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Interpretation

Interpreting Our “Cultural Ecosystem”

Sandra S. Weber

In recent years, interpreters have widely adopted an ecosystem approach for the interpretation of natural resources. They carefully explain the interrelationships among species and environments in order to help visitors understand and appreciate the intricate linkages in nature which make it the complex system it is, and not just a set of individual flowers, mountains, or fish.

Cultural resources interpreters, on the other hand, have traditionally followed a more narrow approach, concentrating on describing events that occurred on a certain battlefield or in a particular historic house. Seldom are prehistoric or historic events presented as incidents in a continuing process of human history that extends back in time, as well as forward into the future. This presentation of cultural resources as isolated "islands of the past" tends to encourage visitors to regard these resources in purely nostalgic terms. With no clear sense of what produced these sites or how they relate to our lives today, visitors are inclined to view them primarily as sources of entertainment. They enjoy seeing old things "just like Grandma had," or the opportunity to fantasize for an afternoon that they are charging into the mouths of cannons across a battlefield. They often leave the park with pleasant memories, perhaps a few new facts, but seldom with any compelling sense of how the things they have just seen relate to their lives today or their children's lives in the future.

If we are to have any hope of preserving the cultural resources we now maintain, or of identifying new ones for the future, we must strive to instill in our visitors more than just a pleasant sense of nostalgia or escapism when they view historic and prehistoric resources. They, and we, must begin to realize that cultural resources constitute our **cultural** ecosystem, the maintenance of which is just as vital to our survival as a healthy species as protection of the natural ecosystem. We must help visitors to understand that the resources they are viewing are the products of historical processes that created the world in which they now live, and that **they** are the ones creating the cultural resources of the future. "We need to strive for better connection of past, present and future to overcome the tendency of seeing the past as something that is finished with, and which now has simply nostalgic, academic, or entertainment value."¹

The articles which follow attempt to explore some of the arguments for, and consequences of, a broad "cultural ecosystem" approach to interpretation. Andy Ketterson and Kathleen Hunter both discuss the vital role interpretation plays in the preservation of cultural resources. Unless visitors understand how and why cultural resources are important to their lives beyond the purely entertainment level, there is little incentive for them to promote their preservation.

Several articles on the interpretation of Native American cultures and Black history make clear the need to include all aspects of our history when trying to present the complexities of the cultural ecosystem. Too often in the past we have ignored certain

portions of our history because they were perceived as too unpopular or too difficult to explain. But leaving gaps in our study of human history can damage our national psyche just as badly as gaps in the ozone layer damages our natural environment. At a recent Heritage Interpretation conference, one speaker made the observation that our history "is much more than what interpreters choose and shape and present, more even than what the public may want or can cope with. Heritage is also what we are stuck with...the legacy you would rather not have but must accept because it is part of what has been left you—your just desserts."² Just as we can no longer ignore the damage we have done to the environment, we can no longer hide from the mistakes and embarrassments of our political and social history. By helping visitors to understand, evaluate, and possibly ameliorate past mistakes, they may be able to leave slightly more palatable desserts for future generations to consume.

Contributions from Marcella Sherfy and Raymond Thompson point out the dangers of incorporating our own prejudices or viewpoints in cultural resources interpretation. Although all interpretation must necessarily be seen through the prism of our contemporary eyes and experiences, we must always strive to keep the events and people we interpret in proper perspective, and to respect them as participants in an ongoing process of human history, not just isolated individuals or artifacts which we commemorate because they appeal to our personal whims or current agendas. Ed Linenthal's thoughtful article also makes it clear that interpreters are not the only ones who may have preconceived notions about the significance and meaning of cultural resources, but that many visitors also come to our parks with strongly held beliefs and attitudes which must be considered when we interpret these resources for them.

We hope these and all the articles included in this edition of the *CRM Bulletin* will help managers and interpreters review and refine their interpretation of cultural resources. Just as natural resources interpreters are successfully using an ecosystem approach to increase public awareness and concern for the environment, so cultural resources interpreters must strive to help their visitors understand that individual cultural resources and sites are all a part of the complex psychological, social, political, and economic systems necessary for their survival as human beings; that events which happened in the past are still affecting us today, and will continue to do so in the future.

Human history and motivations are just as complex and multi-faceted as the forces shaping the natural environment. While we will probably never understand all of the relationships and cause-and-effect factors operating in either the natural or the cultural world, it behooves us as interpreters of the resources they have given us, to explore their complexities as deeply as we are able in an effort to fully understand what they represent, and to responsibly meet our obligations as human beings on this planet.

¹ David L. Uzzell, "The Hot Interpretation of War and Conflict." Keynote paper presented at the Second World Congress on Heritage Preservation and Interpretation, University of Warwick, England, 1988.

² David Lowenthal, "Heritage Revisited: A Concluding Address," *Heritage Education*, Vol. 2, (London, 1989), p. 215.

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Interpretation in the National Park System

F. A. Ketterson, Jr.

About 30 years ago Freeman Tilden wrote a book entitled **Interpreting Our Heritage**. The book was an attempt to answer the question, "Is there a philosophy of interpretation and are there related 'basic principles, upon which the interpreter may proceed with an assurance that... he will do an adequate job?'" Tilden defined interpretation as "an educational activity which aims to reveal meanings and relationships through the use of original objects, by firsthand experience, and by illustrative media, rather than simply to communicate factual information." He distilled this definition by stating, "Interpretation is the revelation of a larger truth that lies behind any statement of fact." This latter statement constitutes, in my mind, the basic, driving philosophic force behind interpretation as practiced in the National Park System.

On the question of basic principles through whose application an "interpreter may proceed with an assurance that, though he may not be inspired, he will do an adequate job," he decided there were six:

1. Any interpretation that does not somehow relate what is being displayed or described to something within the personality or experience of the visitor will be sterile.
2. Information, as such, is not interpretation. Interpretation is revelation based upon information. But they are entirely different things. However, all interpretation includes information.
3. Interpretation is an art, which combines many arts, whether the materials presented are scientific, historical or architectural. Any art is in some degree teachable.
4. The chief aim of interpretation is not instruction, but provocation.
5. Interpretation should aim to present a whole rather than a part, and must address itself to the whole man rather any phase.
6. Interpretation addressed to children (say, up to the age of twelve) should not be a dilution of the presentation to adults, but should follow a fundamentally different approach. To be at its best it will require a separate program."

In this paper I will discuss how the National Park Service goes about the business of interpretation and how some of the preceding principles are applied. I will also discuss the important role interpretation can play in the protection of cultural properties.

There is an expression in show business that goes "always leave them wanting more." That is also the key to good interpretation. Mr. Tilden's principle, "the chief aim of interpretation is not instruction, but provocation" applies here. Good interpreters excite the interest of their audiences to expand their knowledge or activity in a given subject. Every interpretive message cannot achieve this end, but every interpretive program should seek this as one of its goals.

NPS interpretive programs use a variety of media. These include interpreters leading tours, giving talks, or conducting campfire programs, living history demonstrators, wayside exhibits, museum exhibits, movies, slide programs, videos, audio waysides and audio guided tours, and a variety of publications.

In our organization we believe personal interpretation is the most effective medium in nearly every interpretive situation. This is interpretation accomplished between an interpreter and park visitors. The interpreter can interact with his audience, answer their questions, sense when a change in program direction is needed, and lend the human touch that no machine, sign, or publication can give. In the parks, these men and women guide tours, give talks, and perform demonstrations of various facets of times past. They instruct, they provoke, and the really good ones challenge their listeners to go beyond the knowledge they currently have of a topic. They provide facts and information. (All good interpretation is based on sound and thorough research.) They use these facts and this information to reveal

various "wholes" and "whys" and to provoke the asking of "whys" and the drawing of conclusions. Most of the best teachers I had in school could also be described as fine interpreters. Think of your own teachers, think of the ones you remember in a positive light, and see if you agree with me. These are the teachers who made you think, who excited your interest. They were guides and interpreters. I recently read a book about baseball entitled **The Heart of the Order**. It is a book about the best players, the ones with skill and character. In his introduction to the book, the author asks the question, "Of whom do they remind us?" He answers his question, in part, by saying "the math professor who taught us that it wasn't the answer to a specific problem that was important but, rather, learning to appreciate the interlocking coherence of the whole scientific view of the world." That is as fine a description of good interpretation as I've ever seen. That is why we want people doing interpretation. And while we recognize every interpreter is not a great, inspired teacher, we do believe good interpreters can be trained. As Mr. Tilden points out, interpretation is an art and some facility in art can be taught.

In the best of all possible interpretive worlds we would not have a single sign, exhibit, or audiovisual program in the parks. All interpretation would be accomplished by interpreters. However, this best of all possible interpretive worlds does not exist in the National Park System. This being the case, we have to make other provisions for interpretation for the millions of people who come to the parks.

At Franklin D. Roosevelt's home in Hyde Park, New York, portable audio interpretation is used. Visitors can rent a portable tape machine and have Eleanor Roosevelt, the President's wife, interpret the house to them as they tour it. This popular and successful program of interpretation has been in use at the Roosevelt home for over 25 years. As an aside, the original purpose of having Mrs. Roosevelt interviewed on tape was not for interpretive use. It was to gather information about the house. If you have researchers engaged in oral history interviews, discuss with them the possibility of interpretive use of some of the interview material and plan the interview with such use as one of its goals. In some other parks visitors can rent taped tours of the park to take along with them in their automobiles. The devices that use a standard cassette tape have the added advantage of being relatively easy and inexpensive to modify or update.

The variety of signs and wayside exhibits for interpretation is limited only by the human imagination. The interpretive messages of good outdoor interpretive devices, no matter what their size, shape, configuration, or topic have this in common. The message is brief and it is written in clear, understandable language. I have seen interpretive signs with agonizingly lengthy messages. I have observed visitors glance at them, shake their heads, and walk on. An occasional hearty soul would last for a few sentences. If a book is needed to present the message, then the message should be presented in a book. Mr. Tilden cites a few examples of good, brief interpretive messages. For an interpretive trail on an abandoned road he cites this one:

*I am an Old Time Country Lane
Now I have been
Officially Vacated and Closed
(I never liked automobiles anyway)
I invite you to walk as folks
have walked for generations
and be friendly with my trees
my flowers and my wild creatures.*

For an exhibit in a desert setting, this one:

The desert is a severe mother, bent more on justice than on mercy. Through generations of survival these plants around you have found means of protecting

themselves from death by heat and drought. Note the varied ways. You, too, must learn the wisdom of the desert if you would be safe within it.

Sometimes a quote from a participant in an event is so clear and to the point it can't, from an interpretive perspective be improved. An example of this is on the Minute Man monument at Lexington Green, MA, where fighting took place at the beginning of the American Revolution.

*Line of the Minute-Men
April 19, 1775
Don't Fire unless Fired Upon
But if They Mean to Have a War
Let it Begin Here
Captain Parker*

All of these messages are brief and clear. They present a whole message, and they contain an element to provoke the reader to further exploration of the topic.

Who are interpreters and who are the audiences for their messages? In the NPS we generally think of our interpreters as the part of our uniformed staff and volunteers who meet visitors, conduct tours, give talks, and perform demonstrations. These people have usually had academic training in history, archeology, or one of the natural sciences. Interpretive demonstrators have usually developed their skills through study and practice. Beyond these people, we often consider every member of the National Park Service to be, to some degree, an interpreter. There is a saying in the NPS that our maintenance workers have more visitor contacts than our interpreters or rangers. While this may not be absolute truth, our maintenance people do have significant numbers of contacts with visitors. These people perform interpretive services. Training in interpretation for those people will help ensure they represent our organization well. The interpretive services of the NPS and probably every other organization performing interpretation is focused outward toward our visitors. From a management perspective interpretation can play a vital role interpreting inward to ensure all of our employees have a good understanding of who we are, what we stand for, and what we are trying to accomplish.

Preservation of cultural resources is also preservation of societal values. It is at this point that interpretation becomes a significant element in preservation. Through interpretation, the importance and value of park resources can be communicated to a larger public. This communication can lead to an understanding of the resource's value to society and thereby contribute to its preservation. Interpretation can deal with broad-scope issues like air pollution or other forms of social or environmental degradation. It can effectively communicate an understanding of park programs to the public and gain their support.

I will describe preservation projects at two parks, Lincoln Boyhood National Memorial and Vanderbilt Mansion National Monument, to illustrate this point. Both projects involved cultural landscape issues and both contained interpretive elements that contributed significantly to positive outcomes.

At Lincoln Boyhood National Memorial, an allee landscaped in the 1940s suffered from a variety of problems that, over time, had radically changed its appearance. Trees had died and had not been replaced; volunteer trees and other vegetation had been permitted to invade and mature. The result was a forest with heavy undergrowth. This was not an ugly scene, but it was not the landscape scene that should exist. The necessary research and landscape design to restore the allee were accomplished. Park management knew that cutting down large, mature trees could cause a considerable public outcry if the public did not understand why this was being done. The park superintendent, a former interpreter, embarked on a course to interpret the project to the public and gain their support. He and his staff had two primary challenges: To explain why it was necessary to cut down large trees, rarely a

popular thing to do in a park; and to explain that it would be a number of years before the restored allee would begin to mature. Through interpretation they succeeded. When the project began there was good public understanding of it and public support. I hasten to add that if it had been a poorly conceived project, probably no amount of interpretation could have convinced the public.

Another landscape project benefiting from interpretive efforts that built public support was the restoration of the Italian Gardens at Vanderbilt Mansion in Hyde Park, NY. As background to this project it is important to know that until recently the maintenance of cultural landscapes, whether formal or vernacular, was not a high priority, systemwide, with the NPS. There were exceptions, of course. Part of the reason was lack of understanding and part of it was lack of the necessary funding. Landscaping, especially formal landscaping, is expensive to maintain. Vanderbilt Mansion National Monument had greenhouses and extensive landscaped grounds. Through the years they suffered decay for the reasons mentioned above. The Italian Garden became nothing more than a grassed area with landscape structures. Then through an effort in which interpretation played an important role, park management encouraged the formation of a volunteer group, the Frederick Vanderbilt Garden Association.

