CRM

VOLUME 16 • NO. 5

1 9 9 3

This Issue

Saving Outdoor Sculpture
SOS! program director Susan Nichols describes a nationwide survey and awareness program.
p. 6

Illuminating Artifacts
Museum technician Larry Bowers talks about fiber optics as a new tool for exhibit designers.
p. 9

Looking to the Future
Professors Robert E. Stipe and Chester H. Liebs review *Past Meets Future: Saving America's Historic Environments*.
p. 27

Protecting Records
In a special supplement to this issue of *CRM*, curator John E. Hunter provides an in-depth report on filing cabinets and safes intended for fire protection (see *Supplement*).

Cultural Resources Management Information for Parks, Federal Agencies, Indian Tribes, States, Local Governments and the Private Sector

U.S. Department of the Interior
National Park Service
Cultural Resources

New NPS Unit Commemorates Civil Rights

Brown v. Board of Education National Historic Site

Writing his famous dissent in the case of *Plessy v. Ferguson* in 1896, Supreme Court Justice John Marshall Harlan said, "Our Constitution is color-blind and neither knows nor tolerates classes among our citizens. In respect to civil rights, all citizens are equal before the law."

With the establishment of the Brown v. Board of Education National Historic Site in Topeka, KS, last year, the National Park Service will now interpret and commemorate the landmark 1954 U.S. Supreme Court decision that reversed Plessy and ended racial segregation of schools throughout the United States.

The Brown v. Board of Education NHS is our newest national park. Like other national parks this site will have an important story to tell to the American people. This site, and other associated properties in Topeka linked to the Brown decision, remind us of the generations of Americans who refused to accept the denial of their basic civil rights guaranteed by the Constitution of the United States.

The greatness of our Constitution, as historians like to say, demands that we be ever vigilant in the preservation of our liberties. Through the preservation of culturally significant properties, Americans remember their history and preserve their Constitutional birthright to liberty and equality and justice for all.

The Brown decision was studied as part of the National Park Service's *US Constitution National Historic Landmark Theme Study* completed in 1986. The National Park Service will complete a General Management Plan for the Brown v. Board of Education National Historic Site this year and will open the park to the public in 1994.

Monroe Elementary School, Brown v. Board of Education NHS, Topeka, KS. Front view. Photo courtesy the Kansas State Historical Society. Inset photo courtesy Martha Hagedorn-Krass, 1990.

CRM

VOLUME 16 • NO. 5

Published by the National Park Service to promote and maintain high standards for preserving and managing cultural resources.

Associate Director
Jerry L. Rogers

Editor
Ronald M. Greenberg

Production Manager
Karlota M. Koester

Advisors

Joan Bacharach
Museum Registrar, NPS

Randall J. Biallas
Historical Architect, NPS

John A. Burns
Architect, NPS

Harry A. Butowsky
Historian, NPS

Pratt Cassity
Acting Executive Director, National Alliance of Preservation Commissions

Muriel Crespi
Cultural Anthropologist, NPS

Craig W. Davis
Archeologist, NPS

Mark R. Edwards
Deputy State Historic Preservation Officer, Maryland

Bruce W. Fry
Chief of Research Publications National Historic Sites Canadian Parks Service

John Hnedak
Architectural Historian, NPS

H. Ward Jandl
Architectural Historian, NPS

Roger E. Kelly
Archeologist, NPS

Ruthann Knudson
Archeologist, NPS

Antoinette J. Lee
Historian, NPS

John Poppeliers
International Liaison Officer for Cultural Resources, NPS

Brit Allan Storey
Historian, Bureau of Reclamation Federal Preservation Forum

Contributing Editors

Stephen A. Morris
Certified Local Governments (CLG) Coordinator, NPS

Bruce Craig
Cultural Resources Coordinator National Parks and Conservation Association

Consultants

Michael G. Schene
Historian, NPS

Kay D. Weeks
Technical Writer-Editor, NPS

Contents

Features

An Experiment in Archeological Site Stabilization—Part II
Cumberland Island National Seashore 3
John E. Ehrenhard
Robert M. Thorne

Practicing the Liberal Arts
Mary Washington College's Preservation Program 5
Antoinette J. Lee

Saving Outdoor Sculpture
A Nationwide Survey is Underway 6
Susan Nichols

Lighting Museum Objects
Fiber Optics at Friendship Hill 9
Larry V. Bowers

Breaking Tradition
The Federally-Built Landscape of the Navajo Nation 11
Candi Helms

Learning About Labor History
The Botto House NHL 13
Marty Blatt

Second Lives: The Survey and Use of Architectural Study Collections 15
Emogene A. Bevitt

Archeological Curation and Collections Management
A Challenge for Federal Agencies 20
Marc Kodack
Michael K. Trimble

Saving WWII Historic Sites
Metals Conservation Course in the Marshall Islands 22

Historic Preservation at Vandenberg AFB 25
Holly Dunbar

Interdisciplinary Manager Course Develops 25
James Corless

Book Reviews 27
Past Meets Future

Departments

Preservation Resources 29
Viewpoint 30
Bulletin Board 30

Supplement

Filing Cabinets and Safes

Send articles, news items, and correspondence to the Editor, *CRM* (400), U.S. Department of the Interior, National Park Service, Cultural Resources, P.O. Box 37127, Washington, DC 20013-7127; (202-343-3395)

An Experiment in Archeological Site Stabilization—Part II

Cumberland Island National Seashore

John E. Ehrenhard
Robert M. Thorne

Changes in the natural and cultural environment on and around Cumberland Island National Seashore are accelerating shoreline erosion; the rate of loss of unprotected cultural deposits has increased accordingly. Surprisingly, along the northwest shore between Terrapin Point and Cumberland Wharf, the tidal marsh zones are stabilizing thanks to an increase of naturally deposited oyster shell rakes (dikes). Construction of an experimental, artificial rake emulating this natural phenomenon was undertaken in June 1990. Part I of this report appeared in an earlier issue of CRM (Vol. 14, No. 2). This commentary discusses the outcome of the experiment.

Numerous significant archeological sites and cultural resources are being severely degraded through cutbank shoreline erosion on the western side of Cumberland Island National Seashore, GA. Wind- and boat-generated waves, daily tidal fluctuations, and the deepening of the inland waterway are taking their toll. While some portions of the shoreline are eroding, others are rebuilding and developing stable tidal marsh zones. This rebuilding process is attributed to the formation and expansion of an interlacing network of naturally deposited oyster shell rakes.

The rakes may rise to a uniform height of 2' above mean high tide. They vary in basal width according to wave force factors that cause the shell deposition. This tightly compacted shell is resistant to low tide wave action and further stabilized by submersion during high tide. The rakes become miniature stilling ponds that act as settling basins for silts and sands carried by the Cumberland River. Tidal incursion fills the ponds, allowing sediment to accumulate as the tide goes out. The shell, tightly compacted and cemented with silt (figure 1), provides an erosion resistant armor on the active wave side while allowing water trapped behind it to filter through.

Fig. 1. Plan view of interlocked oyster shell on naturally occurring rake.

As discussed in Ehrenhard and Thorne (1991), oyster shell was shoveled into burlap bags, closed with wire ties, and laid out in a semicircle that spanned 178'. The bags were laid in two parallel, adjacent courses with a third course resting on top. The rake thus measured about 2 1/2' high and 4' wide. Cumberland Island has a sizable population of wild pigs and horses that forage and graze along newly established marsh grass communities. To protect the rake, strips of GEOWEB were installed on animal paths leading down from the bank. This material, which opens into squares, acts similar to a cattle guard, and neither pigs nor horses will cross it.

Results

Inspection of the rake in August 1990 revealed that campers and fishermen thought the burlap bags made ideal "stepping stones" to get out into deeper water. While a number of the bags from the top row of the rake had been removed for this use, the majority of the bags had rotted away leaving the shell to disperse in a natural manner (figure 2). It was encouraging to see that a rake formation process was in progress and the shell had accumulated into a compact, resistant armor (figure 3). However, it was decided to add another top course of bags both to replace those carried off by fishermen and to give the rake some additional height. This work was accomplished in October 1990.

