in 1980 when IDOT and the UIUC signed an intergovernmental agreement to conduct statewide archaeological surveys for highway and related IDOT-construction projects. In 1994 this led to the creation of the Illinois Transportation Archaeological Research Program (ITARP), a joint IDOT-UIUC intergovernmental program, to manage archaeological and historical resources compliance for IDOT.

ITARP arose directly in response to an increasing complexity and rigor in the levels of cultural resource management and protection required for federal and state agencies. In addition, new state legislation had increased the degree of agency responsibility for archaeological resources on public lands, on publicly–sponsored projects, and for human remains. These higher profile programs also involved a heightened awareness on the part of the public and Native Americans on the potential for their active participation in the process. These factors led the Illinois Department of Transportation and the University of Illinois to jointly create ITARP as a mechanism to assist in assuring agency compliance with these various new mandates. IDOT needed a program that could efficiently maintain the required databases and levels of expertise, flexible staffing levels, high levels of report production, and that could respond rapidly to changing construction schedules, plans, and financing. Such a program also needed to be cost-effective -- since the UIUC-IDOT ITARP program is a "government to government" relationship all work is done at cost. Smaller state regional University programs did not have the ability to respond quickly to IDOT's schedules because of administrative and personnel limitations. However several regional universities still play key roles, coordinated through ITARP, in performing IDOT compliance efforts within their local areas of expertise.

Reflections

Nearly one-half century ago the Illinois Department of Transportation issued its first official policy statement on the relationship of highway construction and archaeological resources. That 1956 statement recognized the potential impact of highway work on the national heritage and directed its engineers to avoid such "historical ruins" if possible, and, if this could not be done, to protect the resources until they could be investigated by archaeologists from the Illinois

Archaeological Survey. While the logistics of salvage and construction often caused significant tensions between highway engineers, private contractors, and archaeologists over the next few decades the process moved forward and became one increasingly of mutual respect. Construction engineers learned to appreciate the value of archaeological resources and many became personally interested in the new discoveries and artifacts being recovered in their projects. As the archaeological community learned to work within the difficult schedules of large construction projects by daily resolving issues with resident engineers, heavy equipment operators, and IDOT administrators, they learned to gear their research to the constraints of construction. There also arose a begrudging respect on the part of the construction laborers and engineers for the archaeological crews who labored in the American Bottom heat and humidity for 8-10 hours a day, sometimes seven days a week, digging by hand (something highway workers always found almost unbelievable), for what was considered low wages. Ultimately, in many cases, especially in the difficult decades of the 1960s and 1970s, archaeologists won the admiration of highway people by dint of their work ethic and dogged perseverance under very hard field conditions. Even in Illinois with more favorable conditions than in much of the U.S. these decades were truly the period of "salvage archaeology".

The late 1980s and early 1990s saw major changes in the legal and regulatory climate within which historic preservation activities operated. At the national level these included the enactment of the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 et seq. [Nov. 16, 1990]) and modifications to the NHPA. However the most important changes occurred at the state level with the 1985 creation of a new state department, the Historic Preservation Agency, that centralized most of the state's preservation responsibilities into a single establishment that included the State Historic Preservation Office. In 1989 Illinois' historic preservation laws were strengthened with the passage of the Human Skeletal Remains Protection Act (20 ILCS 3440), and the subsequent year the Archaeological and Paleontological Resources Protection Act (20 ILCS 3435) and Illinois State Agency Historic Resources Preservation Act (20 ILCS 3420). These laws introduced standardized procedures for handling all human remains (HSRPA) and the historic resources on all public lands (APRPA). The ISAHRPA put in place a state law that was a state-equivalent to Section 106 and that mandated that historic resources be taken into account on all state funded, permitted, or licensed projects. This later law finally put to rest the question of the ambiguous status of borrows pits and clarified that the historic resources within them were protected under state law. This plethora of new legislation and regulation both strengthened historic preservation in Illinois but also made it an increasingly complex process for those agencies whose activities could potentially involve major impacts on the historic resources.

We believe that the Illinois transportation archaeology program has been successful. The proof of this success of a regionally based system has been the printing and widespread dissemination of scores of project summaries and individual site reports and the publication of over a hundred articles in regional and national journals. The public and scientific contribution to the people of Illinois generated by the Illinois Department of Transportation's concern for the cultural history of the state has been tremendous. While at least partially

generated by such federal laws as the Federal-Aid Highway Act and the National Historic Preservation Act, the early cooperative stance between the Illinois professional archaeological community and this state agency created an atmosphere conducive to collaborative efforts to protect the past. Just as IDOT's cultural resource management program has been in the forefront of those in the nation so has the resulting archaeological research contributed important new information and interpretations of the prehistory of the midcontinent.

So has this state-based cooperative effort worked? After nearly a half-century of successful archaeological investigations and research recognized as of being of national significance by the archaeological community at large, the answer on the cultural resources side must be a resounding yes. Illinois archaeological research has continued to be on the cutting edge of the discipline. Economically it has contributed significantly to local economies where projects occur as well as to the state in general.

What about from the standpoint of those who build highways? IDOT's cultural resource investigation programs have been models for the efficient functioning of historic preservation within a construction-oriented agency. The use of a regionally based archaeological organization has proved to be a cost-effective and resource friendly system. An unforeseen benefit of the relationship has been the role the district-level archaeologists and the UIUC program have played in assisting to maintain continuity in archaeological compliance in the regional IDOT offices. IDOT personnel tend to shift positions and localities at a fairly frequent rate – the centralized, long-term archaeological program has played a significant role in maintaining environmental program continuity as well as in "training" new generations of engineers, planners, and administrators. The intra-governmental partnership of IDOT and the university-based research group has benefited both the state and archaeology but even more importantly it has benefited the citizens of Illinois by producing one of the top cultural resource preservation programs in the nation.

Acknowledgments. The I-270 Archaeological Mitigation Project would not have been possible without the contribution of all those who "paved" the way. We thank them all but especially acknowledge the foresight, abilities, and guidance of Earl. H. Bowman, IDOT Chief of Environment, and Professor Charles J. Bareis, Professor Emeritus, UIUC. Both men are now deceased but their legacy continues. We dedicate this article to their memory and to that of James B. Griffin, whose presence still hovers over American Bottom archaeology. We also appreciate the efforts of those colleagues, Andrew Fortier, Douglas Jackson, and Dale McElrath, who have continued with the project since it's beginning, for their input, observations, and endurance. As the unofficial historian of the I-270 Project Dr. Fortier's help has been invaluable. We also gratefully acknowledge the past contributions of all of the researchers involved in the I-270 Project. Portions of this article were previously included in Walthall et al. (1997).

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Part III
Legal, Economic and Political Constrains of Cultural Heritage Preservation Programs

Part III
Legal, Economic and Political Constrains of Cultural Heritage Preservation Programs

Introduction

The third part of the book is about specific economic, political and legal concerns that applied archaeologists encounter, the relationship between business and cultural heritage research and preservation, and public interests in cultural heritage (Wheaton), the economic and political constrains in designing cultural preservation programs (Wheaton; Kobylinski), and legal aspects of cultural heritage preservation and conservation activities (King).

Thomas R. Wheaton discusses the economic and political conditions for applied archaeology in the U.S. By contrasting the private and state controlled approaches Wheaton points out the positive aspects of the for-profit solution to cultural heritage preservation and research. Within the past couple of decades it seems that many countries are coming to grips with an increasingly aware public that, quite apart from international conventions, is demanding a say in the preservation of their heritage. Many governments recognize the importance of heritage to their citizens' well-being, sense of place and self-esteem, so essential for economic and political development. Wheaton emphasizes that salvage is not conducive to good management and therefore specific modifications in the legal aspect of cultural heritage preservation seem necessary. Wheaton's conclusion is that the advantage to the United States' system is that it is flexible and ideally includes public input, but the disadvantage is that it only covers a small part of the total of cultural heritage destroyed each year.

Zbigniew Kobylinski discusses the new economic and political context that emerged in Eastern Europe since the systemic transformation of the early 1990s. He is developing an idea of preventive conservation or sustainable conservation defined as a "multi-disciplinary management to reduce the loss of cultural heritage, with the aim of benefiting the public". Preventive conservation has been recognized as a "cornerstone of any European policy of heritage preservation". Kobylinski points out that cultural landscapes are dynamic entities and therefore multivocality of cultural landscapes should be assumed.

Kobylinski also discusses the current state of applied archaeology in Poland. The country is going through a systemic change that includes modernization and development. The author examines the role of archaeology in creating cultural identities and asks the fundamental question: What is the future of cultural past under the newly emerging economic, social and political pressures?

Thomas F. King's contribution is on the most significant aspect of applied archaeology – its legal context. King points out to good and bad sides of the legal protection rules. One of the not very well understood legal constrains is that we cannot preserve everything but that preservation rules and laws are based on certain criteria. Those criteria, on the other hand, are founded on certain outlook on what matters at the time. King points out that legal systems do not protect all aspects of cultural heritage; they are set to preserve the tangible elements of the landscape, while the intangible elements which exists in human memories eventually vanish without a trace.

11
Private Sector Archaeology: Part of the Problem or Part of the Solution?

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Introduction

The other articles in this book address the issues of development pressure on archaeological landscapes. And as the abundance of examples shows, this has become an increasingly serious problem as the world's population keeps expanding exponentially. Many countries and international organizations have, over the past 50 years or so, begun to address this problem, a problem which in my opinion poses a much greater threat to our common heritage than pothunters and the illicit relics market.

Countries have increasingly passed laws requiring that earth disturbing projects be subjected to archaeological salvage, or better yet, management of their archaeological and other cultural resources. Some international organizations have promulgated conventions that countries are urged to sign, and instituted preservation procedures that are required before the granting of development loans. Within the past couple of decades it seems that many countries are coming to grips with an increasingly aware public that, quite apart from international conventions, is demanding a say in the preservation of their heritage. Just as development is not going to go away any time soon, neither is this demand that people's history and material heritage must be considered by governmental bodies. And many governments are also recognizing the importance of heritage to their citizens' well-being, sense of place and self-esteem, so essential for economic and political development.

Most countries' do not have the financial wherewithal, and sometimes lack the expertise, to identify, evaluate and mitigate the impacts of this development. The old system of universities and museums that have dealt with archaeology as a leisurely pursuit where researchers could decide where, what and when to study, was not made to handle this dramatic rise in the numbers of sites, artifacts, and data, and certainly not in a timely fashion. Even governmental organizations such as national park systems and granting institutions were not set up, nor are they often equipped, to handle such a situation.

Almost certainly, the solution to this situation will need to include the private sector, whether in the form of non-profit organizations (NGOs) or of for-profit companies. This chapter will explore the role of the emerging for-profit private

sector in dealing with these issues. It is based on over 25 years of experience in the for-profit private sector in the southeastern United States and extensive contacts with other company owners throughout the United States as the system has developed from its infancy in the 1970s to the beginnings of its maturation in the 1990s and continuing until the present. It also is based on observations of the international private sector over the past half dozen years in travels to Latin America, Europe and Africa, and extensive correspondence with private sector companies in other parts of the world. This chapter is therefore unlike the others in this book and derives from a career's experience rather than a single project or research topic.

This topic is much more complicated than it may appear at first glance. It involves not only the practice of archaeology, but the cultures and the economic and political systems of the countries involved. This discussion is undoubtedly colored by my personal experiences and biases, but I hope that my experience has been wide enough to provide some validity to my examples and conclusions. And while I have benefitted enormously by my contacts with others in the United States and overseas, any errors in fact or interpretation are, of course, mine alone.

The US System

History of Enabling Legislation

American archaeologists are fond of pointing out that Thomas Jefferson was our first archaeologist when at the end of the eighteenth century, he had his enslaved Africans excavate a portion of a prehistoric Indian mound on his property. They are also fond of pointing to the 1906 Antiquities Act as a sign that we have been managing our cultural resources for nearly one hundred years. But in reality, these dates are a little early. Archaeology as academic discipline did not really get started until a hundred years after Jefferson's excavation, and it took another 60 years after the Antiquities Act for the real beginnings of legislation to manage cultural resources in the United States, the 1966 National Historic Preservation Act (NHPA).

There was other legislation after 1906 that included mention of archaeology and conservation, and the management of buildings and sites and other cultural resources, but these had for the most part minimal impact on the run-of-the-mill archaeological site. The 1935 Historic Sites Act allowed the National Park Service to become involved in identifying and purchasing sites, managing such sites, and working with local governments in the management of such sites; but this affected only a tiny fraction of the cultural resources in the United States and was geared toward monuments in the sense of only the best known resources, much like the "listed" sites in Europe. It did not target the ordinary sites of ordinary people or those sites rapidly disappearing as a result of development. The 1949 National Trust for Historic Preservation Act, set up the National Trust to protect sites and buildings of outstanding importance in our history and to take over the functions provided for in the Historic Sites Act, purchasing and managing sites, and working

with local governments. Neither act was intended to identify, evaluate and manage the totality of federally impacted cultural resources in the United States.

Prior to the NHPA, only the Archaeological and Historic Preservation Act (initially called the Reservoir Salvage Act, then the Moss-Bennett Act, and then the Archaeological Recovery Act [National Center for Cultural Resources 2002]) truly recognized the extent of the destruction of sites, and provided for their identification, evaluation, and gathering of the data they contained prior to their destruction. But this Act only applied to federal projects or federally permitted projects and only "when the constructing agency, in its preliminary surveys, finds, or is presented with evidence that historical or archeological (sic) materials exist or may be present in the proposed reservoir area" (16 USC 469-469c-2). It was not a proactive effort to find and evaluate unknown sites. If no one brought sites to the attention of the constructing agency, who in turn would bring it to the attention of the Secretary of the Interior, there was no mandate to conduct an identification survey or to evaluate all of the cultural resources within a project area. Despite this however, most large reservoirs were subjected to archaeological survey and data recovery in the following years, although this was often a last minute, salvage operation, as the agencies were not required actively to find sites, or they hoped that they might not have to do such work it was put off long enough. As most would agree, salvage is not conducive to good management. So this law, although much better at recognizing the importance of non-monumental resources than previous laws, cannot properly be called a cultural resource management law in the sense we use the term today in the United States. It was primarily a law to salvage whatever possible in front of the bulldozers, and it only covered a restricted type of project.

The law that really changed how the federal agencies, federal permitees and federal grantees dealt with cultural resources, and which has fueled the incredible increase in the numbers of sites and buildings that everyone must deal with, from developers and state and local governments to engineering firms and federal agencies; and which caused the birth and dramatic growth of private sector firms was the 1966 National Historic Preservation Act (NHPA, as amended). The language that caused this explosion in numbers of sites and amounts of data is contained in Section 106 of the Act. A federal agency must "take into account the effect of the undertaking on any district, site, building, structure or object that is included on or eligible for inclusion in the National Register" (16 USC 470f). A single sentence that has had far ranging effects. This applies to all projects on federal land, and on federally funded and federally permitted projects, and includes direct as well as indirect impacts of such projects. Another section of the Act, Section 110, requires that federal landowning agencies inventory the cultural resources on their lands and prepare preservation plans for dealing with them even if there are no planned projects that might disturb them. The NHPA effectively moved public archaeology from salvage archaeology to archaeological heritage management (AHM), which is usually grouped with other heritage resources under the term cultural resource management (CRM) in the United States.

The effects of this act were not immediate. There was a period of 10 or 15 years when federal agencies ignored their responsibilities or had neither the personnel nor

direction to carry them out. Permittees (private landowners, developers and others who apply for federal permits required prior to construction of a project) were initially unaware of the changed regulatory landscape or thought that it somehow could not apply to them, so they put off compliance until the last minute resulting in more salvage rather than the management of resources embodied in the Act. By the late 1970s, the President's Advisory Council on Historic Preservation (ACHP) began codifying the Act with regulations that have been amended several times since (38 CFR 800). Each amendment tends to include more opportunity for public input and the encouragement of a process that includes communication among all stakeholders to arrive at a mutually agreeable result rather than a set of inflexible rules that must be followed no matter what. This flexible, consultive approach is probably key to making the whole system work as well as it does.

By the mid-1970s, the effects of the Act were beginning to be felt in the construction and architectural-engineering industries and among most federal agencies, and with 38 CFR 800, the 1980s saw the maturing of a national system for the recognition and protection of cultural resources.

There have been other acts since the NHPA, but overall these have mainly been tweaking certain aspects for particular constituencies or situations. Today, the main players in AHM under Section 106 include: the regulators who enforce the law; the stakeholders who own the projects or lands; the public; and the consultants who do the actual work of identifying, evaluating, and mitigation of historic properties.

The regulators include: the Advisory Council on Historic Preservation (ACHP) who act as a guide and a court of last resort; the federal agency which oversees a project either because of funding, permitting or ownership and which has the actual responsibility of enforcing the act on its projects; each state's State Historic Preservation Officer (SHPO) or Tribe's Tribal Historic Preservation Officer (THPO) who are allowed simply to "comment" on a project's impact and who are responsible for representing the state's or tribe's interest in federal projects.

The consultants work with the regulators, the stakeholders and the public. These consultants can be individuals, stand-alone cultural resource firms or other firms that employ cultural resource specialists, as well as universities and other non-profit organizations.