This group, in cooperation with and guided by park management, is restoring and maintaining the Italian Gardens. These volunteers obviously felt the gardens were important enough for them to offer their time and services. The NPS restored some of the garden structures. The group is raising money to restore a fountain and a pool. Interpretation played no small role in this project and in helping the volunteers decide to become heavily involved in it.

Interpretation is not, of course, the reason for a park's being. But for the vast majority of people, a visit to a park without interpretation would be a less complete thing. Good interpretation contributes mightily to visitor enjoyment and understanding and, through that understanding, to the preservation of park resources, be they cultural or natural. As stated above, we are all interpreters of park resources and the societal values they possess. In the caring for and interpreting of these resources, we have a charge that is both weighty and glorious. We have in our care some of our Nation's and our people's finest possessions. We are in no small measure keepers of the light.

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Honesty in Interpreting the Cultural Past

Marcella Sherfy

By 1965, the National Park Service had earned a solid reputation for good interpretive programs in historical and natural parks. It prided itself on brief, informative presentations and exhibits that sparked visitors' curiosity and made **understanding** park values an enjoyable experience. The NPS, in fact, had come to consider **interpretation**, both the label and the unique activity of limited communication, one of its most important contributions to good park practice.

But by 1965 also, many NPS historical interpreters had abandoned thematic or chronologically outlined walks and talks that characterized earlier historical interpretation and were experimenting instead with historical demonstrations and "living history" dramatizations. The interpreters were part of a generation increasingly reluctant to glorify their country's military and political past. They addressed the first American audience reared exclusively on fast-paced television entertainment. And they shared with visitors that decade's special political, environmental, and social unrest, which bred a longing for apparently simpler, more ordinary, hopeful times and lives.

The innovations that historical interpreters made in the 1960s reflected the particular climate of that decade and represented the Service's long-standing commitment to relevant, helpful interpretation. Historical demonstrations and dramatizations became very popular. Americans enjoyed the resulting blend of information, entertainment, and nostalgia.

But in its increasing dependence upon living history and demonstration, historical interpretation had come to violate, and sometimes still does today, the boundaries of interpretation's special function and the canons of historical study and presentation. It can easily become a form of communication used more to attract attention and applause than to translate park values into understandable terms. Its use as a vehicle for communicating contemporary social and political beliefs abuses historical people and the sense of the past. Its sweeping claims to broad portrayal of the past blur visitor perception and appreciation of historic resources. Historical interpretation, in short, needs to be honest in its treatment of the past and in its statement of purpose.

The two statements that follow address both elements of our responsibility as historical interpreters.

An Ethic Beyond Accuracy

No historical interpreter admits any virtue in factual error. But that is only the beginning of historical interpretive ethics. We must be **historically honest as well** as accurate.

Historical honesty involves a particular patience, tolerance, and perspective. It requires a desire to understand and present the events of the past in the past's own terms. It is the delicate task of both trying to put ourselves into the perceptions of another generation and still recognizing that we cannot fully do so. It suggests that we treat historic people as we would wish to be treated by future interpreters.

To be historically honest, we:

- have no right to assume that people of the past felt as we do about similar experiences or ideas;
- cannot imbue previous generations with our own political principles or values;
- cannot misleadingly "select" the facts that we present to make a particular point;
- must not think or tell others that we are portraying the past when in fact we are simply demonstrating some few physical activities or objects of a previous generation.

Few experiences are more frustrating than to stand silent, unable to offer any explanations or qualifications when someone pokes fun at us, takes our words out of context, bends our opinions to serve their arguments, or characterizes us with unimportant details of our life. The people of the past are in that position. Since we will be where they are someday, we have every reason to be as thoughtful and honest about our predecessors as we want posterity to be with us.

That kind of honesty requires a different sort of research than that needed to determine the exact color of a military uniform. But it is far more important. What we are doing, after all, is **interpreting**. That means that we must **listen** to the people of the past in all records and sources we can find and then **repeat** (not twist or cull or exaggerate) their words and thoughts.

Past Time

Interpretive programs are often characterized by the word "recreate." Living history talks and interpretive brochures frequently begin with the words "step into the past with us." And when asked what it is we want to accomplish in a historical area, we often respond, "to make history live."

Perhaps we use those phrases only because we were taught in school to employ clever, dynamic introductions. Or, perhaps we have used them so long in interpretation that we believe that they express what we do. Regardless, those phrases are misleading and in a real sense dishonest.

Rather, what we do at any historical park is preserve and interpret remnants—pieces—of the past that have survived to the present. Those remnants include buildings, fences, furniture, and—as presented usually in written form—the bare outlines of human thought and activity. Those remnants are surrounded by the rest of our parks or the rest of our words and actions. We design the surrounding environment or activity to resemble what we think the historic setting was. But in no sense have we brought back or "recreated" the past. Except by miracle, we will not do so. Yes, we can reproduce some physical elements of the past. But even on the most simple terms such as clothing, we cannot, even after much debate and research, be certain that we are wholly accurate. The physical world itself changes subtly though irrevocably; weather patterns shift; chemical fertilizers and insecticides take a toll; breeding changes the animal population. We simply never know everything about a physical historic environment.

It is extremely important to recognize that no formula exists from which to recreate the thoughts, values, and emotions of people who lived in the past. Even having studied the literature of a previous generation, worn its clothes, and slept on its beds, we cannot free ourselves of our own perspectives and values. Inevitably, we use our perspectives and values to evaluate and interpret previous generations. We cannot, however we might wish it, be another person or know his time as he knew it or value what he valued for his reasons.

Claims to presenting a total recreation of the past are misleading and destructive. The certainty that we can "know" earlier generations denies essential human complexity. More important, that claim distorts our visitors' understanding of history and its value to us in the present. Too often we promise visitors a total "past." Then we really give them bits and pieces of it instead, allowing them to assume that they have learned all there really is to know about an event, a lifestyle, or a person. The deception leads to romanticizing, false stereotyping, and easier manipulation of the past for use in propaganda. Visitors will, I think, understand more of the past, consider it more wisely, and want to know more when we tell them the limits of our knowledge and portrayal.

Past time, in short, has gone by forever. That is the first principle we should convey to visitors at historical parks. The magic of history and its ability to provoke thought and learning depend on our recognition of how intricate and unfamiliar earlier human life may be. Hence, we must make the remnants of the past in our historical parks prompt visitor

curiosity about the past, rather than be a reassuring, but false presentation of "the way it was."

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Symbolic Warfare on America's Battlefields

Edward Tabor Linenthal

The National Park Service serves as custodian for many of the sacred sites of the American patriotic landscape. Among these are some of the Nation's most famous battlefields: Gettysburg National Military Park, the Custer Battlefield National Monument, and the USS *Arizona* Memorial in Pearl Harbor. The NPS also bears the responsibility for mediating struggles over symbolic ownership of these sacred places.

Each of these battlefields is a ceremonial site, where various forms of veneration express the belief that the contemporary power and relevance of the "lessons" of the battle are crucial for the continued life of the Nation. Furthermore, many believe that the patriotic inspiration to be extracted from these sacred places depends not only on proper patriotic ceremony, but on a memorialized, preserved, restored, and purified environment. Consequently, the NPS has attempted to protect these sacred centers from the potential defilement of commercialization.

Each battlefield is not only a ceremonial site, however. Each represents important civil space, where Americans of various ideological persuasions come, not always reverently, to compete for the ownership of cherished national stories and argue about the nature of heroism, the meaning of war, the efficacy of martial sacrifice, and the significance of preserving the patriotic landscape of America.

The 125th anniversary of the battle of Gettysburg in 1988, for example, brought into sharp relief two contrasting cultural memories of war. Battle reenactments took place in late June on private land near the battlefield and attracted thousands of reenactors and tens of thousands of spectators. The battle of Gettysburg was presented as something colorful and romantic. War could easily be perceived as an aesthetically pleasing event. The NPS' official ceremonies at the Eternal Light Peace Memorial, however, sought to turn attention away from the enduring appeals of battle and deepen the spirit of reconciliation that had moved veterans to propose this memorial in 1913 and erect it in 1938. Memories of battle were used to engender a rhetoric of racial inclusion, and guest speaker Carl Sagan declared that the memory of Gettysburg should not lead to the romanticization of battle, but should serve as a reminder of the horror of war.

Perhaps the most intense battle for symbolic ownership has taken place at the Little Bighorn. It has raged over various issues. For example, was Custer a hero whose brave sacrifice opened the west for Anglo-American civilization, as traditional patriotic orthodoxy claimed, or did he represent white racism and genocidal expansionism? Should the name of the battlefield be changed to the "Little Bighorn National Monument," a proposal that outraged Custerphiles? What was the meaning of the battle? Did it signify Indian resistance to the "westward march of civilization," as a 1956 park brochure stated, or did it signify, as a 1973 park brochure declared, "one of the last armed efforts of the Northern Plains Indians to preserve their ancestral way of life"? Controversy swirled over Black Elk's saying on the visitor center, "Know the power of peace," and the NPS itself expressed uneasiness with the ideological message communicated by the placement of the visitor center next to Custer Hill. Despite conscious attempts by the NPS to fashion a rhetoric of inclusion, acts of symbolic terrorism—the unauthorized placement of the Indian plaque in 1988, for example—dramatically illustrate that for some Americans, the Little Bighorn is, in the words of Alvin Josephy, "a sore from America's past that has not yet healed."

At Pearl Harbor, the NPS faces the difficult task of shaping a commemorative environment acceptable to people who come to Pearl Harbor for vastly different reasons. Resistance to certain museum displays, the potential presence of the Japanese midget submarine captured during the battle, and occasional complaints about the "defiling"

presence of Japanese tourists or even Japanese postcards in the gift shop reveal that for some Americans this is to be a place of patriotic purity. Pearl Harbor "belongs" to some because they lost a loved one in the battle. A part of them rests in USS *Arizona*. For some, Pearl Harbor is a place where commemorative ritual should now include gestures of reconciliation in order to serve contemporary political realities. Further, the NPS faces the unique problem of what to do with USS *Arizona*. Like the Alamo Chapel, the *Arizona* Memorial is consciously designed to function as a shrine. It is a unique one, because it was built over a sacred relic which is also a tomb. Reverence toward *Arizona* often engendered two conflicting emotions: the urge to preserve the boundary between sacred ship and secular harbor, and the urge to know as much as possible about the mysterious tomb-relic that rests beneath the surface. Sensitivities regarding *Arizona* present the NPS with a dilemma no matter what decision they reach. Acts of preservation, designed to protect the tomb of the *Arizona* dead, can be construed as acts of defilement through intrusion, while leaving *Arizona* to deteriorate slowly could be construed as defilement through neglect.

The NPS faces a wide variety of interpretive dilemmas at these sacred sites. Especially recently, in my opinion, they have succeeded remarkably well in responding to the challenge of orchestrating this plurality of public voices, and reminding visitors that **no one** can claim exclusive ownership of these places, but all may put forth their interpretive claim regarding the meaning of these sacred spaces. Clearly, the Service's insistence that a plurality of voices have access to this sacred ground means that symbolic domination by a particular group is a form of cultural violence no longer acceptable.

Dissonance, not harmony, characterizes the many voices heard at these battlefields. Those who wish all to sing in unison the pure song of patriotic faith, to hear voices raised in celebration of Crockett swinging Old Betsy at Santa Anna's thousands, or Armistead leading his men into the Angle, or Custer dying a glorious death, must share the choir loft with those who wish to sing a different song. Dissonance, however, can be creative, and perhaps from the clashing voices heard at America's sacred ground, new, more complex, more inclusive songs of the Nation will emerge.

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Desert Archeology

A Neglected Interpretive Resource

Raymond H. Thompson

The discovery of the New World forced Europeans to confront the problem of the origin of the American Indians because there was no room in the Biblical and Classical framework of 15th and 16th century Europe for strange new people. In this country, curiosity about Indian origins ultimately led to a raging controversy over whether Native Americans, various Old World Groups, or a mythical race of Mound Builders had constructed the great earthen mounds found throughout the East and Midwest. Popular belief was definitely on the side of the mysterious Mound Builders because the so-called "savage" American Indians were thought to be incapable of such monumental works. These concerns fueled a national debate about the mounds that continued throughout the 19th century and even has currency in some parts to this day.

The failure to identify Indians as the builders of the mounds did not prevent the development of romantic fantasies about Native Americans. Both American and European image builders presented contrasting views of Indians as either noble savages or depraved monsters. The opening of the West greatly intensified these discussions by exposing the new Nation to many different native groups, especially the spectacular Plains Indian nomads. Romantic notions about fierce mounted warriors resplendent in their feathered war bonnets led to the establishment of a popular and enduring stereotype of the American Indian that has worldwide distribution as a result of 19th century dime novels and 20th-century Hollywood Wild West fantasies. One needs only to think about James Fenimore Cooper and Chingachgook, the last of the Mohicans; Henry Wadsworth Longfellow and Hiawatha; Karl May and Winnetou; Ernest Thompson Seton and the Two Little Savages to understand the power of these romantic images.

And yet with all this interest there were still problems about the origins of the American Indians, because European-derived Americans could see no obvious connection between the archeological remains in most of the country and the local Indians. It was not until after the Mexican War—when the traditional Southwest, that is, the states of Arizona, New Mexico, Colorado, and Utah, became part of the Nation—that such evidence was available. The spectacular and well-preserved archeological remains in the stark and dramatic canyon and mesa country of the Southwest captured the imagination of Easterners. The easily observed, in fact, obvious resemblances between the villages of the living Pueblo Indians and the cliff dwellings and other ruins provided the basis for a linkage between contemporary Indians and archeological remains. Moreover, the Pueblo Indians were real farmers and lived in proper towns. As a result, there was widespread public appreciation of archeology during the latter part of the 19th century. This public interest influenced the adoption of Federal legislation that led to the preservation of many archeological monuments in the Southwest. The National Park Service has interpreted the prehistoric Pueblo Indian past to the American public so successfully that the national conception of archeology as an aspect of tourism is, to this day, dominated by cliff dwellings and Pueblo Indian culture. Tourists became accustomed to the idea that archeological monuments should have substantial masonry buildings in dramatic and spectacular natural settings.