Fig. 2. Artificial rake, August 1990.

The project area was visited periodically throughout 1991 and 1992. We are pleased to report that the artificial rake has indeed performed like its natural counterparts. In fact it has worked so well that in June 1992 it was difficult to determine the exact location because the silt accumulations had completely buried the rake (figures 4 and 5). Bank erosion behind the rake was noticeably curtailed and

*(**Cumberland**—continued on page 4)*

Fig. 3. Plan view of interlocked oyster shell on artificial rake.

*(**Cumberland**—continued from page 3)*

over 2 1/2' of silt deposits were measured. The buffering action of the rake was providing a healing mechanism along the cut bank. The land surface has built up enough that tidal submersion has been minimized. Vegetative detritus accumulating along the cut bank provides an additional buffering action (figure 6). This protects the micro-environment and helps several species of marsh grass become established.

Fig. 4. Artificial rake, August 1990. Note accumulation of sediment on interior side of rake (left side of photo).

Fig. 5. Artificial rake, June 1992. Rake is the low curving rise on the right hand side of figure. Note accretion of sand and grasses beginning to grow.

Fig. 6. Detritus and sand accretion along cut bank.

The hoped for natural invasion of marsh vegetation (Ehrenhard and Thorne 1991) is beginning to occur. However, continued use of the area by campers and grazing horses have impacted the rate of revegetation. We are pleased to see that the GEOWEB has completely eliminated incursion by horses and pigs in the areas where it was placed. The GEOWEB is firmly interwoven with native grasses and, in some cases, is harboring small pine trees; these have rooted naturally in less than two years (figure 7).

Fig. 7. GEOWEB place in animal trail along cutbank. Note pine seedlings.

Summary

Although the archeological site stabilization at Cumberland Island has always been termed an experimental procedure, neither of us believed this was the case. From observation of hundreds of interwoven, naturally deposited rakes, we could chronicle the progression of shoreline stabilization from the filling process to the ultimate establishment of a completely revegetated, stabilized shoreline. As a consequence, we knew that naturally occurring micro-stabilization would and could effectively protect an area subject to shoreline loss through both natural and man-made disturbances. In our minds, the process to be demonstrated was whether or not oys-

*(**Cumberland**—continued on page 16)*

Practicing the Liberal Arts

Mary Washington College's Preservation Program

Antoinette J. Lee

During the late 1970s and the early 1980s, the historic preservation movement in the United States was gearing up for the "business of preservation." Preservationists were expanding economic justifications for preserving historic buildings and places, an effort that found full realization in the expanded federal investment tax credits of 1981. University-based historic preservation programs, particularly at the graduate level, stressed preservation management and made partnerships with schools of business and law.

In Fredericksburg, VA, the late president of Mary Washington College, Prince B. Woodard, was then envisioning a very different kind of academic program. His was a small liberal arts college that, until the early 1970s, had served as the woman's counterpart of the all-male University of Virginia. In a seemingly isolated, small college-town environment midway between Washington, DC and Richmond, VA, President Woodard sought faculty and administrative approval for an undergraduate program in historic preservation housed in the college's department of history. With approvals in hand, the first introductory course in historic preservation was offered to several dozen students in the academic year 1979-80.

Archeological investigations of the Enchanted Castle site at Governor Alexander Spotswood's Germanna provides Mary Washington College historic preservation students with field experience. Courtesy Center for Historic Preservation, Mary Washington College.

Today, Mary Washington College's historic preservation program is offered through its own independent department. It boasts 160 majors who will earn a B.A. in historic preservation or a B.L.S. (bachelor's of liberal studies) degree. Three full-time faculty are assigned exclusively to the historic preservation program and offer the core courses. An expanding list of adjunct faculty representing professional historic preservation practitioners in preservation law, international preservation, historical archeology, decorative arts, and historical documentation supplements the full-time faculty roster.

Currently, four concentrations are offered: architectural conservation, museum studies, folklore, and historical archeology. While upper-level students specialize in laboratories in one of these concentrations, all are exposed to the full range of the subject matter. The four concentrations are pursued in the classroom, in field work, and, on occasion, in paid-work projects sponsored by the Center for Historic Preservation. Recent course offerings of the Department include international study in Brazil and Great Britain. The Center for Historic Preservation sponsors activities that support the academic program and facilitate faculty and student participation in historic preservation activities in the region. Mary Washington College graduates can be found in the nation's major public agencies and private organizations as well as community-based groups. Large numbers of students participate in community activities, such as the annual "Ghostwalk" at Halloween, through the Historic Preservation Club. Alumni are kept in touch through the newsletter.

President Woodard's early vision still serves as the guiding force for the program. Its location is a decided asset because of the tremendous expansion of the Washington metropolitan area. Today, Fredericksburg is the home of many who commute to Washington or to the employment centers of the region's "edge cities." Mary Washington College is expanding its continuing education offerings to take advantage of the population boom, which provides a ready market of older and part-time students.

In its basic philosophy, the preservation program provides a liberal arts focus because of the belief that heritage touches all areas of the human experience. Where many university and college-based historic preservation programs are offered at the graduate level to further develop interests developed at the undergraduate level, Mary Washington College offers a wide breadth of liberal studies in historic preservation with the expectation that some students will find employment immediately as a historic preservation generalist or may develop more specific professional interests at the graduate level. Still other students pursue related careers but have gained an essential grounding in historic preservation.

Mary Washington College's historic preservation program is more than a place to pursue preservation's theoretical constructs; it also requires field work. Hands-on experience is an important component in nearly every core course, where historic resources are met face-to-face. For the architectural conservation focus, students prepare

*(**Mary Washington**—continued on page 26)*

Saving Outdoor Sculpture

A Nationwide Survey is Underway

Susan Nichols

The statue of Patrick Henry, 9' tall and carved mostly from a single white-painted log, once graced the courthouse cupola in Morgantown, WV, and now resides in the courthouse tower. In Augusta, ME, the youthfulness of Samantha Smith, the teenager who wrote to Yuri Andropov with her concerns about nuclear war, is fixed in bronze; depicted in blue jeans, she cradles a dove. In 1981, Boston's black and white communities teamed up to raise funds for the restoration and establishment of a maintenance endowment for the Robert Gould Shaw Memorial which honors the black 54th Regiment of Massachusetts which fell during an assault on Fort Wagner, SC, July 18, 1863. One-time printer for the U.S. House of Representatives, distinguished military leader and presidential confidante, Major General James Blair Steadman died as Toledo's chief of police and is memorialized in bronze, which is now the focus of efforts to provide proper care and maintenance.

These few represent our diverse national collection of outdoor sculpture that give identity to our public spaces. That collection is threatened by vandalism, neglect and pollution. Because of a current project called Save Outdoor Sculpture!, alias SOS!, these and other works are gaining greater recognition from local and national audiences. Throughout the country, the concept of a national collection of outdoor sculpture reflecting our history and art is beginning to emerge.

Approximately five years ago, concern for outdoor sculpture intersected with the interests of two organizations—the National Institute for the Conservation of Cultural Property (NIC) and the National Museum of American Art, Smithsonian Institution (NMAA). At the museum, the Inventory of American Sculpture, comprised of indoor and outdoor works, was envisioned as a companion computerized database to the Inventory of American Painting, which opened in 1976. NIC is concerned with increasing public awareness about the need for proper care of cultural property, and outdoor sculpture is among the nation's most imperiled cultural property. To meet the ambitious and comprehensive goals of both organizations, NIC and NMAA formed the private/public partnership of Save Outdoor Sculpture! which has two goals, both first steps toward other goals.

Robert Gould Shaw Memorial, Boston, MA. Augustus Saint-Gaudens. Photo by Jeffrey Nintzel, courtesy Saint-Gaudens National Historic Site.