How well does this system work in protecting the cultural heritage in the United States? Actually, it works surprisingly well given the normal United States' citizen's aversion to having anyone, and particularly the federal government, tell them what they can and cannot do with their land. The consultory process of 38 CFR 800 and the role of the ACHP are largely responsible for this. There are, however, some problems with any such national program in the United States. Each state is jealous of its prerogatives and is particularly sensitive to having outsiders telling them how to deal with their history and cultural heritage. Each state interprets the SHPO position somewhat differently. Some SHPOs have developed detailed rules governing field work methods or reporting requirements that consultants must use. Some SHPOs concentrate on editing spelling mistakes in project reports, while others judge the conclusions based on the adequacy of the supporting data. Some states have very limited staff requiring months to do what other states are able to

accomplish within the 30 days required by the regulations (a rule that is more often honored in its breach). This inconsistency from one state to the next in requirements, in data management of reports, in quality of site data and curation, and in the personnel involved, makes it difficult to compare states or judge how well the system is working nationally.

One major problem with the United States system is that, except for a few states and cities, it only covers federal undertakings. While this includes many projects, over 104,000 in the U.S. in 2004 (Carol Shull personal communication 2005), and has caused the number of sites recorded, the projects completed and the archaeologists hired, to skyrocket in the past 25-30 years, it represents only a fraction of the sites destroyed each year in the United States. Private developers working on private lands that do not require a federal permit (and this is self-regulating so that the developer himself decides whether or not he really needs a permit; until he is caught without one, of course) are not required to go through the system. In cities, this is most of the development. In some states, where private companies are being allowed to build roads without government funds, even highways are not subject to the Section 106 system.

So the advantage to the United States' system is that it is flexible and ideally includes public input, but the disadvantage is that it only covers a small part of the total of cultural heritage destroyed each year.

The Typical Project

In order to better understand the roles of the various players and therefore how the private sector works in the United States, it might help to give an illustration of how the system actually works in a day to day, practical sense. A typical project begins when an engineering firm or a developer applies for a federal permit prior to construction of a large land-disturbing project. The federal agency informs various parties, including the appropriate SHPO. Together the federal agency and the SHPO may decide that there is a possibility that the project will affect archaeological sites, either previously recorded or currently unknown. The engineering firm or client then puts the project out to bid (*tender* in the UK) to individuals or organizations interested in doing such work. Most states keep a list of such individuals and organizations or can recommend such a list prepared by others, such as a state professional archaeological council. The client then selects a consultant to work with for an agreed upon lump-sum price, or if there are many unknowns in the project, for a cost-plus-a-fee arrangement (*scheme* in the UK).

Generally, there are three levels for AHM investigations. These are usually defined as identification or survey, evaluation or testing, and mitigation of project impacts. Since the client is required to deal with all significant cultural resources and in most cases these are unknown prior to a project, he must try to find or identify the cultural resources that exist in a project area through some kind of survey. Once the entire area, or that part of the area with the potential for containing such resources, has been investigated, and sites have been identified, their significance must be evaluated. Since it is nearly always impossible to know before such a

survey the number, the depth, the character, and the complexity of the sites present, identification is nearly always done separately from evaluation.

Once the general population of sites is known, a second bid or tender will be made to conduct evaluation or testing on those sites that appeared from the survey to have the potential for containing significant information. This is often only a small proportion of the total number of sites found during the survey. The evaluation phase further narrows down the number of sites to be dealt with by providing information on the integrity and ability of the sites to contain useful information.

For the few remaining sites that are significant and that cannot be avoided or preserved, some other kind of mitigation program, often excavation of the site or data recovery, is put out to bid (tendered). Each of these three phases, identification, evaluation, and mitigation, includes increasingly focused background research, field work, laboratory analysis, preparation of a report with recommendations, and review and approval of the report by the regulators, federal agency and SHPO, before the next phase is begun. The federal agency has the final say on what is acceptable or what the next phase will be, although in reality the federal agencies accede to the desires of the SHPOs in most cases. Any disputes between the federal agency, the SHPO and the permit applicant or client can be appealed to the Advisory Council on Historic Preservation (ACHP).

If the initial identification phase does not find any significant sites, no further work is usually required, and construction may proceed. Also, if none of the sites evaluated during the second phase turn out to contain significant data, then construction can usually proceed. But if significant sites are present and cannot be avoided, a third phase of mitigation is conducted. These three phases are the basic three types of projects conducted by consultants and consulting organizations in the United States. Obviously, there are more surveys than evaluation projects and more evaluation projects than mitigation projects so that most consultants spend most of their time doing surveys. And of course there are companies who provide specialized services to the other consultants doing the basic three types of projects. These specialized services include providing C-14 and other dating services, GIS, remote sensing, ethnobotanical and palynological services, physical anthropology, zooarchaeological services and many others.

History of Private Sector

The consultants find themselves in the middle of the Section 106 process. They must understand the federal and the various states' legal requirements, and they must get their clients through the compliance process without unnecessary delays and at a reasonable cost. They must do work and prepare documents that meet the requirements of the federal agencies and SHPOs in a professional manner. They must deal with the public, keeping them informed and obtaining their input to meet the regulations and provide the best information possible to the agencies and SHPOs. As a result consultants are often seen by the clients as the embodiment of everything that is wrong with the system, from the archaeological site found in the "wrong place", to the rejection of a consultant's recommendation by an agency.

The agencies and SHPOs see consultants as either siding with the clients and thus trying to undermine the rules, or conversely, as using the rules to make more work for themselves and take advantage of their clients. The public sees the consultants as the "experts" whether for good or for evil, and often do not recognize the other players in the system within which consultants work.

Who are these consultants in this decidedly entrepreneurial system? How did they form? How are they run? What exactly do they do? And above all, how can the public be assured that they are doing a good job of helping to protect the cultural heritage that each community finds important in defining who they are?

For people unfamiliar with the United States and our economy, it is often surprising how easy it is to start a business here. One does not even have to be incorporated or recorded as a business to start providing a service or selling a product, although that is probably not a good idea. Even more surprising is that one does not have to be a trained archaeologist to call yourself one and start contracting for projects. Unless one is caught breaking a labor or tax law or really mess up an archaeological project, anyone can start a cultural resource consulting business in most states. There are few bureaucratic hurdles to jump through to get started, unlike in many countries of Europe.

Given these facts, people from other parts of the world undoubtedly wonder how we can insure that quality archaeology is being done; while in the United States, it is now pretty much universally recognized that most private sector archaeology is as good as or better than that conducted by universities, museums and government agencies. This gets to the heart of this discussion, and to address this issue, a little history of how the private sector came to be in the United States is necessary.

After the passage of the NHPA in 1966, those agencies and organizations requiring archaeological services immediately went to the universities since everyone knew that that was where one finds archaeologists. At first, professors were able to use their summer field schools and spring breaks for AHM projects. Not only did students pay for the courses, the client also paid for the work done. Not a bad deal for the university, or so it seemed. Professors did not have to worry about overhead costs, as the university paid for their office and lab space, insurance, transportation, telephone, non-billable time, and other overhead, etc. Students even benefited by getting hands-on experience they might not otherwise get. Graduate students were given supervisory experience that had been lacking before, and were even paid for it, albeit not much. And nearly everyone was excited about actually making money doing what they loved. The clients got work done very cheaply since it was being subsidized by students' fees and taxpayers' money. As an aside, 30 years later, we are still paying for this legacy of an under-priced and thus under-valued approach to archaeology that keeps the salaries of archaeologists lower than those of comparably educated and trained experts in other fields.

This worked fine until the quantity of work increased and universities could not keep up with the pace. Clients started requiring projects during the school year and not just summer vacation. They demanded that schedules be met and budgets be maintained. As federal and state review agencies began to require reports and results that helped fulfill legal and regulatory compliance not just archaeological

research, it became clear that this ad hoc system had problems. Graduate students would start a project, and leave school before the report was finished. Student labor was not efficient or sometimes not capable of conducting projects at all as they were in school to learn and new students had to be retrained on every new project. Exams and other academic requirements competed for everyone's time. And professors had little knowledge of or time to learn the preservation laws and how to conduct projects to comply with them.

Some graduate students and even a few professors saw the opportunity for setting up small companies that could work year round without the distractions of school work. A few saw bigger opportunities and set up larger companies that could handle more than one project at a time or worked for larger engineering firms that were setting up archaeology departments. Of course, none of these people had ever studied business or management or labor law or even knew the federal laws very well. In fact, they did not want to become business owners; they just saw an opportunity to get paid to do what they loved doing, archaeology.

The scopes of work, or what we called "research designs", for many of these projects in the 1970s were often theoretical "New Archeology", heavily hypothetico-deductive laden manuscripts. These were often required by the "new archeologists" in the federal agencies who also did not have a good grasp of the complexities of the new regulations and the purpose of AHM. Elaborate research designs were written for five-mile long by 50-foot (1.6 km x 15 m) wide road-widening projects in previously disturbed right-of-way that included in-depth discussions of probability theory, and lots of hypotheses on settlement patterning though time that it would have been impossible to address with projects ten times the size and budget, and that were impossible to address based on the two or three lithic scatters found during the five-mile survey. There was much gnashing of teeth and worrying over convoluted sampling designs, methods and theory, and very little concern over finding and interpreting the information needed to manage the nations cultural heritage within time and budget constraints.

Initially, clients put up with this because archaeology was a mystery to them, and if a college graduate student or professor said it was necessary then it must be necessary. However, they suspected they were being taken advantage of, and the beginnings of a backlash could be felt.

By the mid 1970s, the more successful of these private archaeological companies began to grow and the less successful began to close down. The more successful companies generally tended to be the ones who tried to do good work, but kept in mind what the law required, what the client actually needed, and how to protect the resource without digging every site. These companies learned to communicate well with their clients. They also kept in contact with the SHPOs and federal agencies to make sure they were meeting their clients' needs in a cost effective and timely manner. And they slowly, and not so surely, began to learn good business practices and the importance of making a profit if they wanted to stay in business and do what they loved. The less successful companies over extended themselves, bid too low in order to get a job, and were thus unable to complete it profitably, if at all; and they did not keep track of what the federal

agencies and SHPO needed or required, to say nothing of ignoring good business practices.

By the end of the 1970s and the beginning of the 1980s, many of the university programs were running into problems. As the university administrations became aware of what their archaeology department was committing them to legally (real contracts with real consequences if they were not met, labor regulations, etc.), and the university accounting departments began to realize what the true costs of maintaining these contracting arms within their archaeology departments were, these programs began to shut down or were converted into NGOs or non-profit organizations apart from the university.

There was a great weeding out of the weaker companies when President Reagan first came into office in the early 1980s, as many permit applicants hoped that he would reverse all the environmental and cultural compliance rules. Many of the smaller, inefficient companies, did not survive this time, so that by the mid-1980s there were fewer but probably stronger companies with better business skills, who understood the regulations better. However, there were always new companies being started which kept prices low even though they often did not survive very long. Throughout this period and even later, the competition was cut-throat.

By the mid 1990s, the private sector had been in operation for about 20 years in the United States. The companies that were left standing after the sorting out in the 1980s, had been forced to learn a thing or two about business, the cultural resource laws, efficient field methods, and computerized data management. The good economic conditions in the 1990s allowed companies to consolidate, train their employees better, purchase better equipment, and develop better systems for the office and the lab. Competition still existed, but in general, companies were able to raise their fees to pay their employees more and not feel forced to bid low to win projects to the extent necessary in the 1970s and 1980s.

In 1995, some companies who saw the importance of having everyone play by the same rules, of having some say in the development and enforcement of the laws and regulations, of promoting good business practices, and of protecting the cultural resource for everyone's benefit, banded together to form a trade association called the American Cultural Resources Association (ACRA). Such an idea would have been met with silence or outright disdain in the 1980s and earlier, but the cultural resource consulting industry had matured by the 1990s to allow companies to realize that they did actually have mutual interests and that by forming an association, they could promote those interests nationally.

One of the main reasons this association formed was to halt the low-bid mentality that some companies were operating under and which resulted in poor work and thus irreparable damage to non-renewable cultural resources. This mentality was a direct result of the history of the industry up to that point. Many archaeologists in the 1970s and 1980s had the point of view that we were lucky to be paid anything at all to do archaeology, much less to charge what it actually cost to do a project properly. The early heritage of CRM in the university setting where profit was definitely not part of the vocabulary, where a sampling mentality resulted in small test units being used to "excavate" a site because it was inconceivable that

anyone would agree to the level of work really required to conduct proper data recovery, and where students' fees and tax supported universities were being asked to subsidize compliance projects to keep costs artificially low, still affect the view the public and clients have of what archaeology should cost.

And it is not just the for-profit sector that labored and still labors to some extent under this heritage of low costs and minimal work. Non-profits (NGOs) that are truly separate from a major funding source, such as a university or state agency, run into many of the same problems as the for-profit sector. The main difference between these non-profits and the for-profits is that the former do not have the same level of accountability as for-profits, can apply for grants that are not available to for-profits, and do not have to pay taxes. These are major differences for a small for-profit business that must compete against companies that are essentially supported by their own tax dollars.

Non-U.S. Private Systems

While this chapter does not pretend to present a complete picture of the international private, for-profit sector, it is important to recognize that the United States is not the only country with a vibrant private contracting sector. At the 2003 World Archaeological Congress in Washington, D.C. there was a session on the international private sector, the goal of which was to raise the awareness of the private sector in those countries that do not presently have a private sector, and to provide a forum for private sector companies to discuss common problems and solutions. The panel had representatives from the U.K., Australia, Ireland, Panama, and the United States. The South African and U.S. private sectors were well represented at the 1999 WAC conference in Cape Town. At the EAA conference in Lisbon in 2000, there were private companies from Portugal, the Netherlands, Spain, the United States, and the UK, among others. During a discussion round table led by Willem Willems and Jean-Paul de Moule in Lisbon, representatives from a large number of countries in Europe discussed AHM and the conditions under which it is carried out in Europe. Later EAA conferences have discussed AHM and the private sector in Europe, as well. Canada has a relatively active private sector, and there is a least one private sector company in Panama, Mexico, Venezuela and Chile. Some countries allow foreign private companies to work with special conditions, for example Bolivia and Brazil.

Outside of the United States, the most active private sectors are generally found in the UK, Spain, Australia, Portugal, Ireland, and the Netherlands. This is due in large part to two factors. One is a legal climate that has caused the great increase in the number of projects requiring archaeological projects (in Europe this is due in large part to EU regulations), and the other is the acceptance of the private sector as a legitimate and legal way to address this increase in projects. In general, these countries see the private sector as part of the solution rather than the problem, and recent legislation in Europe is promoting not only privatization but is requiring open competition among all European citizens as part of EU development loans,

etc. This latter is a major cause of the great expansion of the private sector in Ireland and Portugal, for instance. The EU also requires that a qualified archaeologist in Germany must be considered a qualified archaeologist in France, and vice versa, which promotes international competition, as well as in-country competition. Recent changes in the preservation laws in the Netherlands have promoted a growing private sector in that country. In the UK and Australia, the acceptance of the private sector and its longevity are due to laws and an attitude toward business that is very similar to the United States.

In other countries of Europe where the same increase in the AHM workload can be noted, the private sector has not taken hold to the same degree as in those noted above. France, for example, considers archaeology to be a cultural activity, and as such, it is in the purview of the state, not the private sector. France thus has a very centralized system that gives a virtual monopoly on AHM to the National Institute of Preventative Archaeological Research, INRAP, and it is unlikely that a private sector will make a foothold any time soon. It will be interesting to see how this works with the EU's concern for privatization and open competition. Italy, Sweden and Norway also do not appear to be accepting of the development of a private sector and have more centralized government funded AHM systems. This seems to be due to factors such as the perceived roles of the government and the private sector in general, to each country's history, property laws, and to its political and economic system and how these affect their views on archaeology.

In some countries of Latin America, the private sector has restrictions that prevent it from developing into a truly vibrant private sector capable of taking some of the load off of the government institutions traditionally charged with protection of the archaeological heritage. The single company in Mexico, as of this writing, cannot do field work that might involve excavation since that is reserved for the National Institute of Anthropology and Archaeology (INAH) which controls all national treasures. As Mexico increasingly passes state and local laws requiring AHM, INAH, even with its hundreds of archaeologists, will not be able to keep up, and it will be interesting to see what happens as government funding and personnel are stretched to the limit. In Panama, new laws have been passed which will begin requiring more AHM, but there are not enough personnel in the government to conduct the work that will be necessary as these laws take hold. In the meantime, a single private sector firm is fighting to stay alive there. In Venezuela, the laws are not yet in place to start the dramatic increase in projects requiring AHM, although there are environmental laws and a thriving environmental sector; and once such laws are passed and enforced (the current law can be characterized as more along the lines of a national monument law than a heritage management law), Venezuela has the money and the inclination for a flourishing private sector, but to date one small private firm and universities are able to handle the workload.