It is somewhat ironic, therefore, that the very first archeological site in the United States to be accorded the legislatively mandated protection of the Federal Government was the four-story adobe structure in southern Arizona that has been named Casa Grande by Eusebio Kino, the Jesuit missionary who was the first European to see it in 1694. A group of distinguished New Englanders, who had failed to convince Congress in 1882 to protect the ruined villages of the Pueblo Indians in Arizona and New Mexico Territories, managed in 1889 to sell Congress the idea of withdrawing sufficient land from public sale to provide for

the permanent protection of the Casa Grande ruin. In 1892, after the ruin had been repaired, President Benjamin Harrison established the Casa Grande Ruin Reservation, and in 1918 President Wilson converted it to a national monument.

No other non-cliff-dweller archeological site in the desert region has been developed by the National Park Service since the Casa Grande ruin was protected 100 years ago. Although Jesse Walter Fewkes, with typical Victorian confidence, had little trouble repairing and stabilizing the ruins of Casa Grande, modern ruins stabilization specialists have avoided prehistoric sites with adobe construction.

Interestingly enough, significant efforts have been directed toward the protection and stabilization of historic adobe structures, such as the Spanish mission at Tumacacori National Monument. As a result of recent cooperative actions, the NPS is bringing other mission-period sites in southern Arizona under its protection. The recent conference on adobe in Las Cruces, New Mexico is evidence that much progress has been made in the protection of historic adobe buildings. The Park Service must find ways of transferring that knowledge to the protection of prehistoric adobe structures.

A second reason for the neglect of archeological sites in the desert regions is that, except for the late adobe structures, buildings were constructed of perishable materials instead of the masonry used in the cliff dwellings and pueblos. Normally only house floors from these buildings were preserved and they are even more difficult to stabilize than adobe walls. They are also harder to interpret to the public. Faced with these problems of unspectacular and undramatic architecture in most parts of the desert (Casa Grande being an obvious exception), the NPS in the Greater Southwest has continued to do what it does best—the repair, stabilization, and interpretation of prehistoric masonry pueblos—instead of tackling the seemingly insurmountable problem of preserving non-masonry structures. Only recently has the NPS attempted to preserve house floors of the earlier Basket Maker culture in parks and monuments where masonry ruins are the main attraction. I make these comments as a statement of fact, not blame. Academic archeology in this country owes much to the Southwest and professional fascination with the prehistory of the Pueblo Southwest, to the virtual exclusion of the rest of the region, has helped to focus public attention on pueblos and cliff dwellings, thus reinforcing the NPS approach.

Until Federal undertakings in the desert region, such as the interstate highways and the Central Arizona Project, funded massive archeological excavations beginning in the 1970s, only the Gila Pueblo Archeological Foundation and the Arizona State Museum at the University of Arizona had conducted large-scale excavations in desert sites. The results of this new research carried out with cultural resource management funding have greatly expanded our knowledge of the prehistoric cultures of the desert, have heightened public interest in them, and have created a need for the NPS and other interpretive organizations to pay greater attention to them. More importantly, they present us with an opportunity to serve the American public better by including an important, but neglected part of the Nation's past in the interpretive programs in desert parks. Six different kinds of archeological evidence provide such opportunities: prehistoric irrigation canals, mounds and ball courts, terraced hill sites, rock art concentrations, occupations on the shore of pluvial lakes, and Paleo-Indian elephant kill sites.

1. The construction of the prehistoric system of irrigation canals in central Arizona is one of the largest Native American efforts in North America north of Mexico. The canals are evidence of prehistoric attempts to address the central problem of life in a desert—water. A good part of the modern system of irrigation canals is built on the ancient one. Yet there is no national monument to preserve the evidence of the engineering achievements of the prehistoric Hohokam Indians. The site of Snaketown in the proposed Hohokam-Pima National Monument has great potential for the interpretation of canals.

The importance of irrigation agriculture to the Hohokam is, of course, included in the interpretive material at a number of NPS units. The visitor, however, must visualize the actual water delivery system in the mind's eye with the help of maps and reconstructed

drawings. There are no segments of canals visible on the surface, to say nothing of excavated examples, that are accessible to the public.

Segments of the canals are preserved, but not interpreted in several places. A good example is the pair of large intake canals preserved by the City of Phoenix at Pueblo Grande Museum. The NPS does have one prehistoric canal segment prepared for public viewing at Montezuma Well unit of Montezuma Castle National Monument, but it is a very humble stone-lined ditch of no great length or water-carrying capacity and it is not part of a major canal system.

Although the situation at Montezuma Well is entirely the product of historic accident, it is tempting to find a racist interpretation. Just as Midwestern Indians were considered to be incapable of building the mounds, so the Southwestern Indians would have been unable to produce a great irrigation system, but might have been capable of constructing the simple and primitive ditch preserved at Montezuma Well.

I mention this seemingly ludicrous interpretation because, in fact, many Native Americans believe that, although the preservation and interpretation at Montezuma Well may be innocent enough in intent, the failure to deal directly with the truly great achievements of past Indian cultures is representative of deeply imbedded prejudices against Indians in American culture. What better way to combat such criticisms than to excavate and interpret to the public some important segments of the great system of irrigation canals built by the ancient Hohokam Indians?

2. The Hohokam also built substantial artificial mounds and earthen ball courts. Except for a single ball court with limited interpretation of Casa Grande National Monument, no such structures are prepared for public viewing in the desert heartland of the Hohokam. The only excavated and interpreted ball court in the National Park Service System is at Wupatki National Monument on the Colorado Plateau. Made of masonry alongside a prehistoric pueblo village, its identification as a ball court is questioned by many.

The study of the location and distribution of ball courts has added significantly to our store of ideas about the social and political organization of the Hohokam. The ancient Hohokam and other prehistoric Southwestern Indians lived on the northern frontier of the great civilizations of central Mexico and were greatly influenced by them. The ball courts are dramatic evidence of that influence and deserve greater attention than they are getting in our national monuments.

The Hohokam had several kinds of artificial mounds that provide evidence of the complexity of their society. Several mounds of different types have been excavated at Snaketown where a proposed Hohokam-Pima National Monument has been authorized. Development of this site has been delayed because of problems with the owners of allotted lands. Until these matters can be worked out by the Gila River Indian Community, on whose lands Snaketown is located, it will be difficult for the NPS to present information on Hohokam mounds.

There is a large late mound at Casa Grande National Monument that could be developed as an example of a widespread type of structure that is currently the subject of intensive cooperative research at the University of Arizona and Arizona State University. The distribution of large mounds thought to be of the platform type suggests that they were the focal point of the regional socio-political organization. This view requires a more sophisticated prehistoric culture than is presented in most public displays, including those of the NPS, and more complicated than has been promoted until recently by a majority of academic archaeologists.

3. Terraced hill sites are found throughout a large region in southern Arizona and northern Sonora. They are spectacular sites in commanding locations and involve huge rock terraces that are the closest thing to the masonry construction of the Pueblo north that the desert south has to offer. Several such sites are located on hills near Tucson, an example being Tumamoc Hill. These sites figure prominently in the legends of the desert tribes and offer excellent opportunities for linking prehistoric and contemporary peoples. The Cerro Prieto site, which was visited by both Kino and Manje, would be an excellent terraced hill

site for such an interpretive program. A large, well-preserved fortified hill site of the same period as the terraced site and located on a promontory in the valley of the Gila River near Gila Bend is being considered for tourist development by the San Lucy Council of the Tohono O'Odham Nation (formerly Pagago Tribe).

4. Many sites throughout the desert region have concentrations of rock art that fascinate the public. The NPS has shown at places like Petrified Forest National Park that it can do an excellent job of interpreting rock art. The petroglyphs at Petrified Forest also illustrate the successful development of archeological remains that would be possible in many other southwestern Park Service units, such as Saguaro and Organ Pipe National Monuments, that are primarily devoted to scenery, plants, and natural wonders.

Rock art is found everywhere, not just in association with occupation sites, so it is a type of archeological evidence that can be presented to the public in almost every park and monument. New research is providing new and interesting interpretations of rock art, but care must be taken to avoid some of the more popular and outlandish approaches.

5. Among the most impressive features of the desert landscape are the remnants of pluvial lakes, such as the Willcox Playa, the remnant of pluvial Lake Cochise, in southeastern Arizona. Prehistoric hunters and gatherers lived along the shore of those lakes and we find the evidence of their campsites in the fossil beach deposits. Not a single site of this type has been preserved for public viewing. Yet here is an example of an opportunity for a park interpretive program to combine geological, climatological, and archeological evidence and to present a fascinating story about the desert region during the period following the Ice Age. Pluvial lake remnants are found throughout the deserts of the Southwest and offer an opportunity for good archeological interpretation not associated with pueblos or other agricultural communities of more recent time.

6. No other region of the New World can match the desert Southwest for the quantity and quality of evidence for the earliest occupants of this hemisphere. The elephant kill sites that are concentrated in southern Arizona provide dramatic evidence for the way of life some 12,000 years ago. Comparable sites are beginning to be found in other parts of the West, but while they add much to our knowledge of the Paleo-Indian hunters, none have the clear-cut association of Clovis spear points and butchering tools with the bones of mammoths and other extinct animals. A number of such sites have been discovered and excavated, but to date nothing has been preserved in place so that the public can see the evidence for the activities of the first Americans. The only preserved example of any kind is a square meter of elephant bone with five Clovis points imbedded in them that is part of an exhibit at the Arizona State Museum.

This situation is in great contrast to that in the Soviet Union which has preserved several Upper Paleolithic "bone beds" in place for public viewing. These sites are representative of the Old World cultures out of which the Paleo-Indians developed. A team of U.S. archeologists visited these sites last year and a group of Soviet specialists will visit this country in 1991 to examine Paleo-Indian sites. If the Soviets were here now, there would not be a single preserved and interpreted site available for them to see. Efforts should be made to expose and preserve one or more of these sites, for example, the Lehner and Murray Springs sites in southeastern Arizona, both part of the San Pedro environmental zone being developed by the Bureau of Land Management. This unique part of our national heritage should be made available to the public and the NPS should be playing a significant role in that effort.

Although the way of life based on the hunting of elephants and other big game at the end of the last Ice Age ended with the extinction of those animals, the dependence of the prehistoric inhabitants on the desert and its resources did not. Recent work by archeologists at the Western Archeological and Conservation Center of the NPS has identified the camps or "resource activity areas" of prehistoric desert hunters and gatherers at Saguaro National Monument. I believe that urban Americans who are renewing an interest in the relationship between human beings and their environment would be fascinated by interpretive development of some of these ancient campsites.

Deserts hold great fascination for us whether they be seen as beautiful or forbidding. They stimulate our curiosity and stretch our credulity. They can be intimate, familiar, and comforting or they can be hostile, unknown, and threatening. When we react to the desert, we often find that we can achieve greater understanding of it and its mysteries by learning about how other peoples in other times have adapted to its harsh conditions, exploited its resources, and appreciated its stark beauty. Often demonstration programs developed in cooperation with local Native Americans, so-called "living archeology" programs, can greatly enhance our understandings of the desert past. The NPS should take advantage of the opportunity to assist the members of the public to achieve such understanding when they visit NPS units in the several parts of the American desert. I hope that the six different approaches I have presented here may serve as the core of an agenda for such an effort.

Dr. Raymond Thompson is director of the Arizona State Museum, University of Arizona.

Cape Cod New England's Most "Cultured Wilderness"

Michael E. Whatley

What is it that makes Cape Cod such a special place? Is it the vast sweep of the Atlantic Ocean, lapping against a pristine shoreline—and the associated array of life forms sheltered behind it? Or is it the multichaptered saga of human events that have been etched over time onto the landscape of this fragile outpost? To many, Cape Cod is both, and rightfully so. In fact, on occasion the Cape has been dubbed "New England's most cultured wilderness." Few landscapes offer such a unique blending of these two normally competing forces. Furthermore, few places do so in such a state of harmony, as well as scenic splendor. The interactive processes that made this landscape so unique began early on.

It has been said that Cape Cod is a child of the ice age. However, often it comes as a surprise to many present day observers that the Cape was initially laid down by glaciers on a base that was some 400 feet above sea level. But as the ice age waned around 12,000 years ago, vast quantities of water were released. As a result, rising sea level gradually flooded the tapering base of what would eventually become known as Cape Cod, as well as the similarly produced formations of Nantucket, Martha's Vineyard and Long Island. Later, winds, waves and ocean currents would help to sculpt the Cape and its sister formations into the configurations we are more familiar with today.

Around the same time period that the ice age was ending, groups of nomadic peoples roamed throughout the area in search of large mammals and other readily available food sources. Evidence of their presence amid this newly formed landscape has been verified through the discovery and identification of several key artifacts dating from this time period. Thus, a cultural connection between people and the landscape (albeit limited initially) was established at the onset.

Succeeding populations of native inhabitants lived upon the bounties of Cape Cod for hundreds of generations, taking thousands of years to gradually change from nomadic hunters and gatherers to a more sedentary and advanced society based on stationary land stewardship practices. Meanwhile, the warming of the regional climate brought forth new (and normally more southerly) plant and animal species. And in association with this warming trend (and the resulting changes in habitat) many "more northerly" species (such as moose and caribou) began to fade out. And likewise, as resources changed, so did native hunting and foraging practices. Archeological evidence indicates that as smaller, more climatically adapted game species replaced larger ones, reductions in the sizes of projectile points followed accordingly.

A number of other new resources beneficial to human subsistence also resulted from subsequent climatic changes. The establishment of bays and tidal flats that came about through continued sea level rise, and through the development of protective barrier beaches, brought forth an incredible wealth of aquatic resources—of much greater abundance and diversity than in earlier times. Thus, eventually, a consistently available supply of mussels, oysters and clams enabled previously migratory populations to maintain year-round residency on the outer Cape.

For a while, the climate of New England actually became warmer than that of present day Virginia. And during this interlude, species such as Atlantic white cedar stretched their range into the Cape's "kame" and "kettle" landscape. But when the climate cooled somewhat, the range of many species needing warmer climate began to recede southward again. However, specific conditions, such as the multitude of shallow bogs and swales scattered throughout the Cape, enabled pockets of Atlantic white cedar to remain. Likewise,

fire—used for centuries as a land management tool by Native Americans—benefited the continuing survival of this tree type by enhancing seedling regeneration as well as by reducing the frequencies of less fire tolerant competing species (such as red maple). Thus, as humans affected the vegetative overlay of the Cape from the onset, the natural features of Cape Cod likewise affected the lifestyle of its original inhabitants.