Tennessee volunteers surveying *Pioneer Family*. Puryear Mims.

SOS! has an interesting statistical profile. The project is underway in 43 states plus the District of Columbia and involves 122 organizations. Of the primary or lead organizations, 35 have a history or preservation interest, including state historic preservation offices; 31 are arts-oriented; 10 are universities, museums or civic groups. SOS! projects have been completed in North Dakota, West Virginia, Tennessee and Illinois.

The project's first goal is to locate and make an initial report about all publicly accessible outdoor sculpture in the United States. Although some (perhaps most) are owned by community governments, the scope of our work is not limited to **publicly owned** works. Pieces owned by corporations, non-governmental agencies and individuals, if they are **publicly accessible,** are included.

SOS! surveys will lay important groundwork in many communities. They help public and private owners prepare for in-depth condition surveys conducted by conser-

vators and encourage the establishment of long-range maintenance programs with the guidance of conservators.

The national SOS! survey model is tailored by each SOS! coordinating organization to suit its own mission and resources, survey area, geography and estimated number of sculptures. Adults age 18 years and older are recruited to be volunteers by the local SOS! coordinating organizations to conduct on-site surveys and background searches of the works they locate. In addition to museums, historical societies, libraries, retiree organizations and similar traditional sources for volunteers, art and photography students of the Upward Bound summer program were tapped to help in Vermont. In California, Urban Corps members will team with community volunteers. Employees of British Petroleum in Cleveland attended training during their lunch time and are surveying works in the downtown. In Philadelphia, students at Temple University are responsible for inventorying works on their campus. To survey its 82 counties, Mississippi SOS! has recruited college students, officers of Women's Clubs, a city employee who enforces a local preservation ordinance, a semi-retired engineering consultant and a rural real estate agent.

Mitochondria, **Bellevue Medical Center, New York, NY. John W. Rhoden. Photo by John C. Scott, New York Conservation Center, Inc.**

As conservators conduct assessments or provide treatment or as programs of annual maintenance are established, as locales commission new works or as additional historical information is discovered, those updates about outdoor sculptures will be forwarded to the Inventory of American Sculpture.

The survey questionnaire and the volunteers' training are designed to help assure uniform data collection, accurate surveying and creation of a credible database. For instance, in the portion of the survey questionnaire devoted to reporting on the condition of a work, a yes-no check list format is used. Are there any cracks, splits, breaks or holes? Is there evidence of bird guano, black or white crusts, metallic staining, spalling, graffiti or spray paint? Does water collect in recessed areas? Training includes a lecture and walking tour by a conservator whose area of expertise is outdoor sculpture to point out examples of the deterioration referred to in the questionnaire. To reinforce the tour or for use in regions without access to a conservator, a video is provided as part of the SOS! training. It features volunteers surveying sculptures with Henry Lie of the Center for Conservation and Technical Studies at Harvard University. To date, with 1,400 survey questionnaires received from Arkansas to Vermont, based on surface, observable clues, volunteers report that 49% of sculptures surveyed are well-maintained, 32% could benefit from treatment, 11% require immediate review by a professional, and a judgment was not made for 8% of the surveyed works.

All Wars Memorial to Colored Soldiers and Sailors, **Fairmount Park, Philadelphia, PA. J. Otto Schweizer. Photo by Franko Khoury for Save Outdoor Sculpture!**

The National Park Service is the largest, single "owner" of outdoor sculpture in America. NPS has surveyed its works as part of the List of Classified Structures and estimates that 2,500 items on the list meet SOS! criteria. (See box for SOS! survey guidelines for reporting works.) When National Park Service properties are part of a survey area, the SOS! project coordinator contacts the NPS site staff regarding existing documentation and the site is surveyed by SOS! volunteers. Marian Barksdale,

*(**Sculpture**—continued on page 8)*

Contact SOS! with the names of colleagues and organizations in these 26 unfunded areas: Alaska; California, including Fresno, Long Beach, Los Angeles, Oakland, San Jose, Santa Ana; Colorado; Delaware; Idaho; Louisiana; Missouri; New Jersey, including Newark; North Carolina, including Charlotte; Oklahoma, including Oklahoma City and Tulsa; Pennsylvania, including Pittsburgh; Virginia, including Virginia Beach; Washington.

(Sculpture—continued from page 7)

coordinator for Mississippi SOS!, allows that "one of our biggest challenges was how to tackle the Vicksburg National Military Park, home to more than 200 monuments. Much to our delight, Nancy Bell, executive director of the Vicksburg Foundation for Historic Preservation, stepped in with enthusiasm and willing volunteers. The National Park Service has provided substantial support—plus access to their files."

In Tennessee, Henry and Sophie Trent have surveyed 10 counties for the project. "The highlight of our summer trips was the survey of the Civil War sculptures in the Chattanooga area. In conjunction with this visit, we drove to the Chickamauga and Chattanooga National Military Park. The park staff was very helpful. We found extensive material concerning each sculpture. Some of the early photographs were wonderful!"

SOS! Coordinating Organizations were selected through a competitive proposal process. Modest awards to help defray the costs to implement this survey and public awareness project are made to nonprofit organizations and government agencies.

Our second goal is to raise public awareness. Here again SOS! offers an important first step in the long-range task of raising an owner's consciousness about the intrinsic value of outdoor sculpture and the need for responsible ongoing care. Philosophically, involvement of community residents as surveyors helps to develop or reinforce a coterie of supporters who can be tapped after the survey portion is completed to assist with efforts to provide care for their works, including fundraising to cover assessment and treatment by professional conservators, the establishment of maintenance endowments and of adopt-a-sculpture programs. With three-quarters of all SOS! sites funded, this second goal becomes the project's top priority.

SOS! training in Pompano Beach, FL. Photo by Christoph Gerozissis.

In 1993, a series of articles will be published directed at people who have responsibility for seeing that outdoor sculpture is cared for—legislators, business people, commissioning agencies, philanthropists, community leaders, conservators and artists, for example. A companion 30-minute video, available in spring 1993, will feature how groups in Boston, Chicago, Dallas, Seattle, and Upland, CA, raised their funds and will spark ideas for similar efforts in other communities.

In Mississippi, Marian Barksdale sums up for many involved with SOS! nationally: "Unfortunately, Mississippi cannot boast of great sculptural wealth, but SOS! is already helping us appreciate the sculptural expressions and traditions that are uniquely ours."

Guidelines for On-Site Reporting Works of Outdoor Sculpture

For the purpose of SOS!, outdoor sculpture is defined as follows:

A three-dimensional artwork that is cast, carved, modeled, fabricated, fired or assembled in materials such as stone, wood, metal, ceramic or plastic, located in an outdoor setting, and is accessible to the public.

Tastes change over time. No sculpture should be omitted because of incomplete information or because it is thought to be unimportant or unworthy of consideration. Some types of outdoor sculpture will be omitted from the survey:

- grave markers/headstones
  carved headstones, sculptural markers, memorial tombs, urns
- commemorative works
  Plaques, historical markers or tablets
- architectural structures
  structures such as the Gateway Arch in St. Louis
- architectural ornamentation
  minor decorative embellishments, such as rosettes, keystones, garlands, wreaths
- mass-produced items
  commercial products, garden ornaments, weather vanes, whirligigs, show signs, figureheads and circus and carousel carvings
- museum collections
  sculpture gardens owned or administered by museums

Susan Nichols is SOS! program director for the National Institute for the Conservation of Cultural Property. For additional information, to receive a copy of *SOS! Update* and the orientation or training videos, or to suggest contacts in unfunded areas, call the SOS! staff at 800-422-4612.

Lighting Museum Objects

Fiber Optics at Friendship Hill

Larry V. Bowers

Albert Gallatin, an 18th century Swiss immigrant to America, established his frontier home on the Monongahela River in western Pennsylvania. His early life as farmer, manufacturer, and entrepreneur began a career of accomplishments culminating in his service to the United States as, among other things, financier, Ambassador to Great Britain, founder of the American Ethnological Society, and Thomas Jefferson's Secretary of the Treasury. The National Park Service acquired Gallatin's home at Friendship Hill in 1979. As part of the American Industrial Heritage Project, it was restored and opened to the public on October 31, 1992 (see *CRM*, Vol. 15, No. 8, page 23).