After observing these and other countries for the past few years, it seems that there are several stages that AHM has to go through before privatization becomes a viable alternative. One is the passage of laws requiring AHM on a major portion of the ground disturbing projects in a country. Another is the will to actually enforce those laws. A third is the realization on the part of the government that funding of

all these projects is beyond the capability of the government and that the developer or entity disturbing the ground ought to pay for the work, the "polluter pays" principle. The fourth is the realization on the part of the developers that universities just cannot keep up with the load in a reasonable time span. And the fifth is the realization on the part of the government, the developers and the archaeological community that the private sector is a possible solution. Many countries in Latin America often have stricter laws than the United States, but are stuck at the second step. Many in Europe are at the third step, and in places like the UK, Ireland, Portugal, and Australia, they have reached the fifth step and beyond.

All of this is complicated by each country's view of the role of government in people's lives, their view of the role of private business, the role of heritage in people's lives and who owns it, which is further complicated by their view of ownership of the land and the resources in the land. Thus, each country will have a unique approach to AHM and how it is conducted, and one system, such as the consultive system represented by Section 106 in the United States cannot be used universally, or perhaps be used at all outside its boundaries.

The difference between an amateur sports team and a professional sports team is similar to the difference between academic and private, for-profit archaeology. The participants in the former do it for the love of it and little pay. They do it when they want to and find it convenient. They are often very good and expert, but there are few consequences if they are not. The latter may love it, but it is also their main source of income. They do it full time, whether the weather is nice or nasty, or whether it is fun and convenient or not. They have to meet a minimum standard on nearly every project or they will be out of a job. If they make gross errors, they and the people employing them will suffer serious financial and other consequences.

Ultimately, the public and the tax payer hold us and our clients responsible for following the appropriate laws and preserving our past. More and more, they, and not other archaeologists, are the final arbiters of what is important in their history; and whether we like it or not, they will determine what is preserved, how and by whom. Multilateral institutions, including the UN and the World Bank, are increasingly pushing for transparency, rule by law, and public participation in decisions affecting the environment and cultural resources. Most developing countries cannot turn their backs on these institutions and thereby decline the funding and the requirements that come with it, like China has done for the Three Gorges Dam.

In many countries until now, universities, museums, and quasi-governmental research institutions have been able to handle the increase in archaeological heritage management-derived work in addition to their research and other duties. But as the public's perception of what is an important archaeological resource changes, the scope of what needs to be examined and dealt with will increase greatly, and these long established institutions will find it hard, if not impossible, to keep up.

This is so for a variety of reasons. Bureaucracies being what they are, these institutions will be unable to adapt as rapidly or as completely as necessary to meet the demand. The types of resources considered important will force researchers in the current institutions to work in areas they would rather not or for which they have

not been trained. Learning institutions, in particular, will find it hard to devote the time and energy to meet tight schedules while also teaching students the rudiments of the trade. This inability of publicly funded organizations to adapt will be due in part to the high costs that the government and tax payers will be unwilling or unable to pay, and thus there will be a shift to a "polluter pays" principle where those causing the destruction of sites will be required to pay for the work. "Polluter pays" will mean more money available than has been available in the past to fund such projects, but it will also increase the pressure to get things done on a tighter schedule in order to keep costs down for the developer. Countries that cling to the one central archaeological institute model will fall further and further behind in their ability to study and/or preserve the resources the public finds worthy. Sites and cultural heritage will be lost and damaged as a result, which will cause public pressure for a system that offers better protection of their common heritage.

From this vantage point, the solution seems to be one or both of the following: a system of private non-profit organizations or a system of for-profit companies. The topic of non-profit organizations or NGOs is for another article, but it should be pointed out that how the economies in some countries work and how NGOs are organized and perceived there, can change radically from one country to the next. In some countries, they may be more similar to a for-profit in the United States. In others, they may be more like a quasi-governmental organization. In general, NGOs are not self-sustaining and depend on the largess of governments, other non-profits, and public donations which can affect their effectiveness and ability to carry out their mission in a timely fashion. On the other hand, they may be the only way to address the growing amount of work in some countries.

The private, for-profit sector generally works for clients who are being forced to do archaeology because of legislation in their country or requirements placed on obtaining a loan from a multilateral development bank or international development agency. Some clients may be interested in archaeology, but most often they are not. And even when they are interested, they have other concerns beyond how exciting the archaeology might be. Having a client that really does not want to hire or work with you can be frustrating. Not only is there a tendency with such clients to spend as little money as possible, but there is always the attitude on their part that one is on the side of the government, the regulators or the bank, or in other words, the enemy. Conversely, there is the attitude on the part of the government, regulators and bank that one is on the side of client, whom they view as greedy and corrupt, with no redeeming values.

Private sector consulting firms are caught right in the middle. And the most successful firms over the long term are the ones who do not take sides, and who scrupulously provide the best data, interpretation and recommendations to the client to meet the demands of the resource and the regulatory agencies, nothing more, but nothing less. This also provides the archaeological resource with its best chance of being protected and recorded adequately. If a client thinks he is being treated fairly and is helped to see the benefits of doing good work, he is less likely to try to avoid doing any work at all. If a client thinks he is being persecuted by the government and by his consultant to do more than is necessary, he is much

more likely to deliberately try to mislead and avoid dealing with archaeological properties altogether. In the process, sites are missed or inadequately studied or political contacts are used to avoid doing any study at all.

So, a good private consulting firm walks a thin line between understanding the client's position and needs, and meeting the demands of government and the regulators. If a company consistently does a poor job of archaeology just to keep a client happy, he will have trouble getting projects approved by the government and regulators, and ultimately, other clients will not want to work with someone who cannot get projects officially approved. If a company consistently does more than is necessary to meet the basic needs of preserving and protecting the resource just to keep the government and regulators and archaeological colleagues happy, he will have trouble keeping clients who perceive that they are being over charged for unnecessary work.

Advantages of the For-Profit Sector

The for-profits are self-sustaining or at least have the potential for being self-sustaining, and they have a few other advantages over the traditional academic archaeological institutions, as well. The following are some of the advantages that might be of interest to borrowers from multilateral development banks when choosing consultants and were initially listed in Privatization of Cultural Heritage Management of Dam and Reservoir Projects in Developing Countries written by the author and J.W. Joseph for the World Commission on Dams symposium at the University of Florida in 2000 and to be published in Damming the Past: Dams and Cultural Heritage Management, edited by Steve Brandt and Fekri Hassan.

Goal Oriented

Private companies are goal oriented. In order to stay in business they must set and meet goals on time and within the allowed budget. Clients, and particularly private clients such as engineering and construction firms, are also goal oriented and feel more comfortable dealing with other goal oriented companies. To meet goals a company must be well organized and managed, keeping its attention on the purpose of what it is doing. It must complete tasks on time, and it must work closely with the client and the regulators to assure that goals are met. And it must be able to estimate how much work will be required, how long it will take, and how much it will cost beforehand. Companies that consistently go over budget and do not meet schedules do not last, and no matter how well they do archaeology, they will no longer be in business to be able to any kind of archaeology.

Skilled Personnel

Private companies need to hire skilled personnel for various reasons. They must meet tight schedules and budgets and thus, must have people who work quickly, correctly and efficiently. Private companies do not have time to conduct major

introductory training programs, which are better left to institutions, such as universities, to carry out. However, competition for more efficient methods to complete complex jobs on schedule and within budget forces companies to constantly encourage their employees to acquire new skills or update old ones. Companies that do not invest in their employees' ability to work with new technologies and management techniques will lose out to the competition that does invest in their employees.

Accountability

Except in a few countries, private companies and employees of such companies are held responsible for their ability to meet the clients' needs, which means doing what is necessary to satisfy the regulators' requirements. A company is held accountable for what it can and cannot do adequately, and in turn demands accountability from its employees. If either one does not meet the clients' goals, it either goes out of business or an employee is replaced. There are no sinecures in the private sector. One either produces or one is let go.

Availability

Private companies are available year round to meet client's increasingly year round needs. Private companies only do one thing, archaeological heritage management, and their attention is not divided between teaching, research and being limited to one field season a year. Private companies have few restrictions on hiring personnel when needed and work year round.

Responsiveness

In the world outside of academia and the government, one must be able to respond quickly to a situation, whether it is to write a proposal in order to obtain a project, hire new employees to meet a schedule, buy new equipment to become more efficient, or move quickly from winning a project to beginning field work. Private companies must also be able to respond quickly and effectively to changed circumstances, whether this is a change in heritage legislation, the financial situation of a client, or the graveyard found on the last day of field work. Companies must be able to adapt to new situations to succeed and stay in business.

Skilled Management

Since the private sector does nothing but archaeological heritage management and competition forces companies to be efficient and effective in order to survive, they have or soon develop skilled management to meet their clients' needs. Private companies cannot afford to experiment with unproven management techniques or allowing employees to reinvent the field grid numbering system or the laboratory database system for every project.

Experience

Private companies have more staff stability than universities employing students. And because they work year round doing only heritage management, their employees gain more experience faster than is possible in academia. Building on experience, private companies tend to be able to handle larger, more complex projects. Experienced employees are more likely than students to spot potential problems on projects, to do the job right the first time, and not to waste time and money. Companies are also more experienced in dealing with the various preservation laws and the regulatory agencies than students who have only taken a course or a professor who has only read about the law.

Cost

Private companies can compete with non-profits and universities on cost. This may seem counter-intuitive, since companies must make a profit in order to survive, and they must pay their employees rather than using unpaid or underpaid students. And in many cases this may be true. But companies must also be better at management, work skills, organization, decision making, and dealing with clients' true needs by getting to the heart of the matter, in order to survive. Thus, a private company, given the same amount of money can nearly always do a better, faster and more efficient job, than academia. And because private companies are constantly trying to find ways to get the same information in new and more efficient ways, they can often under bid non-profits and universities with innovative, time-saving approaches to projects.

Disadvantages of the For-Profit Sector

I am tempted to say that there are no disadvantages to the for-profit private sector, but that would, of course, be wrong. Most of the points just given in support of the private sector can be used to argue the opposite view if one believes that the three parties involved, the client, the archaeological consultant and the regulators are dishonest. Thus, perhaps the greatest disadvantage of the private for-profit sector in most archaeologists' minds is how to assure the quality of the work it produces. The same forces that make it professional, efficient, and adaptable, can also appear to make it susceptible to manipulation by clients and unscrupulous practitioners. To this one can really only say, that all archaeologists are susceptible to pressures to do poor work that might irrevocably impact resources, whether these are inadequate funding of research grants, pressures by administrations to use funds for other things, using unqualified personnel to run projects and write reports, taking 20 years to publish reports, if ever, or cutting corners to meet schedules imposed by a granting institution or university administration. There will always be those who will cheat, and they are not restricted to any one sector of the archaeological spectrum. That said, how does one ensure that the private sector will do the best job possible so that the public can trust the results and be

assured that they have received value for their money in knowledge gained and resources saved.

Approaches to Regulation of the Private Sector

While the opinion expressed here is that competition will ultimately produce the best, most efficient companies, it is also necessary that there be a mechanism for making the competition work, a Darwinian mechanism for assuring the genetic death of the worst, most inefficient companies, so to speak. In general there are two such mechanisms, or what are termed here, *front-end regulation* and *back-end regulation* which can be supplemented with a *phased approach*.

By front-end regulation, I mean that the personnel and the plan of work are reviewed by an independent panel of government or government appointed regulators. A client can only employ a "pre-approved" archaeological consultant. By controlling who does the archaeology up front, it is assumed that the quality of the subsequent work will be satisfactory. This is a method favored in Europe, where only certain archaeologists and organizations pre-approved by the state can do the work. In Ireland, for example, for each new project, the archaeologist in charge must resubmit qualifications and sometimes even pass an oral interview, and submit detailed plans of what is to be done and how it is to be done for approval beforehand. In the UK, the Institute of Field Archaeologists (IFA), pre-qualifies archaeologists and even archaeological consulting companies; and many clients and regulators require membership in IFA before giving a job to a consultant. However, in some countries this pre-approval may be the last review the project ever receives, and a subsequent report may or may not be submitted as planned, and it may or may not really meet the heritage management needs.

The second kind of regulation is back-end regulation where there may be a scope of work provided or reviewed by the government agency prior to the project, but the project proposal received by the client for competitive bidders is usually not compared to it before hand by the regulators. The client is generally free to chose the archaeologist to do the work, who may or may not be "qualified", or who may be "self-qualified". In the United States, the Register of Professional Archaeologists (RPA) certifies archaeologists, although not consulting companies, but there is no requirement for such certification in federal or state regulations, and most clients are totally unaware of the RPA.

In the back-end regulation approach, regardless of who does the archaeology and who is or is not "qualified" beforehand, at the end of the project the government will review the report and determine whether it is adequate and meets the management and regulatory needs of the project and the applicable laws and regulations. If it does not, the client and consultant must spend time and money revising the report, or if the project was done very poorly, it may mean redoing the entire project, usually with a different archaeologist. A client who has had this happen, only wants to do it once, and the archaeologist who did the inadequate work will see his client base shrink as a result.

With both regulatory systems, there can be another system, a phased approach to projects that can allow the client and regulators to check how well the archaeologist is doing as the project progresses. This was described above and includes a background research phase, a field identification or survey phase, followed by an evaluation phase, and finally by a data recovery or mitigation phase. With the back-end approach, the government agency reviews the results of each phase, and the client can see if the archaeologist is performing properly before proceeding to the next phase.

Probably a synthesis of the three approaches–a phased approach with a strong pre-approval review or membership in a certification organization followed by strict review at the end of the project with penalties for not carrying through as planned–would best assure that good work is done and that bad work is punished, thus enhancing the end result of a competitive system.

Europeans are often curious how a back-end system can work since once an archaeologist and scope of work are approved and a project begins who can guarantee the results and how could that be enforced. In the United States, with our long history of dealing with contracts and lawyers for just about everything, we usually accept the idea that terms can be placed into a contract to protect the client, the consultant, and ultimately the quality of the work. If a project does not meet the time, and sometimes the cost limits, and does not pass government review, the archaeologist may be liable for a legal suit to either produce the expected report or not be paid or worse. Few if any such lawsuits are ever brought, but the threat is taken seriously by most contract archaeologists.

Status of Private Sector Today in the U.S.

The status of the private sector has had its ups and downs. Early on, in the 1970s, it was seen as a place for universities to send clients when the university could not do a job themselves, particularly the smaller, less "important" jobs. Archaeologists working in the private sector were seen as second best, even by those practicing in the private sector itself. Small companies with one or two part time employees found it hard to gain the confidence of clients and regulators and to obtain the equipment and tools to do a proper job of laboratory analysis and reporting. Papers submitted by private sector archaeologists to the major archaeological conferences were more often rejected or treated with contempt as being "contract archaeology" and therefore inadequate and suspect because someone was actually making a living doing archaeology outside the traditional university and government arenas. Today, that view has changed dramatically in the United States. Not only is the work produced by the private sector judged on its merits rather than its contractual origins, but most of the jobs for archaeologists are in the private sector, by far eclipsing those available in academia or government. One is more likely to hear complaints that universities are not teaching what students need to learn to be productive members of a company, than that companies are selling out and doing shoddy work.

It is hard to deny that the current standard project report being produced by a private company in the United States is better than the one produced by a university 20 years ago, or even last week. The overall improvement in the quality of archaeological reports (amount and completeness of information, the presentation of that information, the conclusions based on that information, and how the information addresses legal and client requirements) has improved faster over the past 20 years than in the previous 50 or 75. Private sector firms simply cannot take years to write a report, and they must produce something more than a letter report or that old academic standby, the preliminary report, to meet the regulators' and clients' demands. While these reports are often not great literature, and indeed the projects they describe are often not inherently interesting, they do provide the information management needs to make decisions about the handling of sites in a more consistent and complete manner than was the case 20+ years ago.

This change in quality and status of the private for-profit sector has come about, and perhaps could only come about, after many years of a mostly responsible private sector, that for the most part has strived to provide the best information at the least cost to meet heritage management and archaeological research goals.

The system, as practiced in the United States, is transparent, as every project report becomes available to the public and open to scrutiny not only by the regulators but by other companies and archaeologists. If a company makes a serious mistake it is quickly noted by the entire AHM community, and is often on television and in the newspapers, as well. As a result of the National Historic Preservation Act, an increasingly aware public has come to realize that the preservation of its local history is important and its heritage worth protecting. Since 1966, the explosion in projects and recorded historic properties connected to everyone's daily life and not just of interest to prehistorians in the local university or the elite preservationists in the "house on the hill" has brought AHM to the attention of a much wider and broader audience. And increasingly, the public has become aware of the private sector as the ones who do most of this work.

Can the US System be Exported Elsewhere?

The short answer is, "probably not." The reason is that the US system is predicated on several cultural, economic and political circumstances whose combination is somewhat unique. The American ethos includes the idea of self reliance, to go out and do something on your own with little or no government interference. While this is, of course, more mythological than real, there is a more ready acceptance of someone making a business out of what in other countries might be considered the purview of the state. And, in fact, it is relatively easy to start a business in the United States as compared to say, France. Labor laws and the bureaucratic red tape are more relaxed. Companies can lay off unprofitable workers and do not have to apply for endless permits to begin operations, for example. While some would debate the point, the rule of law prevails in the US, and regulations are generally enforced at some level. If one follows the law one can be fairly confident that one will succeed

or fail based on one's ability to provide a marketable service, and not solely because of whom you know. It may help to know the right people, but generally Americans tend to believe that if they work harder and smarter than the other person, they will succeed. It is this optimism and self-confidence (self-delusion?) that allows people to attempt to succeed.