But the Cape's physical landscape has affected the direction of human events in more recent times as well. For example, one of the most important yet often overlooked historical events of the colonization of the New World took place on Cape Cod during 1620, due to an unusual combination of natural circumstances and human destiny.

Contrary to popular belief, it was Cape Cod that was the first landing place of the Pilgrims as they disembarked from the Mayflower—not Plymouth. But even more interestingly, it was the Cape's shape and physical conditions that made this situation occur. The original destination of the Mayflower and its passengers was the northern portion of the Virginia colony, which at that time extended into the Hudson Valley region, but did not go as far north as Cape Cod. This, however, was not to be the way things turned out.

It was not uncommon for ship captains in those days to first make landfall north of their final destination, and then to cruise along the coastline southward until their ultimate destination could be identified. But when landfall was made initially off of Cape Cod, and the Mayflower tacked southward, the crowded little vessel ran aground unexpectedly on the nearby Pollock Rip. After a while, a fortuitous change in tides and currents lifted the endangered vessel off the shoals. And with much praise to the good graces of the Almighty Lord, it was decided to make Cape Cod the assembly's final destination. Subsequently, because they realized that they would be establishing their colony outside of the bounds of their original charter, this humble band of settlers drew up the first act of self-governing regulations ever drafted in the New World—the Mayflower Compact.

A whole month was spent exploring Cape Cod as a possible permanent settlement site, and a significant cache of native corn was discovered and taken by a small band of Pilgrims under the direction of Myles Standish. This supply of native seed proved to be essential to the survival of the young colony during its precarious beginnings. Sometime later the colonists repaid the natives for taking the corn (which they eventually had realized was not rightfully theirs). Then in 1644, an assembly of seven families departed from the relative security and prosperity of the established community in Plymouth, in order to return to outer Cape Cod and settle in what would later become known as Eastham. Three of these early "outer Cape Codders" had originally been passengers on the Mayflower—and had spied the New World, and their ultimate destination, for the first time some 24 years earlier offshore from this same location.

However, as the Pilgrim community grew on the outer Cape, so did its need for clearing the landscape. And in less than a hundred years, the entire outer Cape was virtually stripped of its formerly extensive covering of trees. Likewise, the remaining topsoil became so played out, that much of the outer Cape became little more than a barren landscape of drifting sand dunes. The impoverished scene that extended itself into the mid 1880s was a sparse and desolate one but not one necessarily without inspiration.

The prevailing isolation, solitude and vastness of the Cape during this time period also was the source of some of the same qualities that beckoned Henry David Thoreau and others to the area. During several visits in the 1850s, Thoreau compiled a number of essays which were later combined and published into a book simply entitled **Cape Cod**. In this publication, Thoreau reveals that he was also a well-versed historian, quoting freely from the past and recognizing its significance in determining the make-up of the landscape.

Likewise, in wanting to be equally close to the people as well as the land, instead of camping out during his famous three-day sojourn along the 40-mile outer beach of Cape Cod, Thoreau elected to stay overnight in the humble abodes of Cape Cod residents. And indeed, he chose well—staying the first night with an old oysterman and his wife in Wellfleet, and the second night at the home of a lighthouse keeper in Truro. The accounts he

left behind from these contacts have become priceless insights into the character of the people of Cape Cod, and their resilience.

Many other features bespeak the interplay between humanity and nature on Cape Cod. Lighthouses along the outer shore imply a romantic notion of fostering sanctuary and tranquillity, yet upon closer inspection they function more realistically to warn mariners of the treacherous shoals immediately offshore. In this respect, the outer Cape serves as the graveyard of some 3,000 ships that have wrecked within the past 300 years along the shoreline. Likewise, life-saving stations, stretched out at strategic intervals along the backside of Cape Cod, embellish the theme of historic maritime rescue and recovery efforts.

Additional natural and cultural connections abound. Cape Cod houses, with their central chimney and simple ground-hugging design bespeak of how early settlers learned to cope with nature by adapting to it, rather than confronting it. Large scale religious camp meetings in the mid 1880s remind us that the Cape served as a place of physical attractiveness and inspiration, a notion which led directly into the budding tourist industry--later evidenced by the construction of features such as the Highland House and adjacent golf links in Truro shortly before the turn of the century. The interplay between the Cape's landscape and historic events even has electronic age connections. In the early 1900s the young Italian inventor Guglielmo Marconi selected Cape Cod to be his primary trans-Atlantic wireless site in the United States. Many factors influenced his decision, but geographic features played a major role.

Thus, from the beginning, there has been a constant interplay between humans and the environment on Cape Cod, neither one completely dominating—neither one completely submitting. Perhaps it is fitting to make one final observation regarding this often subtle interplay that has contributed so very much to the qualities that make Cape Cod such a special place. The Provincelands, located at the tip of Cape Cod, were originally set aside by the Plymouth Colony as public lands, never to be owned or developed. How fitting it is that this historical precedent led to these lands being set aside and protected as a part of the Cape Cod National Seashore. And subsequently, because these are the oldest lands ever set aside in the public trust to become a unit of the National Park Service, does this mean that perhaps Cape Cod National Seashore is the oldest and most historic area in the National Park System? Perhaps so! But even if it is not, the Cape most certainly serves as an excellent example of where both history and nature have been blended, and have created a very special landscape.

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Interpreting the History of Black Americans

On February 17, 1989, a conference sponsored by the National Park Service and the University of Maryland Eastern Shore was held on the University's campus. The purpose of the meeting was to discuss the interpretation of slavery, whether or not the conferees felt that it should be interpreted, and, if so, what role should the National Park Service play in the interpretation for the hundreds of thousands of people who visit units of the National Park System each year.

The first step in the progression which led to this particular conference took place at a conference held at the Grand Canyon in April 1988. At that time the Director and other Service officials met with members of the Department of the Interior's Steering Committee composed of Presidents of Historically Black Colleges and Universities (HBCUs). At this meeting there was a discussion regarding ways in which the NPS could better include the students and faculty of the colleges and universities in the accomplishment of its work. The presidents were asked to make recommendations regarding some of the standard operations and activities of the Service. Another request for recommendations involved the NPS' role as steward for the Nation's cultural heritage. Specifically, the presidents were asked for a recommendation regarding the NPS presentation of interpretive programs on the topic of slavery in America. Did the presidents think that the Service should enhance its existing interpretive and educational programs to include this topic? Should programs remain as they are? If changes should be made, how should that be accomplished?

At the conclusion of the Grand Canyon conference the consensus was that the topic required more discussion with scholars prior to making any formal recommendations. The meeting of February 17, 1989, was the fruition of that desire.

Participants included the director of the National Park Service, regional directors, members of the Washington Office (WASO) directorate, two Department of the Interior representatives, four historian-consultants, a noted newspaper columnist, and four HBCU presidents or their representatives.

The drive to seek a response from the HBCU presidents on the issue of the interpretation of slavery was predicated upon several factors: that the enslavement of Blacks in America was one of the most inhumane periods of our history; in spite of a system which would have been expected to decimate certainly their spirit if not their numbers, Africans in America endured, and, at times, even prospered; and that with the passage of time their descendants adapted to the American environment and added their own mark on the culture. Slavery in this country has been characterized as one of the "checks" which had been written by America in historic times and which should be honored and the true story told. Unfortunately, not only is the story of the ancestors of African slaves infrequently told in America, but the same neglect is accorded to the positive story of the participation of their descendants in the growth, expansion and development of the country. Throughout this dialogue between the NPS and the steering committee the term "interpretation of slavery" had been used. However, it was very clear that the group felt that the program should include not just those who had been enslaved or the period of legal enslavement of Blacks in America. It would be imperative to cover the role of indentured and free Blacks as well as slaves and their descendants in order to discuss the full range of contributions of Blacks.

It should not be assumed that Blacks would be the only group to benefit from this program modification. This corrective history would certainly be encouraging to many Blacks as they seek their rightful status in the Nation. It would help to counteract a nationwide prejudice against Blacks which is based in the perception that they played no positive part in the development and progress of the country. The programs could serve as an educational tool for the many "new immigrants." Finally, this action could raise the

visibility of the National Park Service in Black communities, and could lead to increased support for the Service from this part of the national constituency.

As the group discussed the interpretation of slavery, it kept into focus the positions opposing any broad or public discussion of it, prejudice in America and the timidity with which some would approach these issues. However, it was concluded that slavery was "a part of American history and should be given a greater focus." It was felt that rather than "open old wounds" a balanced discussion could help many work their way to a better appreciation of Black culture and what it has contributed to the development of the national culture. "Although this is a sensitive subject, it was felt that the American public is mature enough to handle it."

At the very outset, we need to clarify our use of the word interpretation in order to reduce some of the common misunderstandings which were expressed during the course of the discussion. At museums, historic sites, and natural areas the term interpretation is used to denote programs, services or exhibits which provide educational information on the major themes of a particular site to the visiting public. It is a translation of the volumes of scholarly and popular material on a given subject. The information is brought to the attention and interests of the average visitor. The NPS has a long and honored tradition in the development of interpretation as a profession and of providing interpretive services for the visiting public. Those who provide those translations are actually called interpreters. In popular parlance they are often called tour guides. Since this term is commonly used in our bureau as well as other cultural institutions, there is no need to apologize for it or to avoid its use.

Although the historian-consultants and others had difficulty with the use of the word interpretation, each of them very aptly described various qualities of a good interpretive program. President Thomas of Central State University wanted this more comprehensive history "to be a source of inspiration to Black youth." Mr. Garland Thompson thought that visual presentation at NPS sites regarding Black History should "provoke questions" among visitors. Dr. Hall felt that programs should answer "user generated" questions in order to present "aspects of the past that are personally relevant to (users)." All of the participants wanted the result of this improved interpretation to enable thousands of visitors to learn about and appreciate the work and lives of the countless people who, although enslaved, made very substantial positive contributions to the development of America.

All of the above expressions are perfectly in keeping with interpretive philosophy as described by Freeman Tilden in his work **Interpreting Our Heritage**. The telling of the story and the means by which that will be accomplished is what is meant by "interpretation" at cultural institutions.

Discussion

The group recommended that the NPS undertake the interpretation of slavery as a major component in ongoing interpretive programs. The opportunity to bring this important message to such a large audience should not be missed. The discussion revolved around three major areas: assessment, training, research resources and outreach.

Several aspects of assessment were explored. Existing program efforts must be identified and evaluated in regard to the meshing of the story of the historical participation of Blacks with the major thematic emphasis of specific NPS sites. Some areas are already very much involved in telling a more complete story and are well on the way to accomplishing the goals discussed on February 17. Those sites which have the potential to modify programs currently offered also need to be identified and their situations evaluated. It should be noted that both audio-visual programs and exhibit content were to be included in the assessment process.

The question was raised regarding the degree to which the sites currently in the NPS represent the participation of Blacks in the development of the country. There is a possibility that the Service will need to consider adding new sites to the System. Dr. Henry Lewis

Suggs suggests that NPS add one of the historic Black towns or the site of one. At the present time the historic town of Boley, Oklahoma is an historic district and is included among the designated National Historic Landmarks. In addition, the home of I. T. Montgomery, the founder of the Blacktown of Mound Bayou, Mississippi, is a designated National Historic Landmark. The home is located in Mound Bayou.

In order to successfully proceed with public program modification the Service will have to activate a twofold effort to train and sensitize staff. The training factor is probably the most obvious. First of all, much of the positive story of Blacks in America has been obscured by the shadow of slavery. Therefore, it is not as well known or as readily available as traditional American history information. Dr. Taylor suggests that a Black history data book be made available at NPS sites. Dr. Hall recommended **The Dictionary of Afro-American Slavery**, from Greenwood Press as a very basic reference for parks. He also inquired about the point of interface between the scholar and the average line interpreter. This was part of a caution against the tendency of some interpreters to make unsubstantiated statements in the course of their presentations. One way in which a corps of historian-consultants could be very helpful is to present workshops for NPS interpretive staff on specific subjects or areas. They could also provide expert consultation about selection of appropriate resource materials.

The subject of slavery by its very nature evokes a variety of responses: anger, shame, embarrassment, guilt. Fear or apprehension about encountering those emotional reactions could be a powerful deterrent to telling the whole story. Therefore, in addition to formal training on specific subjects, the historians emphasized 2. the importance of sensitizing the interpreters to the need for presenting these programs and to prepare them to deal with the possible variety of visitor reactions. Psychologists may be of assistance in devising presentation styles or techniques which might diffuse such visitor reactions.

Interpreters themselves may also undergo reactions to having to present this material. In both publicly and privately operated interpretive programs there have been instances where Black interpreters responsible for presenting the story of their slave ancestors needed assistance in dealing with their own reactions prior to the public presentation. While these situations involved Black interpreters others may have similar difficulties with the proposed program changes.

Several references were made to the matter of outreach. In his opening remarks, the Director emphasized the population projections for the United States in the 21st century. All indications are that people of color traditionally referred to as minorities in America will actually be the majority. This change will no doubt be felt in NPS in respect to user groups, workforce and political support. Current NPS visitation information indicates that minorities in general and Blacks in particular, do not visit NPS sites in any significant numbers. Therefore, this effort to present a corrective history of the Nation will, of necessity, need an outreach component. The Afro-American community may indeed need to be actively invited to the system which it has long helped to support through its taxes. This outreach should not be taken as an indication that only Black visitors are the target of this learning process. The goal is to reach all members of the NPS on-site audience.

Recommendations

1. The NPS should move vigorously and positively to begin the augmentation of its appropriate programs of site and resource interpretation to include the story, where appropriate, of the institution of slavery in America and a more comprehensive treatment of the role of Afro-Americans in the history and development of the Nation.

2. The NPS should begin at once on a program of emphasizing the need for sensitivity for and the appreciation of the accomplishments of all minority populations in this country with special attention to the contributions such groups have made to the development of the Nation.