The exhibits in the building, produced by the National Park Service's Interpretive Design Center at Harpers Ferry, WV, focus on Gallatin's life, career, and intellectual pursuits. From the beginning, the exhibits were designed so that original artifacts could be integrated into the graphics and text on a series of vertical panels extending across the state dining room of the Gallatin house. In addition, freestanding cases in front of the panels would display Gallatin-associated artifacts.

Photo by Michael Wiltshire.

The nature of the objects chosen—18th and early 19th century paper documents, books, lace, and other sensitive materials—and the method of their display, presented concerns for balancing the long-term artifact preservation needs with exhibit design considerations. A number of the more sensitive objects were to be housed in shallow boxes attached to the vertical panels; the remaining artifacts would be in cases.

The traditional museum lighting technique of using an overhead track with spots and floods was insufficient for highlighting the objects enclosed in the boxes. That fact, plus the low foot-candles required for these types of artifacts, and concerns for ultraviolet and infrared radiation from conventional light sources, led us to develop the Service's first use of fiber optic illumination for a museum exhibit.

Fiber Optics

Until recently, fiber optic lighting has been limited to scientific, technical, entertainment, and decorative arts applications. The museum community, including major institutions such as the National Gallery of Art in Washington, DC, and the Victoria & Albert Museum in London, have begun to use fiber optics to illuminate some of their more sensitive artifacts. A properly designed fiber optic system can help satisfy conservation concerns for object preservation and, simultaneously, be a vehicle for reduced energy consumption.

As an example of this potential, the Los Angeles Department of Water and Power has given a grant to the Gene Autry Western Heritage Museum to replace the exhibit lighting in one gallery with fiber optics. Their analysis showed that these changes could result in a reduction of energy use of up to 75% over existing light sources.

The National Park Service had never before used fiber optics for object lighting, and the Friendship Hill exhibit seemed an appropriate opportunity to test its effectiveness.

We decided to produce the fiber optic lighting ourselves to gain that expertise within Harpers Ferry Center. Because the Division of Conservation had set the lighting requirements for the exhibit, it was asked to develop the system. Although lighting design does not normally fall within our purview, the task gave us an opportunity to evaluate, from a conservation perspective, the pros and cons of fiber optic lighting.

Exhibit design requirements stipulated that we have lighting on demand, that it be dimmable, quiet, have instant on/off, with good color rendering and low maintenance. Conservation requirements stipulated the elimination of UV and IR and the ability to regulate total foot-candle output. Fiber optics were to be used as accent lighting in the freestanding cases and to provide all the illumination for the artifacts in the boxes on the panels.

How Fiber Optics Work

Fiber optics work through a process known as total internal reflection. This is achieved by having a core material (glass or polymer) surrounded by a cladding applied or bonded to that core. The difference in index of refraction between the cladding and core results in light being transmitted down the fiber and not out the sides. The small degree of light loss (attenuation) varies depending on the fiber optic cable chosen, as does color, wave length transmission, and flexibility.

After considerable testing we chose Mitsubishi ESKA optical cable, a polymethyl methacrylate fiber with an integral fluorine cladding. It produces a white light free of harmful ultraviolet and infrared radiation, has low attenuation, and is relatively inexpensive. To reduce the number of cables we would have to handle and because we did not have to negotiate any bends of tight radius, we chose the 3mm solid-core fiber. The U.S. distributor, CALSAK Corp. of Compton, CA, and Mitsubishi Cable

*(**Fiber Optics**—continued on page 10)*

(Fiber Optics—continued from page 9)

in New York were most helpful in providing assistance with problems and questions as they developed.

The Illuminator

The light source proved to be our biggest hurdle. Fiber optic illuminators are usually designed to produce a maximum amount of foot-candles and are fan cooled to disperse the heat away from the high intensity projection bulbs, making them unsuitable for this lighting application.

Our search for an illuminator led us to Dolan-Jenner Co. of Woburn, MA, a major manufacturer of fiber optic equipment for scientific and industrial applications. After discussions with the firm's technical representative, Joe DiRuzza, we decided that a microscope illuminator could be modified to meet our needs. Dolan-Jenner agreed to modify and adapt it to carry a standard fiber optic bundle. This would give us a low level light source of variable intensity that was convection cooled and silent.

Design and Fabrication of Lenses

Our next challenge was to find a way to direct light to individual objects. Commercially available light guides and lenses were either unusable or not readily adaptable to our needs without modification and/or significantly higher costs. What we achieved was relatively low tech and low cost.

After experimenting with various techniques we decided to use acrylic lenses for focusing and copper tubing to direct and support the cable as needed. Lenses were made in an assortment of styles that allowed us to both concentrate the light where we wished (within the obvious limitations of space configurations and light output) and to control light levels.

The System

The exhibit was constructed on contract by EXPLUS, of Ashburn, VA, and installed at Friendship Hill prior to installation of the lighting.

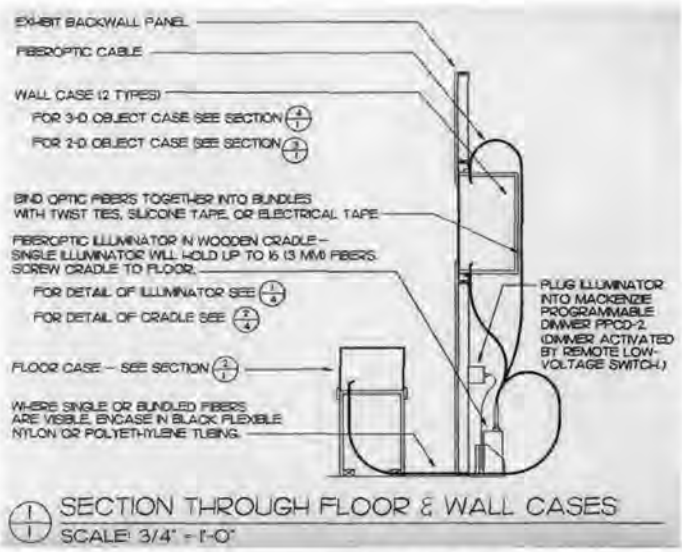
Because the optics in the front cases were designed to accent individual artifacts or label copy and were exposed to view, there was little room for error in placement. To eliminate that possibility and to reduce installation time, we prepared plywood mock-ups of all the case bottoms, placed the artifacts, and adjusted cables and lenses until an acceptable level of illumination was achieved. We then made Mylar templates that could be inserted into the exhibit cases as drill guides.

Drill guides were also made for the exhibit boxes and spaced accordingly. On site, holes for the lenses were drilled in the top or bottom of the exhibit boxes, after which the exposed wood in the hole was coated with Poly Glaze, a water-based aliphatic urethane solution used to minimize outgassing from construction materials into the case. After the artifact, lens, and optic were installed, the lens could then be moved in or out and rotated to provide the illumination desired. For larger boxes we used larger lenses and multiple cables. After focusing the light, the optic and lens were securely taped together and the exterior joint coated with Spraylat, a strippable polyvinyl butyral film, to prevent air entry into the sealed and humidity stabilized boxes.

Installation

The shallow depth of the boxes on the panels did not provide much room to disperse the light evenly. We found, however, that the beveled lenses, properly spaced, proved most efficient for lighting these artifacts.

The fiber optics used as accent light in the freestanding cases had to be more directional. The optics were inserted into copper tubing that projected up through the bottoms of the cases. The tubes were then bent to direct the light. Where necessary, acrylic lenses also were attached, after which the whole assembly was covered with a black nylon tube to match the black case bottom.



Detail of box construction. Drawings by John Battle, Detailed Concepts.