The private sector also requires a client base. While many United States companies depend to a great extent on governmental projects (which have strict rules about fair competition), the private sector as we know it today would not exist without the "polluter pays" principle. If federal and state agencies had to pay for all the projects done in the United States, there would only be a tiny fraction of the work done. By shifting the responsibility of paying for the work to those who will benefit, the developers and construction firms, the amount of work that can be accomplished is virtually unlimited, and not restricted by national or state taxpayer supported budgets. Of course, this hinges on a large and robust enough national economy to allow for the development in the first place.

Another factor in the success of the private sector is the increasing demand by the public for such projects to protect its heritage. A demand that could not be met by a few government or university archaeologists on a limited budget. And finally, such a system could not work without a large number of unemployed archaeologists and historians which was the case in the 1960s and 1970s as many baby boomers were staying at the universities to avoid the draft.

Conclusion

Certain tasks are, in our opinion, better left to governmental, academic institutions and NGOs. Private enterprise is by its very nature mercurial. A successful company in the present may not be around in 20 years. For this reason, we feel that long term synthetic and specialized research is often best left to academic institutions and museums. Governmental institutions in consultation with the public and NGOs, representing the interests of the public, are better at establishing thresholds of significance of the resources (although not necessarily in objectively applying those criteria to a particular resource) and at maintaining long term inventories of sites, as well as the long term operation of cultural parks and sites for the public benefit. It goes without saying that each government must be in charge of enforcement of its own cultural resource regulations (Wheaton and Joseph 2000).

While the conclusion of this chapter is that there is a place for the private, for-profit consulting sector in many countries where the proper conditions exist, it is apparent that the private sector cannot be the sole response to the management of archaeological heritage anywhere.

With the onslaught of information, artifact collections, and reports resulting from heritage resource laws, it is abundantly clear that there is an increasing need for efficient and adaptable organizations that can work together to identify and evaluate resources whose significance will be increasingly determined by the public and other stakeholders rather than research archaeologists.

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12
Protection, Maintenance and Enhancement of Cultural Landscapes in Changing Social, Political and Economical Reality in Poland

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Although historical monuments protection, similarly as the nature protection, has long traditions in Poland[1], the fundamental changes in philosophy of man, nature and culture, and modifications of doctrines of conservation, which have been observed in the whole world since 1970s, as well as the dramatic political, economic and social transformations in the Central Europe since 1990s, created a completely new situation, in which it became nowadays impossible to continue further the traditional forms of protective measures. To understand the complexity of this new situation and the complicated nature of problems, which it generates, it is necessary to summarise briefly the most important factors determining all these changes.

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During the last 30 years of the 20th century, thanks to such—obviously extremely different but partly intellectually parallel—developments, as scientific biological research, social ecological movements, international political conferences and reports, Catholic Papal encyclicals and New Age gnoses, people gradually became conscious that the human environment is a system of interrelated elements, in which man is just one of such elements, and in which a change of one element caused by man, results in changes of the whole system. Moreover, the humanity discovered, with consternation and dismay, that the changes of our planet, which were thoughtlessly caused by man, have already to large extent irreversible character, and that they further proceed in direction, which is highly undesirable both for the nature and for the humanity itself. These ascertainments led to the ethical principle of responsibility for the contemporary and future world, fundamental for the modern philosophy of man, represented for example by such contemporary influential thinkers as Hans Jonas or Dieter Birnbacher.

In 1962 the book *Silent spring* written by Rachel Carson and showing the irreversible consequences of accumulation of pesticides in the natural environment,

[1] E.g. J. Wysocki 1998.

became the beginning of the concept of "sustainable development", further enhanced by the publication of the first photographs of our planet taken from the space by Apollo 8 in 1968, and ecological catastrophes of the 1970s and 1980s, as those of oil-tankers or nuclear power plants. Such important international documents, as for example the 1969 U Thant's report *Man and his environment*, the 1972 Club of Rome report *Limits of growth*, the 1980 *World Conservation Strategy* worked out by the International Union for Conservation of Nature, the 1982 *World Charter for Nature* of the United Nations Organization, the 1987 Brundtland Commission report *Our common future*, or the 1992 *Agenda 21* from the United Nations conference in Rio de Janeiro, led to final formulation of the doctrine of creating development without destruction of natural resources. Non-governmental organizations, such as famous Greenpeace, operating spectacularly since the 1970s, as well as the "green parties" of the 1970s, gradually coming into power and taking at present seats in parliaments of many European countries, transformed these ideological declarations into practical activities.

The most important part of this doctrine of sustainable development, from the point of view of culture heritage protection, and archaeology in particular, is the concept of non-renewable resources, adopted in early 1970s by archaeologists employed by the United States National Park Service. Charles McGimsey in his *Public archaeology* published in 1972 was probably the first to state clearly and emphatically that also archaeological sites and archaeological material are a part of the non-renewable public resource.

Archaeological and historical sites and monuments are important cultural public resource in the sense that they have (at least potentially) enormous and various values for the society: not only informative (as source of knowledge about the past), but also associative-symbolic (creation and maintenance of bonds between people and between people and their environment), aesthetic (creating human environment which is positively aesthetically valued) and economic (as potential basis for development of tourism)[2]. Historical heritage therefore is (or at least can be) important factor contributing to individual and social well-being. As Adrian Olivier stated recently "the past should not be preserved simply for its own sake, but because of its value in making people feel better about themselves, where they live, and because of its worth in creating sustainable communities in which people enjoy living and working"[3].

From the ascertainment that historical heritage is a non-renewable public cultural resource the idea of preventive conservation emerged, which may also be defined as a sustainable conservation—non-destructive research and *in situ* preservation accompanied with minimal intervention into an authentic historical substance, to retain as much as possible of this cultural resource for the next generations (FIG. 1). This "non-interventive" philosophy emerged in the milieu of museum and library conservators, from where it has spread over the whole cultural heritage management. Preventive conservation is defined as a continuous process aiming

[2] Z. Kobyliński 2001: 65–81.
[3] A. Oliver 2004.

FIGURE 1. Ruins of the 14th century castle at Mirów in southern Poland. Phot. Ł. Kobyliński

at retarding deterioration of or preventing damage to an object without physical interference, just by the control of its environment. Principle of the priority for the preventive conservation and recognition of its critical importance as the most effective means of the long-term preservation of cultural property may be found in numerous codes of ethics of various conservation societies and associations. In September 2000 at Vantaa in Finland an international conference on the European strategy for preventive conservation took place. In the final document of this conference the preventive conservation has been defined as a "multi-disciplinary management to reduce the loss of cultural heritage, with the aim of benefiting the public". Preventive conservation has been recognized as a "cornerstone of any European policy of heritage preservation". As an urgent task for the Council of Europe it was declared, among others, "to promote the fundamental concept of shared care, actively engaging politicians, professionals and the public in developing a strong sense of common responsibility for preventive conservation"[4].

[4] http://www.pc-strat.com/frameset.html.

In respect to the archaeological heritage the philosophy of preventive conservation should consist of the following principles[5]:

– to create optimal conditions for the site's duration;
– not to touch the authentic substance of the site;
– to monitor the state of the site environment;
– to intervene only in cases of emerging threats.

The fundamental principle in management of the cultural heritage should be preservation and maintenance of its authenticity and integrity[6]. Authenticity of a monument or site is contained not only in material authenticity of its components, but also—or rather first of all—in the authenticity of unique relations between these components, as well as in their physical, cultural, environmental and landscape contexts. From there it follows that the *in situ* conservation, which preserves the authenticity and integrity of archaeological site or monument, should be treated as the priority aim of every conservation activity. It follows further that every activity directed at the archaeological heritage: excavations, conservation works, presentation to the public, and reconstructions, should assume as a fundamental principle the limitation—to the absolutely necessary minimum—of any indispensable interventions affecting the authenticity and integrity of sites and monuments, as well as the requirement of careful documentation of every such interventive activities and of their results, with the use of every contemporary available means of recording. As stated in the ICOMOS *Declaration of San Antonio* in 1996: "large part of the authenticity of an archaeological site resides in the undisturbed buried archaeological remains of the fill, and as such, should be minimally excavated by archaeologists, only to the extent necessary to determine the significance of the site"[7].

The key element of such a non-interventive strategy must be designing a programme for long-term preventive conservation of a site, including diagnosis of the present state, analysis of potential threats, and planning of necessary activities. Ecological, landscape, social and economic factors must be taken into account, and research, managerial, legal, administrative and educational actions necessary for the long-term preservation should be defined. This proactive strategy of course cannot be put into practice by archaeologists only. It must be combined with planning policies, since it demands to foresee and to forereach the potential threats for the integrity of a site. Even if some degree of destruction of archaeological remains is probably unavoidable due to the natural processes of decay, these processes may be maximally retarded, simply by control of the site environment. Therefore, as stated both in the 1990 ICOMOS *Charter for the Protection and Management of the Archaeological Heritage (Lausanne Charter)* and in the *Malta Convention (European Convention on the Protection of the Archaeological Heritage)* of 1992, policies for the protection of the archaeological heritage should constitute

[5] Z. Kobyliński 2001.
[6] E.g., Kobyliński 2000.
[7] Internet: http://www.icomos.org/docs/san_antonio.html.

an integral component of policies relating to land use, development, and planning as well as of cultural, environmental and educational policies at international, national, regional and local levels.

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The second, though strictly related, philosophical concept, which has emerged from the described here transformations, is holism, the conviction that the natural and the cultural environment of man are an inseparable whole, which should be protected and managed as a unity. As a consequence from this idea the concept of landscape as a subject of preservation has emerged.

The last decades of the 20th century have seen a change in attitude towards protection of the historic environment, a recognition that a more holistic approach needs to be adopted towards the historic landscape rather than merely concentrating on the statutorily protected "jewels" that have already been identified within it. In relation to the archaeological heritage, there has been a growing acceptance of the need to consider the archaeological resource within the wider landscape and to develop appropriate mechanisms for its preservation.

Landscape—according to the dictionary definition—is an external appearance of the Earth's surface, being the result of mutual interplay of natural components and human activities. Alexander von Humboldt (1769–1859) defined landscape as the "totality of all aspects of a region, as perceived by man"[8]. In other words—as Polish theoretician of landscape studies, Prof. Janusz Bogdanowski[9] used to say, landscape is physiognomy of an environment. Landscape contains both natural and cultural values and features, and focuses on the relationship between them. According to the definition used in the recent European Landscape Convention adopted by the Council of Europe in Florence in 2002 landscape "means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (art. 1)[10]. Landscape is both physical and metaphysical, with social, cultural and artistic associations; it is the sum of all past changes to the environment: it is where past and present meet; it gives identity to place, and hence diversity to the settings of our lives[11].

Although many theoreticians think that there is no need, or even sense to make distinctions between natural and cultural landscapes, since—with the exception of the most inaccessible regions—all the landscapes are—at least to some extent—human creations[12], in my opinion it is reasonable to use the notion of cultural landscape. Cultural landscape, namely, is a landscape in which human works dominate over the natural components. Consequently, we can also use the notion of

[8] W. Haber 1995; G. Ermischer 2004.
[9] J. Bogdanowski 1989.
[10] Internet: http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=176&CM=1&CL=ENG
[11] A. Phillips 1999.
[12] E.g., P. Fowler 2001.

FIGURE 2. Remains of the Early Medieval stronghold at Świniarc in the north-eastern Poland. Phot. D. Wach.

"archaeological landscape" to describe such a cultural landscape in which archaeological heritage is dominating—or at least visible—element[13].

Time passage and long history caused that these oldest creations in most cases have not survived in their original form. Relentless forces of nature and even more relentless human activities—both the destructive and the constructive—transformed them into the lowermost layer of continuously rewritten palimpsest of cultural landscape—only in some places still visible among or within the later elements. This insular nature of preservation of the archaeological landscape (FIG. 2), and its vulnerability, is a cause for which it should be a subject of our particular interest and care.

These still visible archaeological elements of cultural landscapes are obviously only a small part of our archaeological heritage, most of which is hidden from our eyes under the soil cover. This particle has however especial importance, due to the very fact that it is subject to visual perception, as a settled element of our contemporary landscape. Although this perception has continuous and compulsory nature—since all of us, independently of our will, live in a landscape and experience a landscape—the way we experience this landscape may be extremely diverse, dependently on actual circumstances, temporary mood, and—first of all—on cultural preparedness of the percepting object. Differently will experience the archaeological landscape a historian and an archaeologist, differently—a tourist, differently will experience it every day a local farmer or a citizen, and

[13] Z. Kobyliński 1999.

differently—a businessman or developer. For each of them however the archaeological landscape—properly protected, enhanced and interpreted—can and should have some values: scientific, aesthetic, symbolic, integrative and/or economic.

Archaeological landscape not only preserves priceless scientific evidence, but has also—at least potentially—enormous didactic value, plays a role of tangible interface of the history and the present, creates anchors of individual and social memories.

Archaeological landscape can also play important role in securing sustainable development of a locality or a region, by attracting tourists, and therefore contributing to infrastructural improvements, creation of jobs and welfare of inhabitants engaged in tourist services.

All these potential values of archaeological landscapes are the reason why preservation of these landscapes should not be a matter of concern of archaeologists only, but also of all the sectors of society. Preservation of archaeological landscape however means not only the need for its legal and physical protection, but also for its maintenance, enhancement and interpretation. These tasks in case of archaeological heritage are particularly complicated, since—due to the transformation of authentic substance—archaeological sites are not easily understood in the landscape.

This circumstance imposes particular duties on archaeologists, on conservation services, architects, urbanists and spatial planners. When trying to preserve one landscape value, it is easy—by rash action—to destroy other values, contributing to emergence of indifferent or even hostile attitudes towards landscape. For example:

- a monument or site of high historical value, but used against interests of local community, will not have any integrative value;
- a site of high aesthetic and historical values, but incomprehensible for the society, will not have educational value;
- a monument of high aesthetic and historical value, but without proper measures for its touristic presentation, will not have economical value;
- a monument or site, important from historical point of view, but deprived of aesthetic value, may easily become a negative symbol[14].

This means that only when the archaeological landscape is properly maintained, interpreted and made accessible, we can expect that the local community will adopt a pro-landscape approach, which will secure its long-term sustainable conservation. Ugly ruins or ancient earthworks, partly destroyed, incomprehensible, used against public interest, surrounded with protective fence with the only information warning against entering, and without any explanation or reconstruction, can produce only hostility and result in conviction that history is something which should be erased and wiped-off as quickly as possible.

What would therefore be the requirements of management of archaeological landscapes, which would be publicly acceptable, effective and proper from the point of view of preventive conservation philosophy? It seems that such demands

[14] G. Prawełska-Skrzypek and K. Pawlowska 1996.

can be summarized by means of a few obvious key-words: conservation, organisation, enhancement, interpretation, reconstruction, and promotion. Of course each of these tasks demands thorough discussion on both the theoretical aspects and on practical solutions, for which there is no room here. Moreover, there can be a conflict between conservation aspect and aesthetic or economic one, if for example the site—for the benefit of preservation of authentic substance—should be covered with protective shelter, which can be perceived as disharmonising element in cultural landscape. Still other problems are connected with purposeful introduction into a landscape of archaeological elements, which were hidden under the ground and revealed only by excavation, or by non-destructive methods of prospection. In such a case we have to do additionally with creation of landscape, which is a special task demanding not only archaeological or architectural competence, but also knowledge on psychology of perception and understanding (FIG. 3). Older doctrinal conservation documents, such as the *Venice Charter* of 1964, explicitly voiced against reconstructions of archaeological sites, while already the *Lausanne Charter* of 1990 emphasised important didactic role reconstructions can play. At present, diverse forms of creating the archaeological landscape in open and urban space are used: from full-scale reconstructions simulating authenticity, through „phantom" reconstructions, presentations of relics in open trenches or

FIGURE 3. Medieval gate building at Ostróda in the north-eastern Poland reconstructed in the form of a structural phantom after archaeological excavation. Phot. Z. Kobyliński

under protective shelters, to only marking of layout of archaeological monument or site on the present-day surface, using contrasting stone or even plants. This is again a problem demanding thorough study and analysis, for which obviously there is no room here. One thing is absolutely clear—archaeological relics, which are wrongly explained, deprived of necessary interpretation and reconstruction—will effect in negative perception of cultural landscape.

Thus, in a process of deep changes of conservation doctrine briefly summarized above, the conservation of isolated, selected monuments, transformed itself at the end of the 20th century into the conservation of landscape.

Amalgamation of these two abovementioned concepts which characterize heritage conservation at the turn of millennia, namely the priority for preventive conservation, stemming from philosophical principle of responsibility and from recognition that cultural goods are a non-renewable public resource, with the holistic concept of conservation of landscape, resulted in formulation of a postulate of preventive conservation of human environment—presented in 2000 during the international conferences on culture heritage protection at Vantaa in Finland and in Cracow in Poland by the Polish scholar—Prof. Andrzej Tomaszewski, former Commissioner for Historical Monuments.