3. The Steering Committee of the presidents of HBCUs should encourage its member institutions to review their qualification and abilities to provide assistance to the NPS in researching and preparation of materials needed for the enhancement of the Service's interpretive programs to include materials in interpretation of slavery and the role of Afro-Americans in American history. The institutions should also assess their capabilities to provide formal and informal training and instruction for NPS personnel in Afro-American history and in successful methodologies for relating same to the general public. The steering committee should be prepared to make suggestions to the NPS directorate on those institutions that are most qualified to provide this assistance.

4. The NPS sponsor training courses on Afro-American History and the interpretation of slavery for selected employees on the campuses of HBCUs.

5. To the extent possible, the NPS should assure that additional work elements and program requirements associated with augmenting its interpretive program be done through existing planning and budgeting cycles so as to ensure that they receive the required financial and program support and that they do not appear as additional work requirements without the benefit of the sources to accomplish the job.

6. Each region hires seasonally or intermittently a historian from an HBCU to research the history of slavery in that area and to review present programs relating to its interpretation. In regions where there is little or no evidence that slavery occurred in the area, that individual would develop a program to sensitize employees and visitors to the positive role minorities indigenous to the area played in the development of this country and to also make them aware of the accurate history of slavery in America.

7. The NPS should plan to meet with the academic/professional consultants, representatives from the Interior HBCU Presidents Steering Committee, Assistant Director for Interpretation and other selected NPS managers to discuss the means by which the NPS can enhance existing interpretive programs through a more comprehensive treatment of the role of Afro-Americans in the history and development of the Nation.

8. In order to be aware of the present status of the interpretation of slavery and the history of Black Americans in NPS, the Service should do the following immediately: Develop an inventory of those existing NPS sites where the role of Afro-Americans is included in the existing interpretive programs of those sites;

Identify additional units of the National Park System where the role of Afro-Americans is not now but should be included in the interpretive program of the site;

Identify other sites of national significance, e.g., National Historic Landmarks, which should be included in the interpretive program at units of the National Park System because of the relationship of event or association with the unit of the System.

Identify staff who are deemed to be qualified and proficient by virtue of academic and/or experiential training to develop interpretive materials and serve as lead persons in developing the materials needed by the Service to research, plan and develop interpretive techniques and programs.

This conference report was compiled by committee and submitted to the NPS Directorate on December 21, 1989.

The People

Marie T. Myers

"It was our custom for the old people to instruct the children. That was not like the learning of today, but was what we needed for living in this world. I paid attention to what the old people said. I have always told the truth."

- Yellow Wolf of the Nez Perce

"Where are the Indians? Where are the Indians?" rings through the visitor center as the fourth graders rush outside to put up a tipi. The whoops echo through the hills—hills that for centuries have watched the gathering of roots, deer hunting, salmon fishing, and day-to-day lives of the Nez Perce people. As interpreters we shake our heads and wonder how much these children learned from their experience here at Nez Perce National Historical Park. The curator has done her job—the exhibits are insect free and in great shape. The maintenance crew has done their job—the grass is cut, windows sparkling. But have we, as interpreters, done our job? Have we allowed these children to discover just a bit more about Nez Perce culture or about what "culture" is? Have we perhaps shown them there are more to Indians than what they've seen on television? Most of the time we never know. But we know we must keep trying, especially when constantly faced with encounters like:

Father: Yes, the Reverend Spalding was a remarkable man, to come out here and domesticate the Nez Perce.. the Nez Perce you know, slept their work and hunting at night.

Mother: I see. That must be why their children are so hard to put to sleep at night.

Father: Oh yes.

Or, "They get a check from the government every month, don't they?" And the usual, "Where are the tipis? You mean they don't live in tipis any more?"

Those who interpret Native American cultures are themselves often unprepared to answer questions and face attitudes generated by stereotypes, prejudice, and ignorance. They have to face their own cultural biases and sometimes must learn how to put aside strong emotions.

Through a slow, sometimes painful process, they must become aware of differences in values, beliefs, and ideals between cultures. It is one thing to be able to identify what time period a beaded shirt or cornhusk bag came from, and quite another to draw from those articles some concept of what they meant, or mean, in everyday life and fit them into the culture as a whole.

The interpretation of Native American cultures is an aspect of the interpretive profession that has been sorely neglected in the National Park Service. Front line interpreters are required to explain complex cultural, emotional, and spiritual issues with very little background or training in these areas. Non-Indian interpreters are faced with the challenge of being outsiders, looking in and describing what they see, much of which is not found in books. Native American interpreters are on the inside looking out, deciding how much and to whom they should tell what. Much of that knowledge comes with many years of studying and being part of a culture. But there are things the NPS can and should be doing to give its employees a basic framework of understanding to use when working with native cultures.

The time is now right to establish regular courses on cultural sensitivity and various aspects of interpreting Native American cultures. These could be done either through the training centers or on a regional basis. Interpreters and cultural resource managers need to develop closer working relationships to facilitate more accurate interpretation of not only the material culture, but the intangible, human aspects of native cultures. Those who interpret native cultures need to meet more often and maintain strong networks. Native American interpreters and managers need to begin to speak with one voice on training and employment issues. Through these efforts, enlightened interpretation of objects can lead to a deeper understanding of native cultures. That understanding allows us to touch that part of ourselves that binds us all together.

The school children have left, the hills silent once again. Perhaps, just perhaps, they discovered the message taught by the old people and whispered still in the ancient wind.....

" We are Iceyeeya-Niim-Mama'yac, the Children of the Coyote...

We are Tsup-nit-pelu, the People who walk out of the mountains...

We are Nee-mee-poo, the People..."

Marie T. Myers is the chief of interpretation and visitor services at Nez Perce National Historical Park, Idaho.

Turning Resources into Interpretive and Educational Opportunities

Karen Sweeny-Justice

Park planners had their work cut out for them when Lowell National Historical Park was designated in June of 1978. The once proud and mighty city of Lowell, which had given birth to America's Industrial Revolution some 157 years earlier, was suffering from the effects of high unemployment, slow economy, and urban renewal.

Buildings that once contained hundreds of working power looms producing cotton cloth stood silent, while row upon row of red brick boardinghouses for the young female work force of the early mill era had been bulldozed to make room for parking lots. The efforts of community leaders, anxious to have national park status to save the rich historical and ethnic backgrounds of the city, were successful, and in the intervening years, it has been an anchor to transform the city's resources into interpretive and educational opportunities.

Without question, the most noticeable development in Lowell in the last 12 years has been of the bricks-and-mortar variety.

Historic preservation and economic revitalization have been tied together since the park's beginning, when unique legislation allowed for the development of public-private partnerships. The Lowell Historic Preservation Commission, a separate agency created under the Department of the Interior, acts as the development arm of the national park.

Public Law 95-290, the park's enabling legislation, outlined the amount of land acquisition that could be carried out by the park, while specifically limiting that acquisition to a handful of nationally significant structures within its boundaries. With Federal development limited, private development of historic structures within a large historic district has been encouraged through Commission grants and loans, and has, in fact, leveraged private, state, and local investments. Since 1978, \$45 million of Interior Department appropriations have resulted in total investments of over \$500 million.

Turning abandoned buildings, vacant lots, and overgrown canal banks into a thriving tourist destination spot that attracts over 735,000 recreational visits a year has proven to be an on-going task, one that is still only partially completed.

The Commonwealth of Massachusetts, a major park partner through the Lowell Heritage State Park, purchased rights for Lowell's 5.6 mile canal system and gatehouses that had been left intact through the decades, and are still used today by Boott Hydro in the production of electricity. With the cooperative assistance of the Lowell Plan and Regatta Festival Committee, the national park operates barges in the canal system during the summer season.

Working closely with the park, the Commission designed and funded three trolleys for use on railroad tracks belonging to the B & M Railroad. Built to historic specifications, the trolleys allow interpreters to discuss issues of transportation in both historic and modern Lowell.

Park interpreters lead as many as 32 people at a time along an ambitious "mill and canal" tour route, explaining as they travel by foot, barge and trolley about the history of the city and the people who have lived here. Opportunities to discuss modern methods of producing synthetic cloth abound, as the tour route passes the two factories that are still producing cloth in Lowell today.

Costumed interpreters provide living history demonstrations of life for the early mill workers of the 1800s. In costumes sewn by volunteers, both national and state park rangers interpret the lives and working conditions of mill employees. At the Francis Gate Guard Locks Complex, state park rangers portray Issac and Sarah Page, a gatekeeper and his wife from the time of Lowell's great flood in 1852. While the original gatekeeper's house on the

site is long gone, plans are underway by the state to move the historic Hadley House from the same time period to Francis Gate Park. The house, which is situated on a site now zoned for commercial use, will be moved this summer, presenting a unique opportunity for interpretation.

On hot humid summer days, it is easy to envision the difficulties that mill workers once had. In the historic Suffolk Mill, rangers guide visitors across a mill floor that once contained hundreds of power looms, walking with them under a spinning line shaft that is powered today by the original turbine, just as it was in the late 1890s. At the end of the line shaft stands a working 1901 Draper power loom, threaded with over 1,000 cotton threads, waiting for the ranger to start it in motion.

Today's visitor can imagine how the room felt to the mill workers. The smell of lubricating oil still permeates the air and windows are closed, although today it is for reasons of security rather than to increase humidity to prevent threads from breaking.

Research by preservationists and historians has increased the knowledge we have of the working and living conditions of the 19th and early 20th centuries, and opportunities for oral histories still exist.

At the Mogan Cultural Center, The Working People's exhibit tells the story of both the mill girls and the immigrants who replaced them in the mills. One of two surviving boardinghouses, the 1840s building had been altered for commercial use, but was renovated by the Commission and opened to the public in January of 1989.

Upon entering the boardinghouse, visitors are treated to an audio program that follows them from room-to-room, explaining in the voices of the housekeeper and mill girls the activity that went on here. Rangers on duty explain the exhibit and direct the flow of visitors through the two-story structure. On the second level, the boardinghouse gives way to the Immigrant Exhibit, a multi-image, multi-media visit with some of the more than 50 different immigrant groups who have moved into Lowell.

Outside, finishing touches are being added to Boarding House Park, a development project of the Commission. The park will provide the setting for dance, drama, and ethnic events on an outdoor stage where boardinghouses once stood. Archeologists digging on the site, which served as a parking lot in recent years, have found numerous reminders of mill and boardinghouse life. Wayside exhibits will help to interpret the shards of pottery, spindles, and other remnants of daily life in corporate housing.

The most ambitious project for the park is still a year away from opening, and promises to provide the challenge of interpretation and education for visitors of all ages.

The Boott Mills Museum, to be housed in the park's own Boott Mill Building Number Six, is presently under renovation. When completed in the spring of 1991, the park will have up to 100 power looms displayed on the weave room floor of the mill. Six looms will actually produce cloth, while the others will be in rocking motion. Imagine the experience of walking into a working weave room! Visitors, and employees alike, will be treated to the full sensation of mill life. Not only will rangers and maintenance personnel explain the process of cloth production, but they will produce it themselves right in front of the visitor. The second floor exhibits will trace Lowell's history in the Industrial Revolution and involve visitors in decisions mill workers had to face.

Just a few floors above the weave room will be the Tsongas Industrial History Center. A cooperative venture between the NPS and the University of Lowell, the Tsongas Center serves as the educational arm of Lowell National Historical Park. Center staff and park rangers have already collaborated on curriculum guides for students that encompass the themes of Industrial City, Water Power, and Immigration. The Lowell Industrial Learning Experience, a program for students in the fourth grade through high school, has gone off-site to schools for 10 years. For younger classes, the Farm-to-Factory experience covers the change from an agrarian society to an industrial society, while older students are challenged by immigration and labor activities.

No one knows what the future of Lowell holds. Changes in the downtown business environment, talk of expansion of trolley lines and closures of streets to all but pedestrian

traffic, and the presence of multiethnic festivals will challenge the NPS and the city to uphold its tradition of interpretation, education and preservation.

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A National Center for Heritage Education

Kathleen Hunter

All people have a right to their historical and cultural experience, a right to their **inheritance**. Let me say that again. **All people** have a right to their inheritance.

A sense of heritage is fundamental to the well-being of every individual and group, and a knowledge of that heritage is essential to full participation in society. In a free society, communities, states, and the Nation have a shared interest in an educated electorate that knows its historical experience, and values its diverse cultural traditions. Citizens must possess the skills to learn about their history and culture and the values to protect and respect the heritage of all.

Teachers are the stewards of a nation's heritage. Teachers, whether in the classroom, the library, the museum, the research center, religious or community organization, work place or home, are responsible for transmitting a complete and accurate account of the events, beliefs, values and traditions that have shaped their communities, institutions and governments.

For some time, preservationists, museum educators, site interpreters and citizen groups have recognized the importance of sites, structures, buildings and objects as precious records of our heritage. They want teaching and learning about the history and culture of the United States to include study of the **physical evidence of the past** that is preserved in the natural and built environment and the material culture.

Within five miles of downtown San Francisco, for example, students can trace three hundred years of the history and culture of North America—as well as prehistory. Alcatraz records Spanish colonization and the evolution of penal justice in the United States. Our Nation's response to foreign threats is preserved at the Presidio, shipyards and a nearby NIKE missile base. The Golden Gate Bridge documents the triumph of science and technology. And the Bay itself gives witness to changing values toward our natural environment.

This approach to teaching is often referred to as "heritage education." It is not a new term, or a particularly new approach to teaching. Long in use in England and Europe, the term "heritage education" is now used in the United States to describe a large number of varied educational activities that focus on the built environment and material culture as resources for teaching local, regional and national history. These activities tend to be designed for one-time exposures to the heritage education approach through field trips to historic sites and museums, neighborhood tours or interpretive exhibitions, or special classroom presentations. Presently, heritage education tends to concentrate on the design arts, architecture, and social history.

Within the education community, however, heritage education is not thought of as a specific discipline or subject in elementary, secondary or higher education. It is better described as a multidisciplinary approach to teaching that introduces students to the physical evidence of the past as primary documents of history and culture.

To the extent that the heritage education approach is being used in the schools, it is usually the result of an individual teacher, a principal, or superintendent who has a personal interest in public history and preservation. Such individuals are usually "on their own" in tracking down resources, developing curriculum, preparing instructional materials and organizing learning experiences. It is not a widely-used instructional method. There is not always strong institutional support, and sometimes there is institutional resistance to heritage education as an intrusion into the regular school program. Schools of education and state education agencies do not have a clear understanding of the goals, methods, or values of heritage education, and, therefore, do not address them in teacher preparation or statewide learning objectives.