The amount of light falling on a given object was adjusted by a combination of lens positioning and treatment. We found that the degree of polish we achieved on the optics and lenses greatly affected the overall foot-candle output. During the developmental stage, our tests had shown that, with a 10' length of cable attached to our light source, we could produce from 5 to 25 foot-candles 12" from the optic end, depending on the treatment of one or both ends, and the lenses used.

This capacity to focus and control the amount of light meant that objects in close proximity to one another could be lit at quite different foot-candle levels. In one exhibit box measuring approximately 2' square we were able to light 5 objects plus label copy at levels of 5, 8, 10, and 18 foot-candles.

The lighting was designed so that one illuminator would be sufficient to light one exhibit panel and the case in front of it as a unit. Fiber optic lighting was activated by an infrared sensor that would turn on and off as the visitor approached and walked away, allowing many of the artifacts to be in darkness a good deal of the time. Additional lighting on the front of the exhibit panels was adjusted so that 4 foot-candles fell on the artifacts in the freestanding cases.

Cables in the freestanding exhibit cases were routed from the exhibit platforms down and out exit holes at the

(Fiber Optics—continued on page 19)

Breaking Tradition

The Federally-Built Landscape of the Navajo Nation

Candi Helms

Federal policies and programs of the last 125 years have greatly influenced the asymmetrical constructed landscape of the Navajo Nation as we presently see it. From the 1880s to the 1920s, construction reflected hurried attempts to assimilate the Navajo into the so-called "American" society. The Navajo people were offered stateside goods and forced to send their children to school taught in converted military forts and later facilities that mimicked standard Anglo schools. President Roosevelt's Public Works Administration (PWA) provided for the replacement of these facilities which were obsolete by the 1920s. Although the PWA building program incorporated a few Navajo traditions in construction, it was generally insensitive to traditional architectural elements.

The Facility Management Program of the Navajo Nation Historic Preservation Department is currently working on a sizable multiple property submission to the

Hogan style Baca (NM) Boarding School Building No. 205, 1935.

National Register of Historic Places that identifies these constructed products of federal intervention. Research for the nomination is being conducted by program supervisor Candi Helms and Emerson Begay, an intern currently attending Arizona State University. The nomination will include nearly 500 Bureau of Indian Affairs (BIA) historically significant buildings and structures that were constructed from the late 1880s to the 1940s on Navajo land in Utah, New Mexico, and Arizona.

Most of the federally-constructed historic buildings are educational institutions. They stand as testimony to the federal government's policy to use education as the vehicle to assimilate the Navajo people into the Anglo society.

Pueblo Revival style Rock Point (AZ) Boarding School Building No. 409, c. 1935.

The buildings used to facilitate this policy, in most instances, were unsafe abandoned military buildings reused as schools. In the 1900s, these buildings were replaced with boarding schools that were reported to have "slavishly imitated white schools." It was obvious that the federal government was attempting to break the Navajo from their traditions by abandoning the Navajo's architectural heritage.

These school buildings and others nationwide were replaced after their incredibly poor and unsanitary conditions became known from the reports of the Senate Indian Investigating Committee and the 1928 Meriam Report. The investigations found that Navajo children attended class only four hours a day, spending the rest of their day working in the kitchen, laundry, or at heavy industrial tasks. The children lived in a regimented, military atmosphere. Conditions were often so crowded that children were crammed two to a bed in attics and abandoned buildings. Punishment often took the form of pure brutality as beatings were administered regularly for speaking Navajo.

John Collier, Commissioner of Indian Affairs, depended on the reports and the PWA to institute reforms which included a nationwide tribal school construction program. It is interesting that a New York firm, Mayers, Murray, and Phillips, was selected to design 33 tribal projects in 10 states. Facing rushed deadlines, the firm designed most of the buildings using the same floor

*(**Tradition**—continued on page 12)*

Navajo Mountain (UT) Boarding School, double Hogan building, 1935.

*(**Tradition**—continued from page 11)*

plans. The firm attempted to regionalize their architecture through the use of materials that seemed more appropriate for the various climates they encountered. However, traditional Native American building elements were generally excluded from their designs.

On Navajo land, approximately 50 school complexes were built consisting of one to three classrooms, a teachers' house, pumphouse, root cellar, shop, and maintenance building. The majority of the buildings were designed in the Pueblo revival style, a common style constructed in the Southwest under other PWA programs. The native sandstone buildings are generally one story, with flat parapeted roofs, vigas, canales, and wooden or stone lintels over and/or under the openings.

The buildings mimicked the Pueblo Native American type of architecture and very rarely exhibited characteristics of the traditional Navajo dwelling, the hogan. The one tradition sporadically recognized was the orientation of the buildings toward the easterly sun.

Chinle Agency (AZ) administrative headquarters building, recreation hall, 1914.

The Council House, located in Window Rock, is the only PWA building on Navajo land that reflects an attempt to incorporate more of the traditional elements. The aspiration to capture Navajo architecture was guided by Collier who envisioned the tribal chamber as the architectural impression of political unity between the Navajo and the federal government. The easterly facing building was constructed on an octagonal plan similar to a hogan with a windowless northside in deference to the belief that the nonliving gain entrance to a dwelling from the north. Despite Collier's intention, however, the building was a constant reminder of the federal government's presence in Navajo affairs and a reminder of the endless strife to be experienced as the building faced the allegedly cursed Window Rock formation.

The government believed the building program under the Roosevelt administration remedied their past insensitivity. Yet, they had actually imposed on a people an architectural design that, for the most part, lacked the architectural characteristics of the Navajo culture.

The multiple property submission not only documents these and other examples of historic federal architecture,

Tuba City (AZ) Boarding School. Photo courtesy Special Collections Library, Northern Arizona University, Flagstaff, AZ.

but records the historic federal-Navajo relations that has impacted the constructed landscape. This type of documentation is crucial to understanding why the constructed landscape appears as it does, why, due in part to federal intervention, Navajo traditions are so important and widely practiced today, and why the Navajo strongly maintain tribal sovereignty. When the nomination is completed, it will be submitted to each of the boarding

Original BIA Navajo Area Director's house, Window Rock, AZ, 1936.

and high school locations as well as the local community college to aid teachers in disseminating information about this powerful association of the people and government.

Candi Helms is the architectural historian and Facility Management Section supervisor for the Navajo Nation Historic Preservation Department. This article is a condensed version of a paper presented at the Navajo Studies Conference in Window Rock, AZ, May 11-14, 1992. For more information about the historic buildings of the Navajo Nation, please write Candi at Box 2898, Window Rock, AZ, 86515, or call 602-871-7136 or 6437.

Learning About Labor History

The Botto House NHL

Marty Blatt

National landmarks and parks serve in part as this nation's collective memory. That memory needs to be broadened to include working men and women, who comprise the vast majority of America's people. Often, these sites are not grand homes or ornate public buildings, but rather modest, "ordinary" structures such as the Botto House.

To understand the national significance of the Botto House, it is necessary to examine the history of Paterson, NJ, and the men and women who worked and struggled there.

Paterson had a critical place in the development of American industrialization. Named for Governor William Paterson of New Jersey, the city's charter was signed in 1791. The city grew around the site where Alexander Hamilton and his associates in the Society for Establishing Useful Manufactures (SUM) began to harness the waterpower of the Great Falls of the Passaic River in the 1790s. Although the initial efforts of SUM were not very successful, Paterson was one of the nation's first efforts to plan an industrial city. Over the course of the 19th and early 20th centuries, Paterson grew into a substantial industrial center with the manufacture of cotton textiles, railroad locomotives, and later, silk. Beginning in the 1860s, the silk industry grew rapidly. By 1880 Paterson had earned the reputation of "Silk City" or the "Lyons of America," a status that was lost by the beginning of World War II.

The Botto House. Photo by Al Zwiazek, courtesy American Labor Museum/Botto House National Historic Landmark.