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The third, extremely important element of the contemporary theory of conservation—change in understanding of authenticity and turning attention to the non-material, intangible values of historical sites and places, not necessarily related to the substance of a monument—European thought owes to—on the one hand—influence of the non-European philosophy, and—on the other hand—to the doctrinal discussions on justification of recreation of monuments destroyed—sometimes purposefully—during recent military activities, which after years of peace again became actual in the end of the 20th century.

Contemporary understanding of authenticity was formed in the 18th century as result of the Romanticism[15]. The notion gathered especial importance in the times of the Historicism with its attempts to reestablish „authentic" state of a monument. Period of historicism, lasting through the second half of the 19th and beginning of the 20th century, is inseparably connected with activities of Eugene Emmanuel Viollet le Duc (1814-1879), who in 1854 became chief architect of the French Commission for Historical Monuments. He directed many major conservation projects of the most important Medieval monuments, such as Saint Chapelle and Notre Dame in Paris or fortifications of Carcassonne. Working in the spirit of "stylistic purism", he "released" buildings from the post-Medieval accretions and modifications[16].

Criticism of the purism led to appreciation of value not of a monument restored to its original state, but of a monument encompassing overlaid traces of human activities in various historical periods—of a historical palimpsest, according to the

[15] J. Jokilehto 1995: 19.
[16] J. Jokilehto 1999: 137–156.

words used by David Lowenthal[17]. Such an approach is obvious for the contemporary archaeology, in which we consider all the layers making stratification of an archaeological site equally valuable.

The notion of authenticity as an element of international conservation doctrine appeared for the first time in the preamble to The famous Venice Charter of 1964, where it was stated that it is the duty of the humankind to hand the historical monuments on "in the full richness of their authenticity". This notion was then used as an obvious one, requiring no definition. Only in the late 1970s, when the UNESCO World Heritage Committee included a „test of authenticity" into its guidelines, as a measure of true cultural value of a monument or site which is to be inscribed on the World Heritage List[18], this notion received formal status. It was stated that the monument proposed for inscription on the World Heritage List should „meet the test of authenticity in design, material, workmanship or setting"[19].

The notion of authenticity has been used also in the text of the European Charter of Architectural Heritage, adopted by the Council of Europe in Amsterdam in 1975, in which it has been stated that "this heritage should be passed on to future generations in its authentic state"[20]. Until the beginning of the 1980s it seemed obvious that authenticity of a monument is first of all authenticity of its historical substance—of the material the monument is built of[21].

Such an understanding of authenticity formed the foundations for conservation doctrine, according to which monuments should not be rebuilt or reconstructed, and only their actual state should be preserved. This doctrine was however contravened due to enormous amount of historical monuments destroyed during the Second World War. While in some countries it was decided that ruins of bombed or blasted buildings (such as e.g. Gothic cathedral at Coventry in England) or even of the whole destroyed villages (such as e.g. Oradur-sur-Glane in western France, preserved in the state from July 1944 when Nazi soldiers murdered all the inhabitants)[22] should be preserved as such, in Poland decision was made that historical centres of Medieval towns should be rebuilt, even against the principles of conservation philosophy.

Discussion in this respect concerned first of all problem of eventual rebuilding of the historical centre of Warsaw (FIG. 4), totally destroyed by the Nazi Germans in reaction for the Warsaw Uprising. While some theoreticians claimed that the Old Town in Warsaw should be kept in form of ruin, as a document of the Nazi barbarity, or that a great pyramid of rubbles should be formed as a monument while the town itself should be build in a modernist style[23], Professor Jan Zachwatowicz, making

[17] D. Lowenthal 1999.
[18] Cf. H. Stovel 1995: xxxiii.
[19] Operational Guidelines for the Implementation of the World Heritage Convention, Paragraph 24. Internet: http://whc.unesco.org/opgutoc.htmhttp://whc.unesco.org/opgutoc.htm.
[20] Internet: http://www.icomos.org/docs/euroch_e.html.
[21] Cf. e.g., M. Kurzątkowski 1989: 76.
[22] D. Lowenthal 1985: 247, 1999.
[23] Cf. B. Rymaszewski 1992: 58–59.

FIGURE 4. Old Town in Warsaw, totally destroyed during the Second World War by the German troops and rebuild after the war exactly according to the existing plans, photographs and drawings.

up the foundation for the "Polish conservation school", decided that monuments of the Polish history and culture would be reconstructed in exact form[24]. Jan Zachwatowicz, when justifying his concept, referred to patriotic feelings and emotional values of monuments, anticipating this way much later discussions on the meaning of authenticity. It is worth noting that also contemporarily—because of the same emotional and sometimes political reasons—still reconstructions of not preserved historical buildings are being undertaken, although theoretically they are contradictory to the official conservation doctrine. Examples of such activities can be reconstruction of a large part of the 18th-century French fortress of Louisbourg in Canada and of historical centre of city of Quebec in relation to centennial anniversary of Canada and with „peaceful revolution" in the province of Quebec in the late 1960s[25]; rebuilding of the destroyed during the war King's Castle in Warsaw, decided by the communist political authorities after the riots in the Gdańsk shipyard in December 1970; reconstruction of the Frauenkirche church, destroyed during bombing of Dresden by the allied forces in 1945, decided after the collapse of the Berlin Wall and re-unification of Germany, rebuilding of castle at Troki in Lithuania, decided after collapse of the Soviet power and regaining independence by the country, or reconstruction of the Medieval bridge at Mostar

[24] J. Zachwatowicz 1946; cf. also B. Rymaszewski 1992: 56–61; B. Szmygin 1996; E. Małachowicz 2000: 47; A. Tomaszewski 2000: 18–19.
[25] H. Stovel 1996.

FIGURE 5. Teutonic Knights' castle at Malbork in the northern Poland, reconstructed by the Prussians in the 19th century.

in Bosnia, destroyed by the Croatian tanks in 1993[26]. It is obviously not a new phenomenon—intangible non-material values of historical monuments were frequently used in the 19th and early 20th century for ideological or political reasons, with violation of rigorous principles of conservation. As examples may serve the restoration of the Teutonic Knights' castle at Malbork (Marienburg) as a, Prussian Walhalla" (FIG. 5); reconstruction of the historical centre of the town Kalisz in Poland, destroyed in 1914 during the First World War, construction of Gothic-style cathedral on the Hradcany hill after regaining independence by Czechoslovakia in 1918, or conservation of the St. Basil Basilica on the Red Square in Moscow after 1918[27].

Always however—until the 1990s—such activities were treated as a deviation (even if justified) from the principles of conservation of cultural heritage. When historic centre of Warsaw was inscribed on the World Heritage List in 1980, the rationale for this decision was that it was an outstanding example of a near—total reconstruction of a span of history covering the 13th to the 20th century[28]. Authenticity in this context was therefore understood not as identity of material, but as faithfulness of reconstruction.

[26] J.D. Dodds 1998.
[27] B. Rymaszewski 2000.
[28] Internet: www.whc.unesco.org.

Stormy discussion on meaning of authenticity and on practical problems with testing authenticity, leading to substantial change of criteria of authenticity, took place in 1994. Stimulus for this intellectual turmoil came from the doubts expressed by the government of Japan, whether the traditional in this country practice of periodic dismantling of historical wooden buildings and replacing worn constructional elements with new ones, will not be considered as violation of authenticity of these monuments in the "western" sense of this notion. Rooted in the 7th century Shinto temple of Ise is completely reconstructed every twenty years, which is a specific form of conservation of the monument, connected with symbolic revitalization of the shrine during religious ceremony. Conservation by replacing old substance with new one results in Japan also from the purely practical reasons. In the specific climatic conditions of Japan durability of organic materials varies from 20 years (for the cedar shingles) to maximum 400 years (for larger constructional elements). In such circumstances in the conservation works in Japan stress is laid not on authenticity of materials, which is impossible to achieve, but on authenticity of design and craftsmanship, because only traditional technologies of building and decorating are used in the process of conservation, and the materials used are identical, but not the same, as used in the initial constructional process[29]. Similar process of periodic replacing of substance, while form, technology and function is preserved, concerns for example mosques in Timbuktu in Mali and other earthen structures of the northern and western Africa; thatch-roofed tombs of Buganda kings at Kasubi in Uganda, containing remains of subsequent rulers since the 19th century, wooden 18th-century Orthodox churches at Kizhi Pogost on the Lake Onega in the Russia Karelia, and many other historical buildings constructed with the use of organic materials. Problem of preservation of authenticity in case of gradual replacement of material was discussed already in Antiquity by Plutarch, who described history of reparation of the Argonauts' ship in Athens[30], very similar to the dilemma of the theoreticians of historic conservation debating authenticity of the Japanese temples.

The three subsequent conferences on the problem of authenticity[31], which were held in Bergen in Norway, Naples in Italy and Nara in Japan in 1994 turned therefore attention of the historian of architecture and theoreticians of conservation of monuments to unavoidability of relativistic understanding of the notion. The *Nara Document on Authenticity*[32] states that „All judgements about values attributed to cultural properties as well as the credibility of related information sources may differ from culture to culture, and even within the same culture. It is thus not possible to base judgements of values and authenticity within fixed criteria. On the contrary, the respect due to all cultures requires that heritage properties must considered and judged within the cultural contexts to which they belong" (paragraph 11). It

[29] K. E. Larsen 1994: 68–69.
[30] D. Lowenthal 1994: 40–41; J. Jokilehto 1995: 18.
[31] K.E.Larsen and N. Marstein ed. 1994; K.E. Larsen ed. 1995.
[32] K.E. Larsen ed. 1995: xxi-xxxi; Internet: http://www.international.icomos.org/naradoc_eng.htm.

follows further that: Depending on the nature of the cultural heritage, its cultural context, and its evolution through time, authenticity judgements may be linked to the worth of a great variety of sources of information. Aspects of the sources may include form and design, materials and substance, use and function, traditions and techniques, location and setting, and spirit and feeling, and other internal and external factors" (paragraph 13).

Further extension of the meaning of the notion of authenticity has been brought by the ICOMOS symposium in San Antonio in 1996, during which it has been turned attention to the fact that in the contemporary world, in which change is a rule, cultural authenticity should be understood as reflecting "true value" of cultural heritage, which can be of spiritual rather than material nature and therefore appreciation of authenticity should concentrate in many cases on the intangible values of monument or site[33].

As a result, the discussions around the notion of authenticity have caused substantial change of not only the definition of this term, understood now as a measure of truth of values and messages communicated by the cultural heritage[34], but also to change of conservation philosophy, especially in relation to permissibility of reconstructions—of introducing a new "non-authentic" substance into the historical monument or site. It has been stated that carriers of authentic intangible cultural values can be features, places or landscapes, the substance of which is not authentic in the traditional understanding of this notion. The opinion expressed in the Burra Charter (The Australia ICOMOS charter for the conservation of places of cultural significance), adopted in 1999 (first version of this document was adopted in 1979) that reconstruction is a proper way of conservation activity in cases where historic place is incomplete due to destruction or changes (art. 20)[35], or in the Charter for the Conservation of Places of Cultural Heritage Value adopted by the New Zealand National Committee of ICOMOS in 1992[36], has been therefore widely accepted.

However, the need to see authenticity of a monument as a value which is relativized to given culture, which was clearly stated in the Nara Document, as well as acknowledged possibility of preserving authenticity of form, technology, function and intangible spiritual cultural values without preservation of authenticity of material, cannot in any case be understood that—as some postmodernist archaeologists[37] would like to read from this document—a copy, a model, or any other form of replica of archaeological site or monument can be equally authentic as the original, and cannot be understood as philosophical justification for destruction of historical monuments and as excuse for lack of protection of material authenticity of historical monuments and sites.

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[33] E.g. E. Crocker, N.J. Mitchell, C. Shull and M. Taylor 1996; H. Stovel 1996; cf. also *The Declaration of San Antonio* 1996.
[34] H. Stovel 1996.
[35] *The Burra Charter* 1999, art. 20.
[36] *Charter for the Conservation of Places of Cultural Heritage Value* 1992.
[37] C.J. Holtorf 1998.

There is no doubt however, that philosophy of conservation after the Nara Conference is to a large extent different than in times of the Venice Charter. Preservation, enhancement or revival of the non-material cultural values—of genius loci—frequently by means of reconstructions and other conservation creations, are nowadays considered as more important than persistent attempts to preserve relics of authentic substance of monument or site.

The prime goal of historical conservation is therefore in our times not so much the protection of substance but preservation of the past for the future, and the method to achieve such goal is not the protection by isolation or stagnation, but protection of the past by development—use of historical inspiration in planning of future spatial development[38].

As Graham Fairclough stated: "it is felt by most archaeologists that the idea of cultural landscape has the concept of change (in the future as well as in the past) at its very heart. The idea that there are any landscapes where time stood still, and history has ended, is very strange. No landscape, whether urban or rural, has stopped its evolution, no landscape is relict: it is all continuing and ongoing: even if the environment (the physical part of the "landscape") is static, people's reactions to it will change"[39].

We do not want therefore to live among ruins, but to live in landscapes full of history which is not only present—perhaps in a non-material way - but also alive (FIG. 6).

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However the new situation, which the conservation of cultural heritage in the central Europe must face is not only the result of the briefly outlined above philosophical or theoretical changes. Parallelly to these intellectual developments, in Europe deep political, economic and social transformations occur, resulting from collapse of Soviet Union and of the bloc of Central European countries which were subordinate to this empire for almost 50 years. In 1989 the Soviet Union disintegrated, and with it also the system of communist rules in central European countries collapsed under pressure of inefficiency and internal and foreign political changes. Fifteen years later, on the 1st of May 2004, most of these countries joined the European Union, this way dramatically changing the political map of our continent. These political changes were cause of emergence of a completely new situation for protection of cultural heritage.

In which way tasks of protection and management of cultural landscape changed at the decline of the 20th and in the beginning of the 21st century? Prof. Andrzej Tomaszewski[40] summarized these changes once using the three keywords: economics, Europe, democracy. I believe that this diagnosis remains still feasible, and—moreover—it concerns not only Poland's situation but also aptly characterizes transformations, which take place in the whole Europe.

[38] T. Bloemers and A. Van Der Valk 2004.
[39] G. Fairclough 2002: 35.
[40] A. Tomaszewski 1995.

FIGURE 6. Town of Reszel in the north-eastern part of Poland, located in 1337, with preserved spatial arrangement of Medieval town, with reconstructed castle, church and town-hall. Quarters of burghers' houses are now filled partly with modern buildings. Phot. D. Wacht.

The beginning of the new millennium brings essential changes in Europe in many spheres of national politics, economics and social life. These changes comprise: commercialisation, privatisation, liberalisation (introduction of market mechanisms in economy and equality of all the economic subjects) and deregulation (reduction of state inference into functioning of market economy).

Independently of how we evaluate these systemic transformations, and what long-term social side-effects they will cause, these developments seem now to be unavoidable, and—after collapse of Soviet Union with its strictly regulated and centralised state economy—there is no real alternative, which could serve as a counter-proposal.

In some of the European countries—Poland in that number—reorganisation of cultural activities, health protection, education and scientific research pursues these economical transformations. In these spheres however, application of rules mechanically transmitted from market economy, may awake reasonable anxiety about preserving of supra-economic values: social, cultural, scientific, ethic and aesthetic in the transformation processes.

Such apprehension is particularly justifiable in these countries—Poland in that number—which tardily began the process of systemic changes, and therefore—willing to attain other countries by all means—introduce hurriedly far-reaching reforms without thorough analysis of their long-term results and side-effects, and

moreover—which proceed with these market mechanism much further than other countries in which the process of transformation was a result of gradual development.

Moreover, the changes I am talking about, touched such spheres of social life, such research disciplines and such milieus, which were not prepared for the necessary re-accommodation to the new reality, which were not ready to develop new methods of activity to preserve the threatened supra-economic values.

I would like to characterize these processes using examples taken from these domains which I personally best know, namely from archaeology and archaeological heritage management in Poland, and offer a brief diagnosis of situation in which these domains found themselves suddenly and unexpectedly at the end of the 20th century.

Introduction of demanded by national law environmental impact assessments for every—at least larger scale—developments, in the spirit of described above holistic vision of human environment—in many countries became gradually understood also as a requirement to cover from the total budget of the development also the costs of necessary archaeological prospective, mitigative and rescue activities. This rule—explicitly included in the *Lausanne Charter* in 1990 and in the *Malta Convention* in 1992, followed by the adequate EU directives, has radically changed character of archaeology in many countries. Research scholars, who previously could freely decide on subjects of their studies according to their personal interests, have to transform themselves into salvors ready to work in every conditions and on every site, excavating in the shadow of and under pressure of bulldozers and caterpillars impatiently waiting for the end of their studies. This phenomenon, appearing in various European countries at different times—again eastern European countries of the former Soviet bloc were the last to experience this—has both the positive and the negative results. On one side, the national and the European legislation presently guarantee that no development—at least a major one (of course the word "major" is a bit ambiguous here and may be interpreted for the benefit of developer at the expense of cultural heritage)—may be carried out without necessary archaeological studies and protective measures. As a result, there have been intensification of archaeological excavations and many spectacular discoveries have been made; also possibilities of finding employment radically improved in archaeology—being the discipline, which in the pre-Malta period was rather elitarian activity of small academic milieus. On the other side however Malta aftermath comprises also such phenomena which have to awake anxiety: considering archaeological research as a form of economic activity and consequent commercialisation of the discipline, emergence of private archaeological firms active in the business of rescue excavation, growing mass of not analysed and not published data obtained during such a commercial excavations. System of tendering—in accordance with the principle of equality of all the economic subjects—in which the competing private firms and state institutions concur to obtain contracts for rescue excavations—unfortunately—just opposite to the optimistic expectations—do not necessarily lead—as is the case of production of various consumption goods—to improvement of quality of the offered products.