To some extent practitioners in heritage education share responsibility for the education community's disinterest to date in heritage education. The tendency to focus on the design arts, architectural style and social history limits heritage education's applicability to the overall school curriculum. The preoccupation with the site, structure or object in and of itself, rather than as a document that speaks to the broad themes, issues or periods in history and culture, often means that only those teachers with a special enthusiasm for architecture and the design arts will be inclined to incorporate this approach into their teaching. Also, practitioners in heritage education from preservation groups and historical societies often develop heritage education activities in isolation from the school curriculum, and deliver the activities for a limited grade level outside the regular school program. And finally, there is a great deal of blurriness about what we mean by heritage! It is not a term of art with a specific pedagogical or scholarly meaning. Rather, it is a word applied to everything from a Civil War enactment to a Washington think-tank, to shopping malls, to a glossy magazine. Heritage sometimes implies an elitist exclusivity, rather than our shared and distinctive historical and cultural **inheritance**.

Some heritage education practitioners have been very successful in gaining the support and involvement of teachers and schools in developing heritage education presentations and activities. In almost every one of these instances, their success is the result of integrating the values and principles of heritage education into the broad educational goals and curriculum objectives of their schools and universities.

The National Trust for Historic Preservation and its constituents have been exploring how best to incorporate heritage education into the formal and informal educational programs offered by communities and their schools. Through a series of symposia, reports and incentive grants over several years it became clear to the National Trust that if heritage education was to significantly impact how history and culture are taught in this country, it needed to become a routine approach to teaching a number of subjects in the school curriculum. To make that happen, the preservation community needed to enter into a partnership with the education community to work toward their shared educational goals.

In 1989, the National Trust received a generous planning grant from the Jesse Ball duPont Religious, Charitable and Educational Fund to plan a national center for heritage education. The center's mission would be to support and encourage education professionals and volunteers who are engaged in teaching students of all ages and in many settings about the history and culture of the United States, and preserving the Nation's heritage. As a first priority, the center would focus its support on elementary and secondary education.

The center would be headquartered in the Old School House at Waterford, Virginia near Washington, D.C.—a national historic landmark village under enormous threat from rapid growth and expansion in Northern Virginia. The center's activities would reach out across the country to communities, schools, universities, libraries, museums, and historic sites.

Sixty leaders in education, preservation, academic scholarship, museum education and business met in Waterford and Washington, D.C. for a series of three planning forums between October 1989 and February 1990. The participants were recognized experts in their field, and yet for some this was the first time they had worked on a project with professionals and volunteers from such diverse disciplines and orientations. It proved to be an exhilarating experience to realize how many groups shared common educational goals and recognized the value of heritage education in achieving those goals. The participants also quickly perceived the value of heritage education in helping communities and their schools to achieve their broader planning and development goals: neighborhood stability, civic leadership, citizen bonding, economic health and tourism.

Through the planning forums, the concept of heritage itself was refined. Participants viewed heritage as the collective values, beliefs, traditions and experiences of a people that are expressed through their institutions, communal activities, social structures and work-life, as well as in their writing, arts, inventions, and folklore, and in the physical evidence of the past. The visible, tangible record of a people's history and culture provides the most immediate, powerful and lasting reflection of a people's inheritance. Events that have

changed the course of history and shaped a nation's culture, as well as the particular happening in the life of a community or neighborhood, are recorded at a specific place and time—connecting each generation to those who came before and bringing continuity and orientation to their lives.

Participants in the planning forums expressed strongly that heritage in the United States is the expression of **many** individuals and **diverse** groups. The Nation draws its character, strength, creativity and special texture from both the common cloth that holds the Nation together and the rich threads of community and regional experiences. By preserving tracings of our history found in archeological sites, neighborhoods and communities, we bequeath to those who will come after their cultural inheritance: the labor of our bodies, the creativity of our minds, the triumph and failure of our institutions, our search for security, fellowship, play, enlightenment and inner peace.

"Cultural diversity," and a wholistic perspective on the heritage of the United States pervaded all the planning discussions. There was, for example, a reluctance to distinguish pre-history from history in the United States, but rather consider human settlement on this continent as a continuum. There was recognition that the natural environment can be as powerful a culture-bearer and historical document as the built environment or material culture. And there was consensus that heritage required a multidisciplinary approach to scholarship and teaching that integrated knowledge, skills and values in the learning experience.

The planning forums resulted in an affirmation of the values and principles of heritage education that placed it at the center of curriculum goals for most states and school districts—professionals and volunteers engaged in a community-wide approach to learning about the history and culture of a neighborhood, community, region or state. Together, schools, libraries, museums, civic groups, religious organizations and businesses identify their historical and cultural resources, study their heritage, and develop interpretive programs that can become a part of their formal and informal educational programs. Heritage education can broaden the learner's command of facts and concepts about history and culture, provide practice in the basic skills of reading and math, strengthen critical thinking skills, and encourage the learner to move from idea to action— from recognition of one's heritage to stewardship for that heritage.

The planning process for a national center concluded with a set of five goals: create a national focal point for heritage education, establish an information clearinghouse, train education professionals and volunteers, encourage and support education programs and practices, and prepare educational materials for heritage education.

The center will carry out the National Trust's heritage education program. The center, however, will operate under an independent board that reflects the partnership among many groups with a shared interest in teaching and learning about the history and culture of the United States and preserving the Nation's heritage. Implementation of the center will begin in spring 1990. Current plans call for a small start-up staff to operate a core information clearinghouse program beginning fall-winter 1990. The center's outreach capacity will expand as the center's funding allows.

Kathleen Hunter is director of education initiatives at the National Trust for Historic Preservation.

Dogwatch

The Importance of Sailing

James P. Delgado

"Dogwatch" is the term traditionally used for the two-hour watch during which half the ship's crew eats supper and swaps stories.

Among the more popular museum programs are those that demonstrate the workings of rare or vanished technology. Blacksmiths, coopers, glassblowers, handweavers working their looms, and basketmakers offer unique perspectives on the past, for they make otherwise dead artifacts and sites come to life. Similarly, working waterpowered gristmills, such as the Colvin Run Mill in Virginia, or the occasional forays under steam of the National Museum of American History's 'John Bull,' the Nation's oldest railroad engine, allow the visitor, as well as the scholar the opportunity to assess and understand forgotten or "lost" technologies and their impact on our culture.

Increasingly, this lesson is being applied to maritime preservation. Of the approximately 275 historic vessels being preserved in the United States, 71 are sailing craft. This includes 10 square-riggers. These square-riggers epitomize the apex of sailing technology, with dozens of sails and hundreds of lines that work in a complex and yet compellingly simple fashion to capture the wind. Their day is now past, replaced by the steam and diesel engines, turbines, and nuclear power plants that drove and continue to drive the world's merchant vessels and naval fleets. Now most of these ships rest at dockside, stripped of most of their running rigging and sails, the working of their sails and men relegated to reminiscence, photographs, or films. Only the Coast Guard bark *Eagle*, built as a sail training ship for the German Navy in the 1930s, provided a sense of the square-rigged era. Rare and irreplaceable, America's square-riggers journeyed only to the shipyard for dry-docking and repairs; a few spread a small show of canvas for interpretive displays such as Mystic Seaport's *Joseph Conrad*. In 1986, however, a major event in the history of maritime preservation in the United States, if not the world, took place. The restored 1877 bark *Elissa*, product of years of hard work and initiative, sailed past the Statue of Liberty in the Tall Ships parade celebrating the statue's restoration.

Elissa is a unique vessel in the history of American maritime preservation. She is the second oldest operational sailing vessel in the world and one of three oldest merchant vessels still afloat, surpassed only by Britain's 1869-built *Cutty Sark* (actually in a dry berth) and *Star of India* (1863) on display in San Diego and occasionally sailed around San Diego harbor. One of 10 historic square-rigged vessels preserved in the United States, only she and *Eagle* regularly sail. *Elissa* alone is regularly open and accessible to the public, who not only are able to watch the ship but are allowed to participate as working crewmembers, providing a compelling, unusual and special perspective on square-riggers, maritime culture, seafaring, and maritime preservation. Instead of sitting idle at a wharf, interpreted solely by exhibits, photographs, and demonstrations, *Elissa* works as she was intended to do, sailing, and in doing so keeps alive square-rigger technology, maritime lore, and the language of the sea in a real, working context that deeply instills an understanding and a sense of the maritime past to all who sail aboard her.

Elissa was built in Aberdeen, Scotland in 1877, and named after the owner's niece. She spent the next 93 years working as a "tramp steamer" to numerous world ports under a variety of names and flags. *Elissa* also underwent several physical transformations, ending up in 1970 as a schooner-rigged motorship named *Pioneer* owned by Greek smugglers. Laid up at Pireaus, Greece, the vessel was slated for scrapping when rescued by concerned

maritime preservationists. Between 1975 and 1986, the motorship was returned to her square-rigged glory, with renewed hull plates, decks, and a completely restored rig.

Elissa was built and originally rigged with a three-masted bark rig. A three-masted bark rig is a square rig with crossed yards on the fore- and mainmasts and a fore-and-aft gaff rig on the mizzen. The lower masts were iron, as were the main yards. By 1977, when restoration commenced, the bark rig had been cut down and fore- and mainmasts removed. The mizzenmast was removed and stepped as a cargo-handling mainmast around 1967.

Restoration of the ship's original rig involved fabricating new welded steel lower fore- and mizzenmasts, bowsprit and lower yards, and milling Douglas fir topmasts, topgallant and royal masts, lower topsail, topgallant, and royal yards, and spanker boom and gaff for the mizzen. The ship was rerigged with wire rope standing rigging and a new suit of sails was made. *Elissa* carries 19 sails with a total area of 12,000 square feet; an outer and inner jib, foretopmast staysail, two main staysails, and two mizzen staysails are rigged from bowsprit to foremast and between the main- and mizzenmasts. The fore- and mainmasts each carry a main sail (known as the foresail on the foremast), lower topsails, upper topsails, topgallants, and royals. The mizzenmast carries a gaff topsail and a spanker. The mainmast towers 102 feet above the deck; the mainyard is 57 feet long.

It is into this working assemblage of 19th-century technology that *Elissa's* volunteer crew goes to work. The volunteers earn the privilege of sailing the bark after a 12-14 hour training course and 40 hours of maintenance work on *Elissa*. Twenty to twenty-five crew members sail *Elissa* on her annual daysails, which range from five to six miles off Galveston, and on her more protracted voyages, which began with the 1986 trip to New York, and recently included a wide-ranging tour of Gulf ports. Peter Brink, former head of the Galveston Historical Foundation, *Elissa's* owners, and now Vice President of the National Trust for Historic Preservation, explained the essential quality of *Elissa's* contribution to maritime preservation.

Each year 50 to 70 volunteers gather to undergo a rigorous course of sail training; learning the 162 lines and pin-rail diagram, knots and line handling, sequences and commands for raising and lowering sail, coming about, and, especially, working aloft. To a landlubber the experience of climbing up the shrouds, over the top and crosstrees, and then out on the yards, delicately balanced on the foot rope and at least one hand tightly gripping the jackstay, is both terrifying and exhilarating. Only with the caring support of experienced volunteer crew members do beginners overcome the initial fear, and, step by step, repetition by repetition, learn to work aloft with a sureness, composure, and pride that would have seemed out of reach on the first venture up.

Maritime endeavor shaped American culture and the national spirit. Walter Cronkite speaks to that spirit in "Maritime America: A legacy at Risk." Sailing before the mast instilled and reinforced values such as self-reliance, self-determination, rugged individualism, and success in the face of adversity. The preservation and use of that vanishing technology reinforces those values and in the end, best illustrates the true significance of maritime culture in American history.

Preservation Technology Update

Rising Damp in Historic Buildings II: Case Studies

Sharon C. Park

This is the second of a two-part series on rising damp in historic buildings. The first article appeared in the last issue of the *CRM Bulletin* (Vol. 13, No. 2) and discussed how to identify rising damp and the range of treatments available for its control. This article will discuss two National Park Service projects that have used modern techniques to treat rising damp in historic buildings. Special thanks is given to NPS staff who provided information on the projects: Doug Hicks, Williamsport Training Center; Barry Sulam, SWRO; and Rene Cote, SERO. Research for this series was sponsored by the Horace M. Albright Employee Development Fund.

Rising damp in America is **generally** found in coastal areas. It is a condition whereby excessive ground moisture is wicked up, by capillary action, through porous masonry foundation walls often creating serious damage in historic buildings. Rising damp is only **one form** of moisture entering buildings, and in order to effectively control damaging moisture, the source of that moisture must be identified. For that reason alone, a knowledgeable historical architect, engineer, or other specialist should evaluate a building before any remedial treatments are specified.

If through moisture monitoring or other testing rising damp is diagnosed, there are a number of treatment options. Ground moisture can be removed or diverted (see photo 1); natural ventilation can be enhanced, artificial ventilation or dehumidification can be introduced into buildings to accelerate vaporization of moisture in walls (see photo 2); or the capillary action of moisture can be halted by the introduction (or repair) of a physical membrane (see photo 3) to create a waterproof barrier known as a dampcourse layer. Modern dampcourse layers can also be drilled or injected into a masonry wall, but this approach is invasive to the historic building. Treatments range from basic "common sense" maintenance to invasive injections into the walls. This article will focus on two "radical" approaches to controlling rising damp; in both cases they appear to have been effective, **although the decision to use these treatments for other historic buildings should not be made without first considering other, less invasive options for moisture control.**

The two case study projects are the Rene Beaugard House, Jean Lafitte National Historical Park, New Orleans, LA, and the Principal Keeper's Quarters at Cape Hatteras National Seashore, NC. Both buildings had documented cases of rising damp due to a high watertable condition. In both cases, water impermeable dampcourse layers were inserted into the foundation walls to stop the upward migration of moisture. Both properties had structural damage as a result of rising damp and major repairs were necessary. The dampcourse layers were inserted to arrest future damage to the replacement materials. At the Beaugard House, waterproof cement grout was packed into the base of the walls and columns; at the Principal Keeper's Quarters, chemical resins were injected under pressure into the brick foundation walls. Care was taken in the installation of these damp course layers to avoid the visual disfigurement that can result from drilling into historic materials.