Immigrant labor worked in Paterson's mills. The first generation of skilled weavers in the 1860s and 1870s came mainly from Macclesfield and Coventry, England. They were followed by Germans, Italians, Polish Jews, and others. Much of the work in Paterson's silk mills was distinguished from work in other American industrial centers in that silk production required skilled laborers. This was not assembly-line production.

In the first decades of the 20th century, hundreds of thousands of immigrants came to the United States. Many sought economic opportunity while others pursued political freedom. All sought a better life for themselves and their families. American industry was expanding rapidly and the mills welcomed, indeed recruited, immigrants. The Botto family was a part of this great influx. Pietro Botto and his wife Maria came from the foothills of the Alps in the textile center of Biella, Italy. After 15 years of weaving in New Jersey textile mills, the Bottos saved and borrowed money to purchase a home of their own in 1908. They chose the tiny community of Haledon, a good example of the first American suburbs, growing along the trolley line north of Paterson, where many Piedmontese from Biella had already settled.

The Botto House was not just a home but also a second source of income, necessary to help pay for the house. The house functioned as a kind of public inn, providing a

*(**Labor**—continued on page 14)*

This is the latest in a series of articles focusing on the educational potential offered by our national parks and other historic and natural sites. Previous articles in this series have discussed a wide variety of both parks and National Historic Landmarks spanning many themes and time periods in American history, and a *CRM* thematic issue, "Teaching with Historic Places," was published recently (Vol. 16, No. 2).

The subject of labor history is not well known to the American people. With the exception of Lowell National Historic Park and the Blackstone River Valley National Heritage Corridor, very few areas of the national park system deal with labor history as a primary theme. This gap is now filled through the preservation and interpretation of sites listed in the National Register of Historic Places or designated as National Historic Landmarks.

The Botto House National Historic Landmark is a site that reminds us that while previous generations of American workers accepted the Industrial Revolution they did not necessarily accept the harsh conditions and lack of human dignity brought on by employment in the mills and factories of America. The men and women who worked in the textile mills of Paterson, NJ, were deeply committed to their vision of an industrial America in which technology was harnessed for human needs and the American ideals of democracy and freedom were guaranteed for all to enjoy. The Botto House commemorates not only a chapter in the American labor history but also illustrates the continuing American struggle for human rights.

Readers of *CRM* are invited to submit articles in this series. Please submit all contributions to Harry Butowsky, *CRM* (400), National Park Service, P.O. Box 37127, Washington, DC 20013-7127.

A Sunday crowd in front of the Botto House listening to an IWW speaker. Photo courtesy American Labor Museum/Botto House National Historic Landmark.

*(**Labor**—continued from page 13)*

bocci court and card tables and sometimes a small band or orchestra for recreation. Maria Botto and her four daughters often served meals to as many as 100 people during Sunday excursions. Paterson workers labored 6 1/2 days every week so for many the Botto House provided a welcome respite.

Many of the silk workers had brought militant traditions of struggle with them from European textile centers. They had a strong cooperative and anticlerical orientation, and a determination not to be pushed around by the mill owners. Confrontations often erupted. Indeed, strikes occurred so commonly in Paterson that one historian found that 137 walkouts took place between 1887 and 1900—a total that does not include the small disturbances that took place on a regular basis in the city.

By far the most significant strike in Paterson's history, and a major strike in United States labor history, occurred in 1913. This strike by 25,000 silk workers shut down the 300 silk mills and dye houses in Paterson for almost five months. Unlike most textile strikes, this action did not begin as a defensive battle against a wage cut, like the 1912 "Bread and Roses" conflict in Lawrence, MA. The broad-silk weavers called the strike as a way of blocking an increase in loom assignments from two to four. As skilled workers, broad-silk weavers had fought since the 1880s for control over the rate of production. They were joined by the ribbon weavers and unskilled dyers' helpers. A central issue of the strike was the demand for the eight-hour work day. During the strike, workers successfully overcame differences of nationality, craft, and gender. Despite their unity and democratic self-management, the workers were ultimately defeated by the Paterson manufacturers.

The Paterson strike featured three vital groups coming together: the striking silk workers, organizers from the Industrial Workers of the World (IWW), and Greenwich Village intellectuals. They all collaborated in the production of a successful strike pageant in New York's Madison Square Garden.

At the turn of the century, Carnegie, Rockefeller, Morgan, and others were amassing millions as corporate America prospered. The lives of many workers improved, but a substantial number lived and toiled in wretched conditions. The major working class organization of the day, the American Federation of Labor (AFL), believed in craft unionism. Many unions affiliated with the AFL openly excluded blacks and effectively excluded women and the new immigrants. Organized in 1905 in opposition to the AFL, the IWW called for the organizing of all workers into one big union. They envisioned a society controlled by workers themselves. Their brand of revolutionary unionism called for replacing the conservative motto, "A fair day's wage for a fair day's work" with a call for the abolition of the wage system. Often relying on songs, poems, humor, and innovative tactics, the IWW found the silk workers of Paterson receptive to their ideas, especially coming right after their great success among the Lawrence textile workers. IWW leaders Elizabeth Gurley Flynn, Carlo Tresca, and Bill Haywood played major roles in Paterson.

Paterson strikers faced severe harassment from municipal authorities in league with the mill owners. There were arrests, clubbings, refusal to grant permits for parades, confiscations of literature, and threats to close halls. Freedom of speech and assembly as provided for in the United States Constitution did not apply to the striking workers of Paterson.

The workers found a place to meet freely in the neighboring town of Haledon at the invitation of Socialist Mayor William Brueckmann. Subsequently, Pietro and Maria Botto offered their house as an ideal location for mass meetings. High on a hill overlooking a large green, which was almost enclosed by a semicircle of woods, the second-story balcony of the Botto House provided speakers, in the words of Gurley Flynn, with a "natural platform and amphitheater."

Huge throngs of striking workers and sympathizers gathered on the green outside the Botto House for rallies, information updates, and recreation almost every Sunday over the course of the five-month strike. Intellectuals such as Upton Sinclair and John Reed and IWW leaders spoke to the workers from the second floor balcony of the house. Often, speakers addressed the different immigrant groups in their own languages, including German and Italian.

Bunny Kuiken, a granddaughter of the Bottos, lived in the house until 1983. In 1983 the property was declared a National Historic Landmark. That same year, the Botto House became the headquarters for the American Labor Museum (Botto House National Landmark, 83 Norwood

*(**Labor**—continued on page 19)*

Second Lives: The Survey and Use of Architectural Study Collections

Emogene A. Bevitt

Architectural study collections are collections of architectural artifacts—the actual parts of historic buildings and structures that have been salvaged for study or for research and display purposes. Such artifacts can be useful reference tools for preservationists because they can reveal information about historic building materials, technology and craftsmanship.

An architectural study collection can consist of various architectural features—fireplace mantels, windows, doors— which may be representative of materials, craftsmanship, technology, finishes, or collections and could include manufactured items such as hardware. In order to be useful, information that provides the object with context should be provided, such as what building it is from, what the object is, and where, if known, it was located on the building. Some collections might be limited to a specific site, place or region. Collections may be started as a result of repair or replacement of features or as a result of a building's demolition.

Architectural study collections help to fill the gap in our understanding of the craft practices of a region, the use of materials and finishes, how different building parts or units were assembled, and the hidden processes that exist beneath finishes or behind walls. These objects are three-dimensional, actual, tangible, historic materials, and they represent the structure in a way that cannot be illustrated by photographs, photogrammetry, measured drawings, architects' plans, construction blueprints, oral history and even personal recollection. Yet, because these artifacts have been removed from their original place in the historic structure, they are objects taken out of context, and can mislead or misrepresent the structure if the supporting two-dimensional documentation is not available or is not studied.