Quality of consumption goods is obvious and easy to test intersubjectively, which is not the case of rescue excavation. As a result, in many cases I know, tendering and contract archaeology leads to lowering of quality of excavation, in order to lower the cost, which is the factor decisive for the developer. Such is the case especially in these countries where—as it is in Poland—commercialisation of archaeology happened at the same time when the archaeological heritage management became decentralised and deregulated. Then the developer decides on the result of tendering, and it is obviously difficult to expect that the developer would be seriously interested in quality of rescue excavation, which—above all—he is not able to verify. Even if—as is recently frequently the case—large developers employ special archaeological consultants, such a person—finding himself in a highly awkward situation of ethical dilemma, to whom he should be loyal: to the developer who employs him or to impersonal archaeological heritage—usually chooses the first, more easily testable loyalty[41].

Also other archaeologists involved in the rescue archaeological activities continuously find themselves in situations of ethical dilemmas: those who do commercial archaeology and those who are—as officers of deregulated archaeological heritage management service - weak, decentralised and dependent on local political authorities. Erosion of ethical norms in the milieu of archaeologists became recently an illness of truly epidemic scale, touching even the highest academic authorities, which in this new situation became clients of persons, who—acting on behalf of business consortia—have large financial resources for rescue archaeology at their disposal[42].

Peculiar paradox of the contemporary situation is that while formerly the nature of conflict concerning the protection of archaeological heritage could be described as a conflict between those who protect (archaeologists and conservators) and those who destroy (developers), at present large part of the archaeological milieu began to see its interest rather on the other side of the barricade, leaving this way the conservators alone on the battlefield. This new situation is the reason why the idea of preventive conservation—principle of priority for preservation of the archaeological heritage *in situ*—is not popular in the archaeological milieu. Quite simply and obviously, such a conservation philosophy is perceived as hostile to the professional interest of archaeologists. In this commercialised situation there is also no place for protection or enhancement of archaeological landscape, since the developer is obliged to finance the cost of rescuing cultural goods only in the limited space, which is going to be destroyed by the future development, so the wider concept of cultural landscape protection is not taken into account.

This way, in countries of the Central Europe (or at least in Poland) the economical and political changes resulting from the systemic transformations after the collapse of the Soviet bloc—commercialisation of archaeology and deregulation

[41] On similar problems in England see C. Cumberpatch 2000.
[42] S. Kukawka 2004.

of conservation service - make it impossible to realize in practice the theoretical concepts of sustainability and holism in protection and management of cultural landscapes.

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Priority for economics is not however the only factor of transformations. Second complex of phenomena, which characterises our contemporary reality, is progressive globalisation, or at least Europeanization—influence of European integration on the nation states.

These processes transform the previous order of our continent, based on national states, which frontiers were finally formed during the 19th and 20th centuries. After the great world wars, this order was stabilised throughout the whole second half of the 20th century. It is generally known that archaeology played essential role in processes leading to emergence of modern European nations. Interests in the remote past, collecting archaeological finds, establishing learned societies of antiquaries—these phenomena not only resulted in emergence of archaeology as an academic discipline, but were also strictly interrelated with socio-cultural processes of awakening of national consciousness—being both the result of this consciousness, as well as maintaining and enforcing it. It is clear especially in case of Central European nations: antiquarianism played important role in maintaining the national consciousness during the period of over 100 years when Poland not existed in the political map of Europe, and the young discipline of archaeology was instrumental in integration of society both after the first and after the second World War.

Today's Europe is already completely different—processes of economic globalisation have led to the change of character of competition in production and exchange of commodities, which is now largely devoid of national connotations, and 50 years of peaceful international contacts enabled political integration of the continent. This new situation creates new possibilities but also new challenges for archaeology. Emerging consciousness that the political frontiers in Europe are—from the point of view of history—only ephemeral creations, which had their beginnings and will have their end, enables new research perspective—not limited by the barriers of the contemporary political borders—for many problems with which traditionally European archaeology has not been able to cope, such as for example the ethnogenesis of various European peoples. The new, previously unknown European ethnicity—*in statu nascendi*—which was condemned until quite recently as a cosmopolitarian lack of national patriotism, puts forward expectations addressed to archaeology—to study the historical roots of the European unity. Sins of previous archaeologies are now being frequently disclosed, as being source of national and ethnic myths, leading to nationalisms and chauvinisms. Archaeological cultures—keyword for the Central European archaeology of the 20th century, are now understood as epistemological constructs petrifying the view of Europe as being always divided into separate, isolated and not interacting social beings, and are now less frequently subject of studies in contemporary archaeology,

which stresses the need to study multiculturality in prehistory and mechanisms of formation of hybrid socio-cultural beings as a typical phenomenon for our continent. This way, modern European archaeology is both a result of present political situation, and at the same time a factor reinforcing these political changes.

This idyllic picture of peacefully integrating continent is however disturbed by regenerating in various parts of Europe manifestations of ethnic or religious fundamentalisms, neonationalisms, as well as by growing saturation of political debates and events by ethnic elements.

These phenomena—in which stakeholders usually invoke just the past and refer to the cultural heritage—have various origins. On one hand they may be reactions to long-standing ethnic conflicts, which in the second half of the 20th century were suppressed by ruling totalitarian regimes (such is the character of events in the territories of the former Soviet Union, former Yugoslavia or former Czechoslovakia). On the other hand, the neonationalism in the contemporary world may be also a result of the feeling of insecurity caused by globalisation, for example of threats to cultural identity caused by inflow of immigrants (emerging Hindu, Arab or Turkish districts in Western European towns are phenomena which in the traditional societies awoke feel of cultural threat, and therefore can also become object of aggression). Archaeology has been sometimes involved also in such processes of reaction against Europeanisation—the most obvious examples can be found in the recent events in the Balkan region[43].

Social and political responsibility of archaeologists is therefore enormous. Since the time of the antipositivistic breakthrough in historical sciences we are fully conscious that we do not only reconstruct the past but that we actually create it. This means that the political opinions, philosophical attitudes, cultural burdens and social conditions of archaeologists have essential influence on the image of the history of our continent, which is offered to the general public.

The question on future of archaeology which must emerge out of this diagnosis, deals therefore not only with the ethical responsibility for a historical truth (if there exists anything like this), but concerns also responsibility for eventual socio-technical use and misuse of results of archaeological research: should we, as archaeologists, consciously participate in creation of European society which would be multicultural and free from nationalisms, or should we rather maintain ethnic and national consciousness, threatened by processes of globalisation? Answers to such questions, apparently far from everyday archaeological practice, in fact can have very practical consequences. What is obvious is that we must be conscious of both the non-scientific determinants and implications of our research practices and results.

Positive derivative of globalisation or Europeanisation for the protection of cultural heritage is more commonly accepted view that muliculturality is a value, which is worth preservation and enhancement. It is followed with understanding that also the tangible and intangible heritage of ethnic minorities or peoples once inhabiting the country or the region is worth protection. On the side of negatives

[43] J. Chapman 1994.

FIGURE 7. German-Polish historical heritage. Ruins of the Teutonic Knights' castle at Szymbark in the north-eastern Poland, still unused despite high potential historic and touristic value. Phot. D. Wach.

there is however the fact that free flow of people across the Europe without borders, stimulated with obvious tendency to move from the peripheries to the centre, which means migration of people from areas which are economically weaker to those which may offer higher living standards, creates threats for cultural landscapes, since the newcomers often are not able or not willing to understand the value of historical monuments and sites, which—meaningful and significant for local population—can be completely meaningless and insignificant for the immigrants. Such a process took place after the Second World War, when—due to the treaties which were concluded in Yalta in 1945—territory of Poland has been moved westwards, and as a result farming population from the present-day territory of the Ukraine has been moved to regions having completely different cultural landscape, to which it was not able to accommodate (FIG. 7; FIG. 8). Many historical monuments in the so-called Regained Territories were destroyed, dismantled or became ruins as a result of not being used in a proper way. Similar observations on the lack of bonds between the newcoming groups and the traditional cultural landscape can be made in many areas of Europe now. These sad experiences show that the Europeanisation does not automatically mean ability to co-exist with the Others—with people carrying different cultural baggage.

At the same time when integration of the Old Continent seems to be one the most promising perspectives for the future well-being of people, it brings serious threat to authenticity of historical landscapes. As Elizabeth Brabec recently reminded "In the cultural 'melting pot' of a world economy, traditional, culturally-defined

FIGURE 8. German-Polish historical heritage. Lutheran Church of Peace at Świdnica in Silesia (south-western part of Poland), built of wood and clay after the Thirty Years' War (1618-1648), inscribed on the UNESCO World Heritage List. Phot. Ł. Kobyliński.

landscapes are being modified under a myriad of international influences. Billboards from China to Warsaw tout brand new "American style" residential developments as the appropriate living standard. Corporations such as McDonalds, Pizza Hut and Staples are bringing their branded merchandise as well as architectural design and development pattern to all areas of the globe. In this context, it is often difficult to identify the landscape and design forms that are key to maintaining local identity and a sense of place".[44]

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Third at last—unfortunately with the most serious obstacles taking its due place in the contemporary Central European reality—is the democratisation, bringing empowerment of all the citizens.

In the domain of cultural heritage management democratisation means not only much greater role of society in the protection and maintenance of historical monuments (partly as a result of process of communalisation, or transfer of the state property to the territorial self-governments). Even more important aspect of democratisation of the social life is the necessity to take the opinions and

[44] E. Brabec 2004.

assessments of the general public—of local inhabitants in particular—into account in the conservation process. With all the positive aspects of this process, it must be noticed that in many cases it will enable conflicts between the conservation decisions based on expert opinions, and public evaluations. Such a conflict can have two forms—conservation services can protect areas or sites which according to the local community should not be protected and preserved, and the conservation measures are perceived as an action against the local interests and quality of life of local citizens; or—just the opposite—local community can value buildings, sites or landscapes, which—according to experts—are not worth conservation measures.

There is also another aspect of democratisation in relation to protection of historical heritage. Landscape is a common good, but this means also that various sectors and groups of society may wish to use the landscape in various—sometimes contradictory—ways. Democratisation means that we cannot any longer argue that for example interest of archaeologists is more important than interest of farmers, developers or simply of people living in a particular landscape. Concept of multiple-use of cultural resources, based in the philosophy of democracy can lead to attempts to justify even such extreme activities as treasure-hunting. Certainly, for archaeologists it may be obvious that the idea of democratical use of landscape must be limited by the overriding principle stating that the use of landscape for individual benefit cannot diminish ability of the others to use the same public resources, but we must be prepared to engage in discussion with all the interest groups of the society and find arguments to convince them to the opinion in favour of preservation of the authentic historical values of the landscape at the expense of their individual interests.

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Summarizing this brief and unavoidably simplified diagnosis of the new situation in which cultural heritage protection found itself at the beginning of the 21st century, we may characterize it as being located within multiaspectual and multifaceted conflict situation, consisting of:

– conflict between primacy of economics and conservation ethics;
– conflict between multiculturality and cultural identity;
– conflict between expert significance assessments and public valuing.

The situation is additionally complicated by the predominant conflict, characterising every attempt to protect cultural landscapes: fundamental discrepancy between dynamics of development and statics of preservation. In extreme cases the protection of archaeological heritage can make it impossible for local community to develop, as was the case of the small town of Wiślica in southern Poland, rich in archaeological remains in the historical centre. In some cases such impossibility to develop can be compensated by intangible values—such as strong feel of bonds with history and conscious invocation to the proud past (as is the case of Rome, the enormous archaeological area in the centre has been left without any development). In other cases compensation can come from the measurable economic

FIGURE 9. Bronze Age and Early Iron Age enclosed settlement on the lake at Biskupin in central Poland. Original remains of wooden construction and its reconstruction. Phot. Ł. Kobyliński.

values—such as inflow of tourists and resulting jobs creation and infrastructural development. Such compensation is only possible however if the historical values of a landscape are enhanced and made accessible for all sectors of society. Archaeologists in Poland were usually not interested in popular interpretation of their sites and monuments and strict observation of the rules of the *Venice Charter* prevented use of information from archaeological discoveries in reconstructions, which could be attractive for local inhabitants and for tourists. Example of Biskupin—famous Bronze and Early Iron Age enclosed settlement, partly reconstructed (FIG. 9) and therefore attracting hundreds of thousands tourists every year, shows that archaeology may be important factor in contemporary landscape and can substantially contribute to the wellbeing of the local community by generating economic profit and creating new jobs. The economic success of Biskupin reconstruction and its historical festivals must be also used as a cautionary tales, since not only many other reconstructions—in most cases not based on any serious scientific analysis of archaeological remains, and not using traditional building techniques and materials—have been built throughout the country, but also the vision of past presented during historical and archaeological spectacles organized nowadays everywhere and on every occasion is usually not based on solid historical studies—which is the case of e.g. Jorvic Viking Centre[45] in York—"The Authentic Viking Encounter"—recreating life in early Middle Ages on the basis of extremely detailed interdisiciplinary archaeological investigations, or of Landshutter Hochzeit[46]—great historical festival reconstructing events of 1475 when the Bavarian Prince

[45] Internet: http://www.jorvik-viking-centre.co.uk.
[46] Internet: http://www.landshuter-hochzeit.de.

Georg married daughter of the Polish King—but is usually a postmodernist chronologically undifferentiated mixture of recreation of various things which are "old"—Palaeolithic flint-knapping, Neolithic bread-making, Medieval coin-minting, etc., in some cases accompanied with Celtic dances, Roman soldiers, Egyptian pharaoh and even North American Indians (examples of such "archaeological theme-parks" can be Archeosite at Aubechies in Belgium[47] or Archeon at Alphen aan de Rijn in the Netherlands[48]). This sort of entertainment can be extremely economically successful, but has nothing to do with aims of education and cannot create bonds between people and their history, and "historical values" added this way to the landscape are obviously false.

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The diagnosis which has been offered here is not intended to lament on difficulties in which cultural (and archaeological) landscape protection found itself at the beginning of the 21st century in Poland (and probably in other countries, at least those belonging to the post-Soviet bloc), but to discuss in a constructive way how archaeology and archaeological management can and should make use of the positive aspects of the described transformations while at the same time not being trapped by the aforementioned negative phenomena resulting from these transformations.

One obvious conclusion is that contemporary cultural landscape protection and management should reconcile conflicting factors: should take into account the economic factors, but maintain priority for conservation ethics, should preserve cultural identity but have esteem for multiculturality, make informed decisions based on expert judgements, but take also into account the local community opinions, and finally: preserve not only against development, but also by development, which is the idea proposed here in the Netherlands within the cultural landscape management policy.

"Conserving the historic environment is not about preventing change, but managing it", as Adrian Olivier put it[49]. Landscape change is inavoidable and should not be seen as something wrong by definition. As Elizabeth Brabec stated: "It has been part of human settlements since the beginning of time, responding to cultural changes, outside influences and technology shifts"[50]. However, what is frightening is the speed with which landscapes are changing in our times, and the dynamics and unpredictable directions of these changes result in global loss of sense of place.

Archaeological, historical, or—more generally—cultural heritage—should therefore be not a barrier for development, but should be the factor securing continuity in the developmental process, maintaining social integration and preventing environment from becoming meaningless.

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[47] Internet: http://www.archeosite.be.
[48] Internet: http://www.archeon.nl.
[49] A. Olivier 2004.
[50] E. Brabec 2004.

The new understanding of authenticity resulting from the Nara Conference allows for various forms of re-creation and re-construction of history. Sometimes archaeological heritage can be preserved only as an intangible symbol—as inspiration in modern architectural design or as a street name invoking archaeological connotations (such is the case for example with little village of Pfettrach in Lower Bavaria, where the street names in the newly built settlement refer to the fact that archaeological excavation in these places revealed presence of Early Middle Ages cemetery). In other cases the past can become inspiration for modern creations, causing inevitable change but maintaining authenticity of historical continuation. Revitalization of ancient ruins of Rome by changing them into Christian churches is obvious example of such a process. Contemporary examples are numerous—from the well-known preservation of train station in Paris by changing it into museum of impressionistic art (Musee d'Orsay) to the quite recent example of preservation of old paper factory at Konstancin near Warsaw by adaptation the building to the needs of shopping mall[51]. Actually it can be argued that monuments of history enliven by change of function and even sometimes also by introducing new materials and new architectural elements are more "authentic" (in the spiritual sense of the notion) then ruins of historical buildings left useless.

Second obvious conclusion is that conservation of human environment should not only have a form of protection of selected, isolated "islands" of nature or culture heritage. Such conservation, obviously important as safeguarding "reserves" for the future, or nursing "jewels" for tourist attraction, does not take into account interests of people who want to live in healthy, beautiful, and meaningful environment. Protection of monuments and protection of nature frequently (or even mostly) has concentrated on designated objects or areas of highest significance. In an extreme form such a philosophy of selectivity (advocated strongly by some theoreticians[52]) resulted in the UNESCO World Heritage List. Such isolated areas, monuments and sites are managed mostly for visitors and tourists and against local people[53]. Protection and management of landscape is an idea completely different—much more adequate to the needs of society.