Beaugard House, Jean Lafitte National Historical Park, New Orleans, LA

In 1979-1980, the Rene Beaugard House was restored and is currently used as a visitor center for the Chalmette Unit of the Jean Lafitte National Historical Park, six miles from New Orleans. Due to the high watertable, high rain levels, and the high humidity of the

region, the house had suffered serious moisture damage. The remedial action at this property appears to have been successful as evidenced by over 10 years of continuous monitoring (see photo 4).

The Rene Beauregard House, a two-story brick plantation house, was built about 1830 on the site of the Battle of New Orleans. The house was remodeled in 1850 using many Greek Revival elements, but the property was abandoned prior to its inclusion in 1939 as part of the Chalmette National Historical Park. It is located close to the bank of the Mississippi River, and features a plan and details typical of architecture of this hot, humid region. Each level has three open rooms joined by doorways, and cross ventilation from large windows and doors off of the two-story colonnaded porch which runs across the north and south facades. The house was plastered on the inside and stuccoed on the outside to resemble scored stone blocks. In 1950, the original first floor was replaced with a concrete slab with a paved facing. An expansion joint isolated the floor slab from the exterior bearing walls. Both the interior plaster and exterior stucco were renewed as part of the 1950s restoration.

The building has had a long history of moisture problems. In 1926 the course of the Mississippi was changed with the construction of a levee. This put the water table of the ground at only 14" below the first floor of the building. Ground water was steadily drawn into the brick walls and exterior columns. Although extensively renovated in 1950, the building was found in 1973 to have serious structural damage as a result of rising damp. Paint could not be kept on interior plaster due to moisture in the walls. Second floor cypress beams and flooring were seriously decayed from moisture that appeared to rise through the masonry walls and columns. Although rising damp is usually confined to the first 3' or 4' of elevation above grade, due to the dense cement stucco applied in the 1950s, the walls of the building could not dry out. In addition, the concrete slab installed in 1950 probably increased the hydrostatic pressure on the porous brick foundation walls. Not only was there no easy way for the moisture to naturally vaporize to the exterior surfaces, but there was tremendous pressure forcing ground moisture into those walls and columns. Moisture was, therefore, traveling higher up the brick walls and columns than is normally associated with rising damp.

Moisture meter reading in 1979 verified that the foundation walls and brick columns were saturated and wicking water from the ground. At times the moisture in the second floor framing had been above 22%, causing dry rot fungus in the structural porch beams. The rising damp moisture also carried salts that had contaminated some of the interior plaster. In order to begin the process of controlling moisture in the walls, the interior plaster was removed from the first floor up 31'-1" and remained off the walls for a period of over a year to facilitate the drying of the walls.

After consulting with the NPS Southwest Regional Office (SWRO), a plan was devised to halt the rising damp, and work was undertaken. The 16" thick bearing walls were dampcoursed using a technique of overlapping drilled holes filled with waterproof cement. This technique, often referred to as the Massari system, was described by Mr. Giovanni Massari in the 1967 report on the *Conference on the Problems of Moisture in Historic Monuments* sponsored by the International Council of Monuments and Sites (ICOMOS) and held in Rome, Italy. Using the Massari concept of interlocking cores, 1 1/4" diameter holes 10" apart were drilled just above the brick pavement level at the Beauregard House. Using high powered drills with carbide bits, the holes were drilled around the perimeter of the building and then filled with a commercially available waterproof cement product. After each hole was filled and tamped, another series of holes, 10" apart, was drilled 2" from the first hole. The alternate drilling of holes was to ensure that the structure was not undermined. Eventually the entire perimeter with interlocking holes filled with waterproof cement was completed (see photo 5). The columns were similarly dampcoursed.

A few problems were encountered during the work, which began in March of 1979 and continued until the end of June, 1979. In order to ensure that a complete horizontal membrane was created, special care had to be taken to circumvent conduits and cast iron

grilles in the wall. An air conditioner conduit and bell pole on the east side were reached by removing bricks and grouting around these features. The cast iron vent grilles, now purely decorative due to the concrete slab on grade floor, were removed and holes drilled and filled on the edge and bottom of the grille locations. These elements were properly replaced in the historic walls. There was some damage to corner bricks which were jarred loose by the vibrations of the drills. As the exterior stucco, particularly in areas covering drilled holes, was to be selectively replaced, these corner areas were repaired and restuccoed.

In addition to a few problems with the drilling, there was some initial concern with the grout mixture that was to be installed in the holes. As this was a relatively early project involving dampcoursing, a number of products were tried. Due to the wet environment of the coastal area, even in summertime, a hydraulic, or water-curing, mix has to be developed. The initial mix was to be of sand and cement (4:1) mixed with a waterproof compound, but this still allowed moisture to penetrate. Water-resistant fast-setting cement was also tried, but it dried too quickly. The product selected was a waterproof cement with a slower cure time, about five minutes. This allowed two people to fill the holes; one to mix small batches of the cement and the other to clean the hole of dust and debris and to place and tamp the mixture into the hole.

At the time that the holes were drilled, 22 moisture cells were imbedded in the masonry wall above the dampcoursing. After the dampcourse layer was in place, these cells could be periodically monitored for the moisture content of the wall (see photo 6). The moisture probes did show that the moisture content of the walls was substantially reduced after the installation of the dampcourse layer. The exterior stucco was repaired and the interior plaster replaced so that the disfiguring holes are no longer evident.

In summary, after 10 years in place, the dampcourse layer created by the interlocking cores filled with a waterproof grout in the foundation walls and columns has effectively controlled the moisture from rising damp.

Principal Light Keeper's Quarters, Cape Hatteras National Seashore, North Carolina

In 1985-1986 the historic light keeper's quarters were rehabilitated after evidence was found of serious deterioration from moisture rising from the foundation walls. The discovery of moisture problems was not surprising as the building often stood in water up to the first floor line in the aftermath of storms along the North Carolina coast.

The building was constructed in 1870 as a 1 1/2 story brick and frame building with additions, including a second floor, constructed in the 20th century (see photo 7). The interior of the building was substantially altered in 1937 in part due to the deterioration caused by chronic moisture problem. In 1985, the investigative work undertaken by the Southeast Regional Office (SERO) of the NPS revealed extensive moisture damage to the brick foundations, wooden floor joists, wood flooring, and balloon frame elements around windows and doors. The collection of moisture at the base of the building was attributed to a number of factors. The exterior grade had shifted over time raising the grade 12"-18" above the crawl space, thereby rendering ineffective the ventilator grilles. In addition, debris and erosion under the house had created areas for ponding and stagnating of water. The gutters and downspouts were not seat pockets of the soon-to-be-replaced floor joists.

The chemicals were injected under pressure using a small gas engine and compressor. Multiple ports could be saturated at one time (see photo 8). It took much of a day and through the night for a crew of three to fully treat the building perimeter with approximately 200 gallons of fluid. The work was done in January 1986, and although the weather was dry and 40° F during the day, there were electric heaters on the site in the event that they would be needed in colder weather. After 14 days of curing, the port holes were filled with a preapproved cement mortar and the floor joists were replaced. effective in handling rain water. The first floor joists in the original 1870s section had lost substantial bearing at the foundation wall due to fungal rot caused by damp in the masonry foundation wall. The

wood subflooring was found to be 75% deteriorated. The level of rising damp was at 2' to 3' above grade and affected the lower portion of every first floor joist.

It was determined that the deterioration of the floor joists was due in part to the lack of a moisture barrier between the brick foundation walls in a moist environment and the seat pockets for the floor joists. As part of the extensive rehabilitation needed throughout the building, it was determined that the brick foundations would be repaired, a dampcourse added, and the floor joists and flooring replaced.

A chemical dampcourse contractor was selected to prepare a proposal for the dampcoursing of this structure. Because of the wet marine environment, it was determined that special attention would have to be paid to the type of chemicals injected just under the location of the new joists. Samples of brick and mortar were removed from the building and sent to the laboratory for absorption testing. If the chemicals could not be fully absorbed into the masonry to create a water impermeable layer, then the treatment would not be effective.

Samples of the historic brick and mortar were tested both wet and dry. The samples were placed on a sponge that had been saturated with the chemical (a silicate compound with aluminum stearate in both a water and an alcohol carrier) and allowed to be in contact for 24 hours. In order to simulate actual conditions, one sampling of bricks was soaked in a saline solution prior to being tested for further absorption of the chemical. In all cases, the bricks absorbed the chemicals well and once cured (14 days) they were further tested for water repellency. The bricks were 93% effective in repelling moisture, but still allowed trapped moisture to migrate. The greatest depth of penetration (42 mm) was found in using the alcohol carrier in the already wetted bricks. As such, this was the type of chemical solution selected for injection into the masonry foundation walls.

In order to avoid unsightly drill holes, it was specified that the holes were to be drilled from the inside of the building. As the rotted floor joists were being removed, it was possible for the installer to work from the floor of the crawl space. The holes were drilled in the masonry joint line 6" to 8" above the exterior grade in an almost horizontal direction to within about 2" of the exterior wall. This resulted in a drill length of approximately 16". The 3/4" holes were 5" apart. It took two men approximately one day to drill the holes through the mortar layer one course below the seat pockets of the soon-to-be-replaced floor joists.

The chemicals were injected under pressure using a small gas engine and compressor. Multiple ports could be saturated at one time (see photo 8). It took much of a day and through the night for a crew of three to fully treat the building perimeter with approximately 200 gallons of fluid. The work was done in January 1986, and although the weather was dry and 40°F during the day, there were electric heaters on the site in the event that they would be needed in colder weather. After 14 days of curing, the port holes were filled with a pre-approved cement mortar and the floor joists were replaced.

In summary, after three years of monitoring and site visits by the SERO historical architects, it appears that the chemical dampcoursing has been successful in stopping the capillary migration of moisture in the brick foundation walls. The new floor joists have remained dry and the upper masonry walls have successfully dried out. A furnishings plan is being developed and the building will soon be used as a museum interpreting the life of the light keeper.

An alternate approach for this type of project—where there is access to both sides of the wall, the bricks are evenly coursed, and there are no buried electrical cables in the foundation wall—would be the installation of a physical membrane, such as heavy, web reinforced polyethylene sheeting used in Great Britain. While this system does not appear to have been used in this country, it has been used abroad for some time and is described in the first article in this series. With a physical membrane that can be visually inspected at the time of installation, there is assurance that there is a complete barrier to the capillary action of rising damp.

Cautions and Concerns in Treating Rising Damp

Diagnosis

Rising damp should be properly diagnosed, using moisture probes or samples **to the core** of the foundation wall. Other moisture problems, such as lateral surface damp, or direct moisture penetration through poor mortar or openings around windows, or high humidity and interior condensation, will not be solved using rising damp remedial treatments.

If possible, moisture monitoring should be undertaken for a period of one year to establish whether there is chronic rising damp or seasonal rising damp.

Visual inspection or inspections by company sales representatives without supporting laboratory data should not be relied upon. A team of people, including building owners or managers, architects, contractors, maintenance staff, should be involved in the project from the beginning.

In addition to moisture monitoring, data should be established about the type of construction and the performance of the existing building materials and systems. For example, are the walls constructed with a cavity, and are the materials evenly coursed? Are there waterproof coatings, vinyl wallpapers, or other finish treatments that may be exacerbating the rise of moisture within the structure? This data will be crucial in determining the appropriate remedial treatments.

Treatments

Always ensure that basic maintenance (good site drainage, cleared gutters and downspouts, etc.) and conservative preservation practices (selective repointing, footing drains, ventilation) have been followed before considering invasive treatments to control rising damp.

Choose the least radical treatment that causes the least physical disruption for controlling damp in a building. Avoid untried or unproven systems promoting the complete cure of rising damp (ceramic capillary venting tubes, copper tape electroosmotic systems, etc.).

Treatments that involve removing, replacing, encasing, or altering the composition of **significant** historic materials in a non-reversible way should not be undertaken.

Methods that involve chasing, cutting, or drilling into already weakened historic materials may cause permanent structural damage. In addition, undetected cables, metal reinforcements or structural elements may be damaged in the process of treatment.

Remedial treatments that involve drilling and injection from the exterior surfaces of brick or stone may be disfiguring and may alter the historic character of the historic resource.

Chemical injection treatments may not be effective if a continuous membrane is not created within the wall. It is almost impossible to assure that there has been 100% coverage. In addition, care must be taken that the dampcourse layer is not bridged by plaster, stucco, brick pavers, or other materials in direct contact with masonry above and below the treated area. For that reason alone, physical dampcourses, with lead or polyethylene sheeting, are preferable to chemical dampcourses.

The nature of each building material within a historic property should be understood as well as the repercussion on any new treatment. For example, in adobe, if a dampcourse layer is installed, will the area under the dampcourse remain too wet and the area above too dry? Will there be adequate ventilation in a crawl space once dampcoursing has been completed to ensure that the moist brick foundation doesn't just crumble away?

Walls above grade should be left as "breathable" as possible after treatment to avoid trapping salts or condensation within the walls. While some vapor-permeable clear wall coatings, or sealers, are often recommended by contractors as further treatments for moisture, these should be avoided. If salts are trapped in sealed walls they may need periodically to be poulticed whereas if the walls are left alone, efflorescence can be brushed off as part of routine maintenance.

Interior plaster and paint should not be applied too quickly after dampcoursing. It takes approximately one month for every inch of masonry wall thickness to dry out (16"=16

months). For walls in humid or damp climates, added dehumidification or heat may be required.

Conclusion

In discussing the issues of rising damp among experts in the field, it is apparent that a number of properties have major moisture problems that have not been properly addressed, either in restoration proposals or in maintenance plans. We, as cultural resource managers, preservation architects, and others concerned with the protection of historic buildings need reliable information on techniques that have worked or failed. The two case studies illustrate "radical," invasive treatments that appear to have been successful. It is interesting to note that both were second attempts at solving rising damp problems in historic properties that were previously modernized. In both buildings, however, there is a need to continue to ventilate the interiors due to high humidity and occasional flooding. As with any remedial work, continued maintenance and monitoring is critical to ensure the long-term preservation of the resource.