The Importance of Study Collections

Construction techniques and craft practices can vary due to regional practice, ethnic tradition, available materials and expertise. Architectural artifacts are tangible links with the building's craftsmen and owners—they reflect the expertise, lifestyle, financial standing, and explore the realm of what was possible for that time and set of circumstances. With comparison, with analysis, with study, architectural artifacts provide irrefutable evidence of what was used and how buildings were fashioned. [It should be noted that the National Park Service guidelines never recommend removal of a feature that—although damaged or deteriorated—could reasonably be repaired and thus preserved in place.[1]]

Current construction techniques and materials differ from historic construction techniques and materials. Many of the historic craft practices were learned during a lengthy apprenticeship—a combination of oral instruction and hands-on work—and little documentation about actual historic construction practice exists. Even with today's construction, the kinds of records

*(**Collections**—continued on page 16)*

In 1987 work began on identifying architectural study collections in the United States as part of a Skills Development Plan project.[1] Building on an initial survey of National Park Service regional historical architects, architectural conservators and others who work on historic structures in the parks, a preliminary list of collections was developed. Also included were those sites within the national park system whose Scope of Collection statements indicated that architectural materials could be collected.

An illustrated flier explained how architectural study collections were defined, why it was important to collect such artifacts, and what could be learned from them. This, with a letter and a request for information, was sent to over 200 collections. The response to the survey was overwhelming and positive—50% responded, and several sent brochures and books.

That first information was immediately useful. With the preliminary listing and survey responses, it was possible to assist Catherine Anderson, museum intern, Smithsonian Institution, in identifying several major collections in the Midwest and Northeast. Ms. Anderson was then able to see how the collection curators addressed the problems associated with the storage and conservation of these objects and was able to prepare a conservation guideline for the Smithsonian's National Museum of American History.

Combining our efforts, Ms. Anderson and I collaborated in a presentation entitled "Historic Materials and Architectural Artifacts as Prototypes for Substitute Materials" which was delivered at the Association for Preservation Technology International (APT) Annual Conference in New Orleans, LA, in 1991.

Since that time, the survey results have been incorporated into a database and a draft listing has been prepared. This listing has two sections: the first lists collections by state; and the second section lists collections by each topic on the survey. This listing is currently being reviewed, revised and updated.

—EAB

[1] *The Skills Development Plan for Historical Architects and Others with Historic Preservation Responsibilities* by Hugh C. Miller, FAIA, Lee H. Nelson, FAIA, and Emogene A. Bevitt, is a self-directed learning program for National Park Service personnel to help them develop knowledge and expertise that is not otherwise available. Participants develop study plans to pursue topics of personal and job-related interest and to communicate their study results with others, after receiving critical review.

(*Collections—continued from page 15*)

that are kept rarely include the shop drawings or models that translate the architect's sketches and blueprints into craft units. Lacking written documentation or working knowledge, the preservationist must carefully examine the clues given by original artifacts and weigh these against other documentary information such as photographs, engravings, bills, insurance descriptions, letters, sketches, public documents, and other scholarly interpretations of this kind of material, in order to gain an accurate understanding of the composition and evolution of the structure.

Developing a Usable List

The National Park Service has begun to compile a list of the architectural study collections in the United States by contacting potential collection holders and requesting that they share information about their collections by filling out a 2-page Request for Information. The Request for Information has been reproduced in this issue of *CRM* so that readers can identify and share information about possible collections so that the survey can be as useful and complete as possible. At present 126 collections in the National Park Service and 87 collections held by other agencies, historical societies, museums and individuals are included in the survey. If you can provide information about a collection your organization has, please fill out the Request for Information. If you can suggest sources, please contact me by mail at Preservation Assistance Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127, fax 202-343-3803 or telephone 202-343-9561. Your participation is appreciated.

In order to narrow the focus of this compilation, the following have not been included in the listing: **collections outside the United States; whole historic buildings or structures; period rooms; commercial salvage companies; furniture or furnishings; and/or tools.**

While this list will focus on architectural objects or artifacts—the three-dimensional parts of a building, there are often instances in which other information about the building will be maintained along with the objects. Such items as architectural drawings, photographs, stereopairs, postcards, and trade catalogs provide a different kind of information about a structure. Information about these collections will also be welcome and may appear in a separate listing or as a subset of this list.

Watch for additional information on this topic.

---

[1] Restated from "Introduction to the Guidelines," p. xi, *The Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings*, 1992.

(*Cumberland—continued from page 4*)

ter shells confined in burlap bags and manually placed would ultimately be worked into an interlocking rake. This indeed proved to be the case. The burlap bags deteriorated at an almost uniform rate, and the shell was freed to be sorted and arranged by wave activity in a uniform fashion. The end product was an artificial rake that interacted with natural forces to create a new rake as effective as those produced entirely by nature.

The Cumberland Island project required little expenditure for supplies, the most expensive being the burlap bags and the wire ties to close them. The principal cost was labor, and this was minimized by using available personnel from the National Park Service and the University of Mississippi. Through careful planning, subsistence and transportation expenses were also minimized.

We are encouraged that conservation of archeological properties can be effectuated in a fashion that emulates the natural healing process. We are further heartened that significant resources can be protected at relatively low cost simply by carefully observing the ways natural forces operate. Patterning stabilization designs on naturally occurring phenomena increases the chances for successful protection of archeological deposits and resources while enhancing the natural environment.

Reference

Ehrenhard, John E, and Robert M. Thorne, 1991, "An Experiment in Archeological Site Stabilization: Cumberland Island National Seashore." *CRM*, 14:2, pp. 13-16.

John Ehrenhard is the chief of the Interagency Archeological Services Division, Southeast Regional Office, National Park Service (telephone: 404-331-2629). Dr. Robert Thorne is director of the National Clearinghouse for Archaeological Sites Stabilization and director for the Center of Archaeological Research. He is also a professor of anthropology at the University of Mississippi (Telephone: 601-232-7316). The National Park Service and the University of Mississippi have a cooperative agreement for site stabilization projects in the United States.

Request for Information About Architectural Study Collections

This request is intended to identify the existence and location of formal or informal collections of *historic building parts, materials, features, and examples of craft practices*—which might be thought of as having potential for exhibit and/or research purposes by historical architects, building technologists, preservationists and others. This survey is limited to those objects that are no longer part of an historic building or period room; objects that have lost their context. The information provided will be used to develop a list of architectural study collections in the United States. This effort is part of a *Skills Development Plan Study Plan*. Your assistance is appreciated.

Name of Owner or Museum or Park: _____

Mailing Address: _____

_____

_____

Scope of Collection: (Please describe the contents of the collection including the main type of object or specimen. Are they related to one site or multiple sites? If you have no architectural objects, please write "No collection.")

_____

_____

_____

Representative dates of collection: _____

Instructions for filling in the columns:

1. "Number of Parts": If none, write NA (not applicable). If exact number is not available, use estimates.

PLEASE LEAVE NO SQUARES BLANK.

2. "Comments": Use this space to provide information about the period, style, or materials of these items.

Parts of buildings in collection	Number of Parts	Comments
structural parts (wood or iron) for framing systems and connecting devices.		
exterior features such as column capitals, terra cotta		
wall cladding, such as shakes, clapboards, etc.		
roofing materials like tile, slate, shingles, tin, etc.		
rain conductor parts, like heads and downspouts		
window frames, sash, shutters		
doors and related features like frontispieces, transoms, sidelights, pediments		

Parts of buildings in collection (continued)	Number of Parts	Comments
Interior features, such as fireplace mantles, portions of stairs, decorative features such as carved wooden brackets		
heating devices and stoves		
flooring: wood, encaustic tile, marble, etc.		
lighting devices such as gaslighting fixtures, electrical lighting fixtures and wiring		
plumbing equipment		
hardware for doors and windows, bell systems, etc.		
iron and other metals for railing, fences, grilles, cresting, storefronts, spandrels, columns, cornices, etc.		
streetscape and small-scale elements in the landscape, such as benches, lights, signs, clocks, memorials, etc.		
molding samples		
plaster samples		
paints, graining, marbling samples		
wallpaper samples		
mortar samples		
other		
other		