Moreover, cultural landscape by its very nature of a palimpsest, is the best visualization of an integration of multiculturality and identity, or history and contemporaneity. It is therefore a factor, which may create basis for new European communities—multicultural, but integrated. It can also assist development, by securing the necessary stability and continuation.

Third obvious conclusion is that effective conservation of cultural landscape cannot be reached by means of legal and administrative measures only. Perception of landscape comprises not only visual aesthetic impressions, but also reading of historical and cultural meanings. Only understanding can bring social support for protection, and without social support and social participation any conservation of cultural landscape is not possible to imagine. This means that fundamental to

[51] Internet: http://www.starapapiernia.pl/.
[52] As Henry Cleere, e.g., 1989.
[53] E.g., A. Phillips 2001.

the preservation of cultural landscape is the ability of archaeologists, and other specialists, such as historians, historical geographers, historians of art, to communicate the results of their work to the widest possible audience. As storytellers to our society about the past, we need to communicate to people in an understandable way the time-depth of human occupation of their local landscape. The role of archaeologists must therefore in the present times change—from creators of strictly scientific publications, understandable only for other archaeologists, they must become biographers of cultural landscape (to use the most accurate concept proposed by the Dutch scholars[54])—storytellers and interpretators of regional history. This is however a role to which archaeologists, at least in Poland, are not being prepared by the university education, favouring hermetic vision of archaeology isolated from the society.

Fourth obvious conclusion is that despite this crucial role of public participation, leading role of conservation services, having both the expert knowledge and decision making mechanisms at their disposal, must still be maintained. Unfortunately, in the situation of primacy of economics in times of dynamic transformations, young democracies may prefer myopic thinking and short-sighted policies, favouring current economical benefits at the expense of degradation of cultural landscape and destruction of historical monuments.

"All sectors must be responsible for the impact of their policies on the whole environment, and must share responsibility for developing integrated mechanisms to achieve common objectives. The historic environment is no exception"—as Adrian Olivier stated recently[55]. Conservation services should be able to secure and coordinate such processes of common responsibility for historical landscapes.

At the same time democratisation means that the role of conservation services must also change: from purely administrative and legal decision making to public education, promotion of conservation ideas, initiating and organising public participation in conservation processes, stimulating planners, architects, politicians, teachers, etc. to act for the benefit of cultural landscape. New mechanisms should also include subsidies for firms and non-governmental organizations engaged in projects of cultural landscape management. To fulfil these new tasks it is however necessary—even in times of deregulation—to maintain state institution which could at least initiate and coordinate various local and regional activities.

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[54] E.g., J. Kolen 1995; Bloemers 2002.
[55] A. Olivier 2004.

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13
Cultural Heritage Preservation and the Legal System With Specific Reference to Landscapes

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Introduction

While recourse to legal protections is not the only way cultural heritage is preserved, the law is certainly an important mechanism by which preservation takes place—or does not. The management of "landscapes under pressure" both benefits and suffers from the legal systems within which such management is undertaken.

In keeping with this volume's title, in this paper I will use "landscape" and "cultural heritage" more or less interchangeably, with the assumption that if nothing else, "cultural heritage" is found in the landscape of the human mind. I define "cultural heritage" broadly to include the beliefs and activities that human societies value because they somehow reflect or express cultural identity, together with the physical places and things associated with such beliefs and activities. On occasion I use "landscape" more strictly to mean a largish piece of land. By "legal system" I mean the system of laws, rules, regulations, case law and legal practice used by a nation or a sub-national unit of government (e.g., state, province, city, town) to govern itself.

How the Legal System Typically Relates to Cultural Heritage

It is probably the case that all human societies manage their cultural heritage in some way, and many have deeply ingrained respect for the integrity of cultural landscapes (Chinese feng shui comes to mind). Throughout the world, however, codified laws that deal with places ascribed cultural significance largely reflect post-Enlightenment European intellectual traditions. In Europe, of course, these laws are of indigenous origin, dating back at least to the end of the French Revolution. In developed former colonies like the United States, Canada, and Australia they have become well-embedded parts of the national legal structure. In other former colonies they sometimes remain in force as little-attended to leftovers of colonial rule. Some never-colonized countries—Japan, for example—adopted

them in the early to mid-20th century as a part of overall governmental modernization[1]. Cultural heritage laws approximating traditional European models have also taken root at the state/provincial and local levels. In the United States, it is at the local level that such laws tend to be most controlling, particularly with respect to the actions of private citizens.

The Purpose of Cultural Heritage Law

It is easy to say that the purpose of cultural heritage law is to effect the protection of cultural heritage, and this is true as far as it goes. But it is true only in a sense—the same sense in which the purpose of medicine is to preserve life. People obviously must die to make way for new people, so the purpose of medicine cannot be to preserve every life indefinitely. In the same way, cultural heritage law cannot be designed to preserve every conceivable expression of cultural heritage forever. If a law requiring such preservation were ever enforced, it would be necessary for history to stop, because nothing could ever again be changed.

So the purpose of cultural heritage law, whether or not it has ever been expressed quite this way, is to determine what *constitutes* cultural heritage—what it is we value for its cultural associations—and then to decide whether and how each identified element of that heritage can and should be preserved, given whatever conflicting public interests may exist (in national defense, transportation, housing, recreation, and so on). And then to effect *that* "preservation." One of the earliest governmental cultural heritage programs, for example, created in France in the wake of the Revolution, determined which buildings from the nation's royalist past were worthy of being preserved, as opposed to being destroyed as reminders of the hated aristocracy. The rationale for preserving such buildings, according to Victor Hugo, was that their beauty "belongs to everyone[2]."

Different nations and sub-national entities pursue this purpose in somewhat different ways—some stressing the definitive judgments of an authority, others relying on multi-party stakeholder consultation, some protecting a narrow range of heritage resources with great rigor, others affording a wider range of resources a lesser or more flexible kind of consideration in planning. Some legal systems offer high-sounding pronouncements about protection of patrimony, while providing little or no system for achieving such protection, while others include elaborate procedures for identification and management of heritage. Well or poorly, however, all cultural heritage legal systems do certain basic things.

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[1] Since each national system has had its own historical trajectory, these are, of course, gross generalizations, but I think they are broadly accurate.

[2] Helen Y. Herman, Why is Paris arguably the world's most beautiful city? *Preservation in Print* 31:5:12-13, Preservation Resource Center of New Orleans, New Orleans LA June/July 2004

What Cultural Heritage Laws Do

Cultural heritage laws typically do three things: registration, control of change, and administration. Some laws encourage non-governmental preservation, and many provide for public participation.

Registration

The typical cultural heritage legal system is organized around some kind of list, register, or schedule of places (and sometimes other entities) to which cultural significance is ascribed. Great Britain, for example,maintains a *Schedule of Ancient Monuments* under its Ancient Monuments and Archaeological Areas Act 1979 (grounded in much earlier law and administered today under the National Heritage Act 1983), and a separate three-layer "list" of historic buildings[3]. The United States has a *National Register of Historic Places* under its National Historic Preservation Act of 1966[4]. Japan has a *Registry of the Cultural Heritage* under its Cultural Properties Protection Act of 1950. Australia maintains a *Register of the National Estate* under the Australian Heritage Commission Act 1975[5]. Many states, provinces, and especially cities maintain their own lists of cultural places, sometimes related to national lists, sometimes independent of them.

The range of phenomena included in such lists varies. Britain's Schedule of Ancient Monuments includes archaeological sites and certain other ancient places. The U.S. National Register includes "districts, sites, buildings, structures and objects" found significant in history, archaeology, architecture, engineering and culture. Japan's Registry includes tangible buildings, structures, and artifacts, "intangible" arts, drama, and song, folk culture and its associated material objects, historic building groups in their landscapes, and "monuments"—a large and diverse category that includes historic and archaeological sites, landscapes of great beauty, and culturally important plants and animals[6]. Australia's National Estate is defined in law to include:

. . . those places, being components of the natural environment of Australia, or the cultural environment of Australia, that have aesthetic, historic, scientific or social significance or other special value for future generations as well as for the present community[7].

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[3] The English Heritage website, http://www.english-heritage.org.uk/default.asp (accessed 12/21/04) provides details on these lists.

[4] Access at http://www.cr.nps.gov/nr/ (accessed 12/21/04)

[5] Australian Heritage Commission: Australia's National Estate. *Year Book Australia,* 1988 Special Article, http://www.abs.gov.au/Ausstats/abs@.nsf/Lookup/5CB5080F7A527FD0CA2569DE0025C18C (Accessed 12/21/04)

[6] Nishimura, Yukio, Changing Concept of Authenticity in the Context of Japanese Conservation History. *Proceedings* 175-183, Nara Conference on Authenticity, Knut Einar Larsen, ed., UNESCO World Heritage Centre, 1994.

[7] Australian Heritage Commission Act 1975. Australian Heritage Commission: Australia's National Estate.

Lists maintained at sub-national levels, by provinces, states, and especially local governments, tend to be narrower in scope, often focused specifically on the built environment. They also often require the most extensive kinds of documentation, and form the centerpieces of highly controlling systems of management.

Internationally, UNESCO maintains the World Heritage List under the Convention Concerning the Protection of the World Cultural and Natural Heritage (1972). This list is designed to include cultural and natural places considered to be "of outstanding value to humanity." States party to the Convention nominate properties to the World Heritage List, and a World Heritage Committee designated by UNESCO selects which such properties will be included. Listing a property qualifies a nation for various kinds of bilateral and multilateral financial and technical assistance in managing it[8].

Control of Change

Besides simply recognizing and registering aspects of cultural heritage, the typical legal system also seeks to afford them some degree of protection from change. In some cases, changing places of cultural importance is flatly prohibited unless very strict standards are met. In France, for instance, one cannot lawfully modify a listed monument (*monument clasé*) without the approval of the Minister of Culture. In other cases—again France is an example, with its more inclusive list of *monuments inscrits,* or registered monuments—change is not prohibited but the government must be notified before a change is made, and given the opportunity to take protective action. Other nations focus their protective actions on agencies of government. In the United States the private owner of a National Register property can do as he or she wishes with it as far as Federal law is concerned (State and local laws may be more controlling), but a Federal agency must consult with historic preservation authorities and the interested public before it takes, assists, or allows an action that could affect such a property. Federal agencies are also required affirmatively to manage historic places under their jurisdiction and control. Relatively wealthy nations (and some that are not so wealthy) also seek to protect registered properties by acquiring them, providing financial assistance for their maintenance, and providing tax credits and other inducements for their preservation and appropriate use.

Administration

To register things and implement whatever protective measures the law affords naturally requires some sort of administrative structure, so the third thing that most heritage preservation legal systems do is to empower some kind of governmental or semi-governmental preservation organization. In many nations this is a ministry of culture, which may have other duties as well—providing support to the performing arts, for example, or administering museums. In other cases, heritage

[8] See http://whc.unesco.org/pg.cfm?cid=1 (accessed 12/21/04).

preservation authority is vested in an entity that stands somewhat outside the basic government structure. For example, in Great Britain English Heritage—formally the Historic Buildings and Monuments Commission for England—is an "executive non-departmental body" of government that reports to Parliament through the Secretary of State for Culture, Media and Sport. Sometimes heritage preservation is divided among multiple agencies; in the United States, for instance, the National Register is maintained by the National Park Service, an agency of the Department of the Interior, while regulation of Federal agency impacts on historic places is overseen by the Advisory Council on Historic Preservation, an independent agency of government[9]. All U.S. agencies are also assigned the responsibility to "preserve" (in a very broad sense) historic properties under their actual jurisdiction or control (for example, on National Forests and military bases), and to consider the effects of their decisions on non-federally owned properties[10]. Many governments also devolve preservation authorities to sub-national levels; in the United States State Historic Preservation Officers are responsible for administering many aspects of the national program, and in Canada it is the Provincial governments that have primary authority for preservation matters.

Encouragement

Governments with the financial resources to do so often encourage non-governmental entities to preserve aspects of cultural heritage by providing grants, loans, tax advantages, awards, and other inducements. Preserving "intangible" aspects of heritage is encouraged by conducting festivals and other events at which dancers, singers, storytellers, and artisans can ply their crafts and gain recognition and (sometimes) money. Preserving culturally important buildings and land is encouraged through the purchase of preservation easements, through grants for rehabilitation, and through tax abatement. Such encouragement programs usually stand alongside whatever the government does in terms of legal protection for cultural heritage, but often the two programs intersect in the government's cultural heritage list or register. For example, in the United States a property owner may take a credit on his or her federal income tax for rehabilitating an income-producing structure, but only if the structure is on the National Register or an equivalent local list.

Public Participation

Cultural heritage is not preserved—or at least legislative bodies do not pass preservation laws—for the sake of the heritage itself; the heritage does not vote, or pay taxes. Preservation is put into law because it is construed to be in the public interest. Accordingly, it only makes sense for a legal system to ensure that the public has the opportunity to participate both in the management of heritage and in decisions that may affect heritage resources.

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[9] See www.achp.gov (accessed 12/21/04).

[10] National Historic Preservation Act of 1966 as amended, Section 110.

Not all legal systems provide very thoroughly for public participation; some vest decision making authority in government agencies and experts with little or no direct public accountability and little involvement even of obvious stakeholders like property owners and affected indigenous groups. Even in nations with strong democratic traditions, public involvement in post-election government decision making may be limited to taking part in rote public hearings in which public views are expressed and ignored. In other countries the public, and particularly stakeholders, are consulted effectively throughout the planning process—in identifying culturally important resources, establishing how a proposed action will affect them, and developing means of avoiding, reducing, or otherwise mitigating such effects. Public participation is the subject of intense interest and discussion in the field of environmental impact assessment, particularly where there are cultural, economic, and educational differences between affected communities and project proponents. Legal systems for the registration and management of historic places also rather routinely provide for public participation.

Unregistered but Significant Places

From a preservationist perspective, one problem with having a register, list, or schedule at the center of a nation's heritage management system is that until something is registered it has no protection, however significant it may be. So if new development may threaten places that no one has gotten around to evaluating, documenting, and registering, preservation organizations must scramble to do accelerated listing surveys to find what's there and get it registered. The United States and some other countries have addressed this problem by extending the protections of law to properties *eligible for* listing, and making it the responsibility of those proposing a project that may affect such properties to do the studies necessary to determine eligibility. Countries without such explicit legal procedures deal with unregistered places—to the extent they *do* deal with them—in the course of environmental impact assessments carried out under national environmental protection laws and the requirements of international funding bodies like the World Bank.

It is in the context of environmental impact assessment, too, that the impacts of change are addressed on aspects of cultural heritage that do not qualify for formal registration—if such impacts are formally addressed at all. That, however, is a big "if," as we will see.

The Pros and Cons of List-based Management

"Thomas," the Keeper of the U.S. National Register has asked me on more occasions than I can count, "if you don't know where and what something *is,* how can you *manage* it?" The intuitively obvious answer is, "you can't," and that of course is why we have registers, schedules, lists. Putting a place on a national schedule or register obviously facilitates its management. We can plot the place on a map, and when some planned activity—a motorway, a pipeline, logging or mining—is

proposed in the area, we know we have a potential conflict and we can set about dealing with it in whatever way our national laws prescribe. It's very orderly.

But there are at several problems with list-based management, that I do not think are as widely acknowledged as they ought to be.

The Thing Has to Stay Put

Cultural heritage that is entered in national lists is—with some notable exceptions—made up of real estate. That is, it comprises buildings, structures, sites, sometimes other land forms and land areas, along with shipwrecks and sometimes culturally significant water bodies. With allowance for fire, flood, tectonic activity and the like, this kind of heritage stays where it was found when registered; one can plot it on a map. But of course, much that is "heritage," much that is "cultural," does *not* thus stay put, is *not* real estate. The Porcupine Herd of Caribou in northern Alaska and Yukon Territory is central to the very identity of the Vuntut Gwitchin First Nation, and is made up of over 120,000 individual animals that graze and migrate over a vast area north of the Arctic Circle. One can hardly deny that the caribou are part of the Vuntut Gwitchin's cultural heritage, but while the general area within which they live can be mapped, and their calving area can be plotted, these are very large, rather indistinct areas, and in any event the animals themselves are culturally important, irrespective of the value ascribed to the landscape within which they roam. When we place a list at the center of our program of cultural heritage preservation, we almost automatically come to define "cultural heritage" as being something that can be located precisely in space; this leaves us unsure of what to do with something like the Porcupine caribou herd.

FIGURE 1. Lake ceremony. Element of intangible cultural landscape.

Much that is important in culture is not even as tangibly bound to the ground as a caribou herd. A group's language is almost always crucial to its identity, and specific songs, stories, art forms, and craft traditions may be culturally defining characteristics. All these are aspects of cultural heritage, and all can be and are placed "under pressure" by changing land use, economics, technology, and the whole package of phenomena that passes today under such rubrics as "modernization," "development," and "globalization." But they cannot be put on maps.