Sharon C. Park, AIA, is a historical architect with the Preservation Assistance Division, NPS, WASO. She can be reached at FrS or (202) 343-9584 for those wishing to pass on interesting case studies illustrating preservation technology in historic buildings.

"Bird-Proofing" Buildings

Bird Control for Historic Buildings

It is a known and little-argued fact that many birds are more than just a nuisance to owners and managers of historic buildings and monuments. In addition to the mess they can create, some birds and their droppings, specifically pigeons, can carry diseases such as cryptococcosis and histoplasmosis that can be potentially fatal to humans. Droppings can also harm historic building materials. As most people are aware, there are a variety of bird-repellent products available on the market that are designed to deter birds from landing, perching or roosting on architectural features of buildings, as well as on statuary, lightposts, signage and other structures.

Bird control products run the gamut from highly technical sonic devices to simpler approaches involving artificial snakes and owls used by gardeners to ward off garden pests. Stainless steel metal strips with spiky protrusions represent one type of bird control device. These strips are intended to deter birds from landing or perching on a horizontal, curved or angled surface. But the strips must be correctly installed to be effective. Too many strips too close together will have the opposite effect of that desired by creating a suitable surface for birds to land, and conversely, too few strips placed too far apart will also allow room for birds to perch. Installation of these strips usually requires drilling holes in the building fabric in order to insert posts which are attached to clips which hold the metal strips in place.

Repellent gels can be applied to a surface that will make it uncomfortable for birds to land; some gels radiate a sense of heat, and others are very sticky. Gels can be applied directly onto a building surface, but in the interest of removal at some future time, manufacturers often recommend that a water-repellent coating or clear sealer be applied to the building surface first before applying the gel so that the gel does not penetrate into the building material.

Sonic devices can be installed that emit an erratic and harassing pattern of high-pitched sounds to which birds, as well as some other small animals, are very susceptible. Low-voltage electric wires can also be installed that will ward off birds by giving them a slight shock, but not killing them.

Plastic or polypropylene netting is another bird control measure designed to be, if not invisible, at least as inconspicuous as possible. It is available in several "neutral" colors, usually grey and beige to blend in with stone or concrete, a deep red brick color, and white or black. Like these other products, netting is only suitable for use in certain places, and often where other bird control measures do not work, such as areas under eaves, rafters, sculptural pediments or balconies which can be completely closed off to birds.

The U.S. Capitol, for instance, uses a combination of netting and low-voltage electric wires to deal with its bird problem. Of these two methods, the netting installed around the entire West Central Portico is considered to be the more successful, and less intrusive solution to the bird problem. However, the netting completely encompasses the portico, and although the portico can be entered from the interior of the building, the netting prevents outside pedestrian access to the portico. However, because the portico is situated on a hillside and there are no steps, what would otherwise be limited access is not a problem here since the portico is not accessible anyway from the exterior or the Capitol grounds. The netting is barely visible because the portico is generally viewed by the public from a considerable distance.

Similarly, but on a simpler and less sophisticated scale, metal or plastic screening is often used like netting to protect open eaves and gable ends from bird encroachment.

Artificial owls made of plastic, and rubber snakes have often been deployed to ward off bird invasion. In truth, however, their success is very limited. Unless they are moved around with some frequency— something not always easy to do in inaccessible areas high

off the ground—birds soon realize that these "predators" do not move, and quickly adjust to co-existing in close proximity with them. Another related type of bird-control product seemingly based on the scarecrow concept is an inflatable, balloon-like device imprinted with staring-eye shapes in bright colors. Their effectiveness is probably limited to quasi-open areas such as a belltower where the device can be hung to swing freely in the wind.

Some species of birds are so despised, most notably starlings, and pigeons which are often referred to as "flying rats," that many historic building owners and managers would be happy to avail themselves of a poison to rid their buildings of this menace. Most such poisons are considered to be controlled or hazardous substances, and thus not available except to licensed pest exterminators. Perhaps most encouraging in the area of bird control may be a type of "birth control" pellets which can be added to food the birds eat. This may be a fruitful area for future research, but finding completely effective solutions may require extensive research into all aspects of birds' instinctive behavioral habits.

As noted above, all of these bird control methods have their drawbacks. These range from the ineffectiveness of many of them, to concern about the amount of damage done to the building fabric, especially historic stone and brick, in the process of installation which frequently involves drilling holes in masonry to support netting, metal strips or wires. Inevitably, the question arises—"Is the cure worse than the problem?" The answer will probably depend on the severity of the bird problem. A decision concerning which method will be best to use in a particular situation can be made only after careful study of the problem, the building or structure itself, and the various bird control devices available. Final selection of a particular method may also require testing. What works on one building may not work on another, and what works on one portion of a building, may not be as effective on another part of the same structure.

Federal and state-owned buildings and monuments are not alone in suffering from bird damage. The defacement of historic, and non-historic, buildings and monuments caused by birds is a problem faced by all building owners and managers. Approaches to bird control used at the U.S. Capitol have already been mentioned here. The Lincoln Memorial is plagued by a pigeon problem of such proportions that the marble floor and the Lincoln statue itself must be washed daily in order to rid them of the bird droppings. Although a certain amount of regularly scheduled cleaning or washing represents good maintenance practice for marble, daily washing is much too frequent, and as a result, it is actually wearing away the marble. In an effort to address this severe problem the National Park Service has hired a team of experts to study the matter. Based on their analysis, they will recommend suitable bird control measures to be undertaken, and will monitor the effectiveness of a variety of devices to be installed at the monument this summer. As soon as testing is underway, and results have been gathered, we will endeavor to make them known to the readers of the *CRM Bulletin* in a follow-up report to be published here. In the meantime, because bird control is such a prevalent and challenging problem, "Preservation Technology Update" would appreciate receiving information on this subject, relating any experiences, positive or negative, that you or your agency may have had in dealing with the various methods of bird control.

Society For Industrial Archeology

Emory L. Kemp

Nearly 20 years ago the Society for Industrial Archeology was formed at the Smithsonian Institution. In June of 1990 we held our 19th annual meeting in Philadelphia. Although it was inspired by earlier development of the field in Britain it originated under rather different circumstances. Industrial archeology in Britain began as an interest among amateurs, on the local level, to be involved in the history and preservation of industries associated with Britain's industrial revolution. It was some years before these disparate local societies formed a national institution. In contrast, the Society for Industrial Archeology was formed on a national basis from the beginning and only later established local chapters. Its membership also varied from its British counterpart. Currently, nearly a third of the membership of the SIA is composed of professional historians, archeologists, engineers and other related professions who are largely employed outside academia, in museums, historical societies and other public history activities. Another third of the membership is composed of those who have had experience in industry, either as workers or engineers in particular companies. The remaining third of the membership is composed of an eclectic group drawn into the field out of general or particular interest in some facet of industrial archeology. Thus, in both Britain and North America, the newly emerging field of industrial archeology, with few exceptions, has not found a secure home in higher education.

The Society for Industrial Archeology promotes the study and preservation of the physical survivals of our technological and industrial past. As a society we sponsor field investigations, archival research, site documentation and wherever possible the dissemination and exchange of information on all aspects of industrial archeology. This dissemination includes publications, conferences, field trips, and preservation activities. It is important to note that the word archeology in the title of the organization is intended to emphasize the concern for the artifact and the historic site. The Society encourages the study, interpretation and in selected cases preservation of historically significant factories, machinery, bridges, canals, and related industrial communities, and an increasing emphasis on documenting industrial processes associated with our industrial past.

The Society for Industrial Archeology, although centered in North America, is open to all interested in the study and preservation of our rich industrial past.

The principal activities of the national society are four fold: namely, the journal, *IA*, issued to members twice a year; the Society for Industrial Archeology Newsletter; the annual Conference; and the fall tour. A number of chapters have been formed in recent years to offer a variety of activities for members including seminars, field trips, and publications.

Membership applications and details of the Society can be obtained by writing to the Society for Industrial Archeology, Room 5020, National Museum of American History, Washington, DC 20560. The current membership is \$25.00 for the individual, \$30.00 for couple and \$20.00 for full-time students.

Dr. Emory Kemp, professor of history at West Virginia University, was president of the Society for Industrial Archeology for the past two years.

Computer News

Report for a New Decade: The State of Information Management in Cultural Resources

Betsy Chittenden

This issue's column is an excerpt from a report I recently prepared for the Associate Director, Cultural Resources. The report outlines what I saw to be the current state of information management and computer-related matters, challenges for the 1990s, and my recommendations for meeting these challenges. Although the report was written largely from the perspective of WASO cultural resources divisions, from the response I have gotten thus far it appears that many of these situations may be common throughout the Service.

As I emphasized to the Associate Director, the one certainty is that changes are coming fast—for cultural resources, for the Service, and for the Federal Government as a whole. The future is filled with complex technology, but also with opportunities for new tools to preserve our heritage. As collectors and distributors of information about cultural resources and their management, we have always had information management as an important function; in the future, effective information management will require the effective use of modern technologies. Moreover, automation is changing the way in which we work, and the nature of the work that we do. As managers, we need to do some thinking and planning about how we will adapt to the new environment and continue to fulfill our mission. My strongest recommendation was that we be pro-active and plan for the future, rather than be reactive and let the changes shape us without our thoughtful involvement.

I welcome hearing from you about these issues—how they relate or do not relate to you; which ones seem more or less important; what you see coming that isn't here; what we can all do about it. Happy new decade, and here's to working together to shape a new NPS for the year 2000 and beyond! —BC

Excerpt from the WASO Cultural Resources 1989 End-of-Year Report

The term "information management" means the way in which we use information to support our mission. The activities of information management include information gathering, allocation, organization, storage, and retrieval. They include how we view our information, who has access to it, to whom we distribute it, how it enters into our decisionmaking process, how it affects—and is affected by—our programs and policies. Information management is not a shorthand for "computers," although it is computer technology that has made large scale information management feasible. In other words, computers are the tools that support our information management activities, that in turn support our mission. Thus, discussion of the logistics of operating in a computerized work environment is inseparable from a discussion of practicing information management. Both information management, and the management of its supporting computerized work environment, are discussed here.

Information Management Issues

An increasing portion of the work of the Cultural Resources directorate will be to maintain and manage information management systems. The mix of staff skills and the orientation of management must change to reflect the increasing importance of these information management functions in accomplishing mission and program goals.

The information collected and maintained by the Cultural Resources programs will increasingly be considered as a valuable corporate resource in and of itself by management, by the public, and by policy and lawmakers. Managers will be held more accountable for the quality and accessibility of their information and their information management techniques.

The demand for information in electronic form, both in the government and non-government sectors, will continue to increase in the next decade, and distributing data electronically will need to become as routine and institutionalized as producing and distributing written publications.

The Cultural Resources programs are already heavily involved in information management activities, particularly in the area of information collection and storage. Systems such as the LCS, CSI, NRIS, NADB, and ANCS, are major information collection projects, as are the state survey and inventory programs. The programs are becoming increasingly involved in distribution of information in electronic form. Distribution of information electronically is a complex task that requires coordination of a number of legal, security, cost-sharing and other issues, involving a number of NPS and other government offices. It also requires new skills and a re-orientation on the part of cultural resources management and staff.

Many information systems in WASO cultural resources are now permanent tools for fulfilling missions, even to the point of becoming institutionalized in NPS policy documents. However, the funding and staff support for these systems in most cases remains barely adequate for development and maintenance, and many are still dependent on temporary or term staff appointments, on contractors, and on work done by staff with other primary responsibilities.

GIS (geographic information systems) is becoming a basic resources and land management tool at all levels of government. GIS provides truly new capabilities that have the potential to change both information collection and management in cultural resources.

Computerized Office Environment

Microcomputers are already an integral part of the cultural resources offices in WASO, used routinely by staff at all levels—clerical, professional, and managerial. The majority of word processing in Cultural Resources is currently done on microcomputers, and remaining dedicated word processors are being phased out. Microcomputers are also used for communications and file transfer, desktop-publishing, research, analysis, mapping, drafting, and other tasks.

Daily life at the NPS will become increasingly automated in the next few years, with electronic mail becoming routine, and increased automation of standard forms and reporting functions. Internal documents will increasingly be required in standard electronic form.

The level of computer literacy of all staff will need to improve in order to simply survive in an environment dependent on computers both in the immediate workplace and in the larger working world. Specialized skills will be needed to take full advantage of the opportunities computers provide. New procedures must be developed for managing work and electronic "paperwork" in a computerized workplace. These include procedures for correspondence, recordkeeping, and internal control.

Managers will need to do more advance planning in their new roles as information systems managers, and as office workers dependent on computers. Computers and information management systems need cyclical replacement and upgrading, and every change requires commensurate staff training. The relatively short life cycles of computer systems, combined with long budget cycle lead times and long development and implementation schedules, means that managers must continually be planning several years ahead. New technologies will continue to evolve that can be used in cultural resources—for example, image storage and retrieval technologies. Learning and using these complex and expensive technologies will not be easy, and will require a definite commitment on the part of the Cultural Resources Program. Making decisions about which technologies to adopt

requires extensive, often highly technical research and cost-estimating, work that Cultural Resources does not currently have the capacity to do. Many information management issues are not restricted to cultural resources, but are issues facing the Service and even the Federal Government as a whole. Cultural Resources needs to work with other NPS and government offices on such issues as developing job series for information management and computer specialty jobs, correspondence policies and protocols in electronic media, information security procedures, and information access mechanisms.

Conclusion

Cultural Resources must aggressively improve its management of information—and its management of the computerized work environment—to continue to be effective in the information age. This report recommends that existing staff and budget resources of WASO Cultural Resources offices be pooled to support information management functions and to manage the computerized work environment. This recommendation is based on the following factors:

The Cultural Resources Program needs to adapt to the new environment and acquire new skills or risk becoming obsolete if we do not.

The workload requires substantial staff resources.

The permanence of the new functions requires a permanent commitment.

We need to eliminate the waste and redundancy of acquiring duplicative specialized skills in individual divisions, and minimize the impact of the high cost of personnel with the needed technical skills.

We need unified policies and procedures.

A consistent Cultural Resources information management program is desirable.