Japan has tried to recognize the importance of things other than real estate, including in its Registry of the Cultural Heritage not only buildings, sites, and landscapes, but animals and plants, museum items, other artifacts, artwork, and such "intangible" aspects of cultural heritage as art itself, dance, song, and story. This approach is rare, however, and it is not clear how such listing promotes wise management of the phenomena listed. And it does not solve the other major problems with list-based management outlined below.

Someone Has to List the Thing

A place (or other thing) does not get on a cultural heritage list simply by being culturally significant. Someone has to recognize it as such, prepare whatever paperwork is necessary to document it as such, and take that documentation through whatever administrative processes a nation's or locality's laws prescribe. This takes time and money. Thus gaining recognition, and hence the opportunity for management and protection, is not the pure result of being significant, but depends on whether someone devotes the time and resources to achieve such recognition. If for any reason—inadequate funding, competing interests, conflicting priorities—the time and resources are not devoted to the property, it is deprived of protection.

The U.S. has tried to address this issue by making "eligible" properties subject to the same protections as those already listed, and this works fairly well as far as it goes—particularly where an agency must undertake a substantial level of environmental impact assessment under the U.S. National Environmental Policy Act, and eligible properties can be identified in the course of such work. But it can be a tortuous process, and is not well understood by many who are affected by it. As a result, there are politically powerful entities working today to undo the consideration of "eligible" properties in the U.S.

Documentation

Listing requires some amount of documentation, and often that amount is considerable. One has to document where the thing is, what it is, typically what its boundaries are, what its distinguishing characteristics are, and why it is significant. Recording such information is commonsensical where one is compiling a comprehensive roster of things for use as a general reference tool, and most national and local lists are conceived of as such rosters. But it is not always necessary for every kind of planning purpose, and collecting it can create vexing problems, particularly where things like landscapes are involved and particularly where the significance ascribed lies in the minds of traditional culture-bearers. A culturally

important landscape may be very large, with very fuzzy boundaries, and the management challenge that may be faced in a given instance may involve only one small part of it. A proposed 0.5 hectare industrial plant in the far northeast corner of a cultural landscape of, say, about 400 hectares will certainly have direct, indirect, and perhaps cumulative effects on the landscape, but to consider how to manage these effects we probably do not need to define and document precisely where the landscape's southwest boundary lies. If the landscape is significant because of its place in the spiritual beliefs of a local community, that community's leaders may be reluctant to tell us, and let us document, exactly what it is about the landscape that makes it so important—and it may not be necessary to do so in order to consult with the affected community about how to manage it. But if we have to register the landscape before we can consider it in planning, we are going to have to document its boundaries, characteristics, and significance, in a manner consistent with standards established by whatever governmental or quasi-governmental body administers the nation's register. We will have to do this regardless of the relevance of such information to our needs and the offense that collecting it may give to those who value the place.

Documentation also often comes to be seen as an end in itself, divorced from its planning function. Those who maintain registers naturally want as complete records as possible of registered properties, and those of us who study such properties—trained as we are as archaeologists, historians, and architectural historians to study them, seek to understand them—are usually happy to oblige, compiling huge descriptive and analytical documents at considerable cost, without any necessary reference to what planners and land managers actually need to know.

Professional and Other Elitism

The research and writing necessary to get something placed on a nation's cultural heritage list is inevitably done by those with the time and money to do it, and by governmental and private sector groups with the money to get it done. As a result, the things listed tend to be the kinds of things that appeal to such individuals and groups. This can result in some strangely distorted images of the cultural landscape, in which the landscapes of the wealthy are deemed to be of cultural value while those of the less fortunate are denied recognition. In a planning context, this means that the landscapes of the wealthy get considered for preservation, while those of the poor do not.

When the representative quality of national lists is questioned, the usual response by cultural heritage practitioners—in my experience at least—is to invoke "professionalism." Evaluations, it is insisted, are based on "objective" professional standards, and this avoids the dangers of non-representativeness and exclusion. But of course, cultural significance is by its nature subjective, and when we apply the yardsticks of professions like archaeology and architectural history to the measurement of such significance, we wind up ascribing significance to things that archaeologists and architectural historians value, not necessarily to what regular people in communities think is important. This may not be much better than favoring the landscapes of the rich over those of the poor.

FIGURE 2. Lake ceremony. "Landscape of the heart".

In the 1980s, the landscape architect Randolph Hester and his students worked with the small community of Manteo, on the coast of South Carolina in the southeastern United States, to define what they called the community's "landscape of the heart," or "sacred structure"—the network of places that people in the community valued as encapsulating their identity. These places—where people interacted informally, relaxed, worked and played—in short, the places they appreciated and valued—were "almost universally unappealing to the trained professional eye of an architect, historian, real estate developer or upper middle-class tourist,[11]" and only two of them had been recognized as eligible for the National Register of Historic Places. Meanwhile, the National Register has become crowded with buildings that are good and not-so-good examples of different types of architecture, and archaeological sites whose value lies solely in their potential to inform archaeological research. I do not mean to denigrate the importance of architecture or archaeology, but one has to wonder why an ostensible democracy would define as "historic properties" only places that appeal to professionals.

Summary Critique

All legal systems I know of for managing cultural heritage are organized around registers or other lists. This is understandable, and such lists work well for some purposes. They are good for keeping track of immoveable properties, and for identifying certain aspects of heritage for honorific purposes. But they are inevitably biased against aspects of heritage that are portable, that are composed of living creatures, and/or that exist largely in people's heads as "intangible" entities without

[11] Randolph T. Hester, Subconscious Landscapes of the Heart. *Place* 2(3)(1987):15

physical referent. One can list dance forms, stories, and aspects of social organization, but what one does with such a list in the context of planning and management is not very clear. More importantly, the very process of listing, because of its cost, complexity, and paperwork, selects for heritage that appeals to the wealthy, to a country's mainstream cultural groups, and to professionals, and against what is important to the poor, to minorities, and to non-professionals.

The Other Legal System: Environmental Impact Assessment

Virtually all nations, and at least most international development agencies, have laws, rules, regulations, and procedures by which they assess the impacts of their actions on the environment. There are many problems with such legal authorities. They are sometimes honored in the breach, and when they are followed the resulting assessments may be badly done. The conclusions of impact assessments are not necessarily attended to very responsibly when the time comes to decide whether and how to proceed with the action whose impacts have been assessed. But for all its faults, there is still a broad body of law calling for the environmental impacts of planned actions to be identified, understood, and considered in decision-making. This creates another context in which "landscapes under pressure" can be considered and protected.

A great advantage of the environmental impact assessment (EIA) laws is that—in theory—they require consideration of impacts on *all* aspects of the environment, which in the cultural context provides the opportunity to escape the traps created by list-based systems.

An EIA is conducted by some ostensibly qualified and independent analytic body—usually a consulting firm employed either by the party proposing a change (such as a construction project) or by a government oversight agency. Where the change agent itself sponsors the work, one or more government agencies typically must approve it for completeness, integrity, and general quality. The EIA is supposed to examine all the likely potential environmental impacts of the proposed action, as well as alternatives to taking the action. "Environment" is typically (although not universally) understood to include the cultural environment—the ways in which living communities relate to the natural and built environment, as well as the places and things in those environments to which people attach cultural significance. The results of the EIA are then supposed to be weighed and balanced against other factors—such as whatever it is that justifies proposing the action in the first place—in reaching a decision about whether to proceed with the action. Most EIA laws provide for public involvement in both the assessment and decision-making processes, as well as for consultation with experts and oversight agencies.

As acknowledged above, there is plenty of room in most EIA laws for bad work to be done—for serious impacts to be missed, ignored, or buried, for decisions to be made that do not give full consideration to cultural values, for the public to be excluded. But when an EIA law works, it provides well for the identification of heritage values in the environment that may be affected by the action—including "landscapes," broadly defined, that may come "under pressure." And the legal

system that mandates the conduct of EIAs, if well and honorably complied with, can provide an effective system for considering the pressures a heritage resource may be about to experience, and for implementing ways to relieve them.

Unfortunately, however, the existence of a traditional list-based heritage management system in a country may bias the conduct of EIAs in such a way as to constrain their scope. It is not uncommon in the United States, for example, for EIAs to consider "cultural resources" with exclusive reference to the National Register of Historic Places. If something is eligible for the National Register, it is a "cultural resource" and impacts on it are addressed in the EIA; if it is not eligible, it is not regarded as worthy of consideration. An EIA that thus absorbs the biases inherent in a nation's list-based cultural heritage laws is likely to fail to consider impacts on the more portable, living, and intangible aspects of the cultural environment, and it is likely to discriminate against the cultural values of lower income, minority, and nonprofessional communities.

Conclusions

When asked how to improve legal protections for the cultural heritage, it is almost automatic for specialists in such fields as archaeology and architectural history to call for stronger laws. The strict protections accorded by France to its *monuments clases* are viewed with admiration by most cultural heritage specialists.

But strict protection inevitably can be accorded to only a rather narrow range of cultural phenomena, if human history is to continue. And as discussed above, there are biases inherent in the protection of listed phenomena that discriminate against the portable, living, and intangible aspects of the cultural environment, as well as against those aspects valued by ordinary people as opposed to elites. I suggest that we should think more broadly and with greater flexibility about the design and reformulation of cultural heritage management laws.

Lists are useful tools in the management of those things that are easily listed, but we need to be careful not to let them become the be-all and end-all of cultural heritage management. Actually relieving the pressure on cultural heritage requires a focus on the sources of pressure, through effective environmental impact assessment. And we should be concerned about pressures on the whole cultural environment—the cultural "landscape" writ large, including all its moveable, living, and intangible elements, not just those elements that appeal to elites and hold still long enough to be listed.

When the leaders of the French Revolution decided that the best buildings of the *Ancien Regime* should be preserved rather than pulled down, it was only sensible for them to compile a list of what was to be saved. Today, the pressures on our cultural heritage are much more complex than they were in the early 19th century, and we live in a far more pluralistic society that puts high value on diversity. We need more sophisticated strategies for managing diverse pressures on diverse resources, and the legal tools to make such strategies succeed. Developing such strategies and tools are challenges for heritage management in the 21st century.

Afterword

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The goal of the symposium held at Hunter College of The City University of New York, in December 8–9, 1998 was to discuss the newly emerging scope of interests and project agendas directed towards research and preservation of cultural landscapes. This book is the ultimate outcome of that meeting and presents a more comprehensive view on the issues related to research and preservation of cultural resources. A brief review of various preservation programs reveals differences and similarities in research approaches and preservation policies. The chief goal of the book is to show that research and preservation of cultural assets is a complex, multi-faceted task of painstaking stewardship that involves scholars and the public. All these aspects should be included into wide-ranging strategies to deal with the research and preservation of cultural landscapes. The public cannot be removed form the culture resource preservation.

The usual reaction by scholars, preservationists, planners, and all those involved in policy-making has been to research and protect what is valued at the time. This book focuses on the historic, archaeological, ethnographic, and environmental traditions of cultural landscape study, and presents the views of practicing scholars who, by a variety of means, attempted to reconstruct and analyze the complex processes of cultural changes in the prehistoric and historic times. The conclusion of the book is that the fullest understanding of a cultural landscape is possible through interdisciplinary cooperation of historical ecology, applied archaeology, and environmental planning.

Historical Ecology

The significance of the historical ecology approach in studying cultural landscapes is clear. It derives from a growing realization that human intent and activity are not easily separated from natural forces in the shaping of landscapes. This logic is supported by a deterministic in its nature approach to view landscape modifications as direct outcomes of human interventions invoked by environmental stress-by responding to environmental stresses humans modify the landscapes they inhabit. Assumed predictability of human behavior negates the possibility that people make

decisions regardless the enduring stress. Our behavior is not always driven by deterministic constrains, however, but it is also includes improvisation, creativity, *ad hoc* made decisions, etc. It is true that the pervasive Western dichotomy of culture and nature has proved a poor basis for scientific research and long-term environmental management. Humans have been major factors in environmental change for thousands of years, using fire, intensive hunting, and a wide range of agricultural strategies to transform most landscapes on the earth long before the Industrial Revolution. Historical ecology provides the necessary time perspective on the long term ecology – culture relationship and therefore any attempt at long term environmental planning must include the evidence provided by archaeology and palaeoecology about the past. The point made directly or indirectly by several contributors to this book is that the sustainable future of cultural landscapes is not possible without a well understood past. Historical ecology is helping to revitalize environmental approaches by integrating anthropological concepts of political competition, limited knowledge, ideology, worldview, and abrupt climate change with ecological studies of energy capture and materials flows. It also attempts a fusion of diachronic approaches rooted in sequential developments in a single landscape through time ("longitudinal perspectives") with the processual evolutionary concern for comparative investigations of agricultural origins and changing social complexity ("latitudinal perspectives"). The creative tension between historical and evolutionary perspectives is widely felt in anthropology, history, geography and environmental science, and is stimulating increased cooperation across disciplinary boundaries.

Applied Archaeology

The principle behind applied archaeology is that fieldwork and interests of practicing archaeologists focus on preservation oriented investigations of cultural landscapes. Research agendas do not energize applied archaeology; its role is to research and preserve landscapes under pressure by employing a very pragmatic approach to identification, selection, and preservation. Obviously not all cultural landscapes can be preserved and no attempt exists to preserve them all. Such demand would be unrealistic. Because of those constrains, many scholars have noted that there is a growing gap between academic theoreticians and applied fieldworkers and also that academic training programs are increasingly irrelevant to applied archaeology fieldwork requirements. Some do fear that because of the certain characteristics of applied archaeology, like the lack of long-term research designs and an a-theoretical "compliance minimum," neither archaeology nor the public will benefit from it. Many agree that the current trajectory is unfavorable, and the divide threatens the health of the discipline. In fact applied archaeology offers a creative fusion of fieldwork, theory, and genuine contribution to public welfare, as it requires a wider perspective and a fresh look at our goals and capabilities. A long-term international cooperation may be a start in this direction, and that

continued cooperation between North American and European scholars has the potential for aiding all parties.

Cultural Landscapes and Environmental Planning

Landscapes untouched by humans are rare. Therefore most landscapes became cultural landscapes and the idea of genuine "wilderness" is currently undefendable. It derives from the 19th century romantic concept and remains within the realm of the arts with very limited application in the real world. Human interventions to variety of landscapes are obvious and should be assumed to have existed in the past as much as they do exist recently. Material manifestations of those interventions, past or present, might be different. If human intervention through fire and hunting is less obvious and ancient, because it is difficult to recognize, an area may be managed as "unspoiled wilderness" excluding hunting and anthropogenic fire often with disastrous long-term results (cf. recent evidence of fire management by indigenous people). In Europe, particularly Scandinavia and the U.K., a more inclusive concept of landscape that recognizes the long-term dialog between human occupants and local biota and landforms has become widespread in the past two decades. European environmental scientists, historians, archaeologists, and geographers have cooperatively produced effective management approaches that accept and require ongoing human agriculture and industry as part of a well managed landscape designed to conserve historical and environmental values while allowing for changing landuse patterns. Landscapes change because of past or present management decisions and human presence and activity. Scholars have developed concepts and methods for assessment of landscape change and management (especially computer modeling; see Simpson this volume) that can be applied to evaluate the range of landscape modification due to the human or other factors. However, many of these landscape management ideas are effective only at the relatively small scale in the context of well developed and funded research and preservation programs. Because of political, economic, or cultural conditions, for many regions around the world, some European or American approaches might be impractical as the need for rapid economic development and swift upgrading of national infrastructure will not permit a desired response by archaeologists, historians, environmental scientists, and local communities in the path of rapid landscape change. Over two decades of experience by North American applied archaeologists and environmentalists often funded by private industry as well as local and federal governments may provide some invaluable and hard won practical lessons and models full of negative and positive examples. The rapid, large-scale landscape change inevitable in several world regions within the next few decades present both a challenge and an opportunity. If we can draw effectively on the communities of experienced field workers and theoretical specialists in America and Europe, we have the potential to provide our disciplines with a common focus, a renewed purpose, and carry out scientifically important work of direct practical benefit to

modern managers and local communities. European concepts of landscape management combined with American applied archaeology experience, reinforced by sustained interdisciplinary cooperation theoretically grounded in historical ecology, and the joined expertise of scientists, scholars, and local communities would make a very strong combination with great potential for converting pressured cultural landscapes disastrous fate to a success story with wide applications.

Conclusion

A necessary prerequisite for a policy framework is to determine the nature and character of cultural landscapes and the degree of changes to which they are subject. This objective could be fulfilled through an integrative approach undertaken by an international team of experts, who, through regular meetings, exchange of information, direct interactions, teaching, publications, will generate more adequate images of regional scale cultural landscapes, including their history, recent changes, and future prospects. It seems that sustainable past is attainable through preparation of a long-term policy on cultural landscapes research and preservation involving specialists from different fields and the public. Scholars representing history, ethnohistory, anthropology, ethnography, ethnology, archaeology, and cultural planning, and also representatives of natural sciences, climatologists, environmentalists, historical geographers, etc should be involved in such planning. Such an international and interdisciplinary approach will identify policy objectives for cultural landscapes studies, particularly in relation to maintaining diversity and protecting cultural features at the local, national and international scale. It will set an agenda for an adequate preservation of cultural heritage common to us all.

Index