Physical location of collection: _____

Is it accessible for research purposes? Yes_____ No _____

Are any objects on exhibit? Yes_____ No _____

If yes, where? _____

Are there any publications that refer to this collection? Yes_____ No _____

If yes, please provide title, author and date of publication. _____

_____

Information provided by: _____ Date: _____

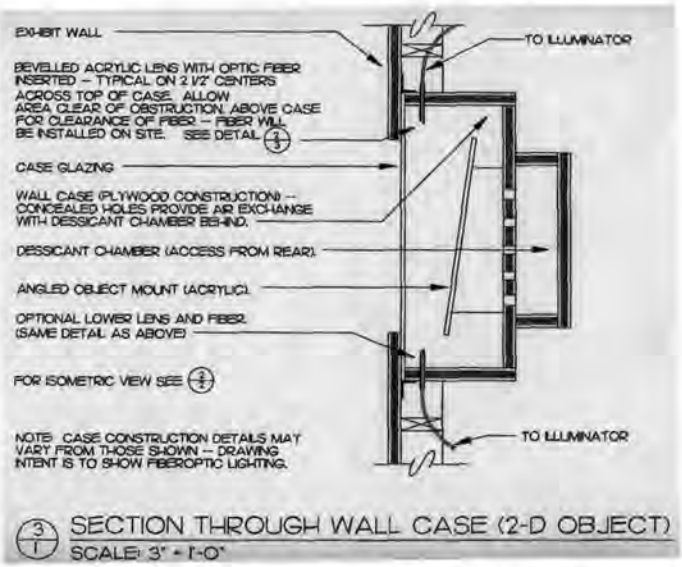
Person to contact regarding collection: _____

Please send completed information to Emogene Bevitt, Preservation Assistance Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127. Thank you for your assistance. rev. April 7, 1993.

*(**Fiber Optics**—continued from page 10)*

bottom rear of the cases. The cables then crossed 6"-10" of open floor space, entered through holes at the bottom of the panels, and were then bundled with cables from the boxes at the illuminator. The sections of cable exposed to view behind the exhibit cases were covered with black polyethylene tubing.

The manner of fixing the fiber optics to the light source had to be considered because of the potential for heat build-up and subsequent damage to the optics. Cables were bundled into and supported by a 5"-long aluminum tube held in an aluminum collar with set screws. This provided a method of attaching the fiber optics to the illuminator and allowed sufficient ventilation of heat from the bulb.



Detail of case construction. Drawings by John Battle, Detailed Concepts.

Future Directions

Our research and experimentation demonstrates that a simple and effective system for artifact illumination can be developed using readily available materials. More sophisticated systems may evolve as interest grows within the museum community. Future uses may include fiber optics connected to passive solar collectors, providing UV and IR- free sunlight to museum galleries and visitor areas.

The ability to get safe, effective lighting to museum objects at relatively low cost suggests that the future of fiber optics in museums looks promising.

Our application of fiber optics has allowed us to satisfy the immediate conservation and design objectives at Friendship Hill. It also has given the designers, planners, and other museum professionals at Harpers Ferry Center an additional tool with which to work.

Larry Bowers is a museum technician in the Division of Conservation, National Park Service, Harpers Ferry, WV.

*(**Labor**—continued from page 14)*

Street, Haledon, NJ 07508; Phone: 201-595-7935). The museum seeks to advance public understanding of the history of work, workers, and the labor movement of the United States, with special attention to the ethnicity and immigrant experience of American workers.

There is little ambiguity regarding the public commemoration of sites associated with leading politicians or business figures in American society. However, sites that focus on working class life, especially those that are connected to harsh strikes culminating in defeat, often are remembered in much more complex ways. When reporter Mel Most tried to interview 1913 survivors and their children for a story in a local paper in 1973, he met with widespread resistance. One neighbor of the Botto family in Haledon was terrified that she might be mentioned in his story. In popular memory the 1913 strike had become associated with the decline of Paterson, with violence, and with un-American radicalism. This was the case despite clear historical evidence to the contrary: the strike was democratic and non-violent in nature, the community had demonstrated widespread support, and the IWW had attracted thousands of Paterson workers to its ranks.

Even Bunny Kuiken's own grandparents did not talk with her about the strike or the role of their own home. Still, she felt something about the house and, with the discovery of an old photo (reproduced here), she began to investigate the history of the workers of Paterson and Haledon, and her own family past. With the Botto House established as a national landmark and hosting the American Labor Museum, Kuiken believes that her commitment to a public commemoration of this significant history has been fulfilled. In "The House on the Green," a video distributed by the museum, she declares: "I want this house to be here for many generations to come—to not forget those 25,000 people that were out of work. And it was forgotten for many years. Many people just wouldn't talk about it. And it bothered me that I had that one picture with all these thousands of people out front and nobody seemed to remember them. And through this I hope they shall be remembered."

The Botto House is one of the National Historic Landmarks featured in the National Park Service's book, *The Great American Landmark Adventure* (see *CRM*, Vol. 16, No. 1). For those interested in learning about this history in greater detail, two books might be of particular interest: Steve Golin, *The Fragile Bridge: Paterson Silk Strike 1913* (Philadelphia: Temple University Press, 1988); and Philip Scranton, ed., *Silk City: Studies on the Paterson Silk Industry, 1860-1940* (New Jersey Historical Society, 1985). If you are interested in a comprehensive overview of labor history throughout the history of the United States, there is the two-volume study by the American Social History Project, *Who Built America? Working People and the Nation's Economy, Politics, Culture & Society* (New York: Pantheon Books, 1992).

Marty Blatt is supervisory historian/chief of Professional Services, Lowell National Historical Park, and is working with Harry Butowsky, Washington Office, History Division, in the administration of the National Park Service's labor history theme study (see *CRM*, Vol. 15, No. 5).

Archeological Curation and Collections Management

A Challenge for Federal Agencies

Marc Kodack
Michael K. Trimble

Archeological collections consist of both archeological material remains and associated records generated by archeological projects. The curation of these collections is mandated by public law and regulation to conform to professional standards that ensure that facilities can care for these collections forever.

Unfortunately, the state of many archeological collections and the facilities in which they are housed are so poor that the efforts and funds expended in the creation of these collections are in danger of being lost. In their present state, most federal archeological collections are at risk. Without a commitment to resolve this problem, we face losing a significant portion of the archeological heritage recovered from federal lands.

All federal agencies are responsible for the long-term preservation of our national heritage for future generations. During the last 100 years the federal government has actively supported archeological research throughout every region of the United States. This research includes not just excavations of large, prehistoric Southwestern pueblos, or mound sites in the Southeast, or River Basin surveys along the Missouri River, but also significant undertakings on all federal property regardless of whether they are on military reservations or on land administered by the Department of the Interior. The scale and intensity of this research has dramatically increased in the last 30 years because of the passage of numerous federal laws and regulations protecting archeological collections. As a result of this increased archeological activity, large quantities of both archeological materials and associated records were and are being generated. However, the curation of these collections has lagged far behind the recovery efforts. The absence of a national program for the long-term preservation of archeological materials and associated records is already leading to the deterioration and destruction of many federal archeological collections.

The Problem

The national archeological curation problem that all federal agencies currently share includes difficulties in meeting legal mandates due to lack of staff and funding, decay and loss of our national heritage, lack of funding specifically targeted for curation and collections management, and the absence of a plan for future acquisitions of archeological collections. Specific problems with collections include loss of archeological materials through neglect and decay, inadequate storage facilities and storage space, the loss of the associated documentation, no temperature or humidity controls, no fire or alarm systems, and no pest management plan. Together, these problems result in the inaccessibility of the information in collections to the public and researchers.

To address these problems with the St. Louis District's own archeological collections, District archeologists in 1988 reviewed all extant reports of archeological investigations, visited every repository that was curating District collections, created an inventory for each collection, and finally, consolidated the collections into two regional facilities. By completion of this project, 92 collections were identified totaling over 3400 cubic feet of archeological materials and associated records. These collections were spread across the United States in Ohio, Massachusetts, New Mexico, and in an additional seven repositories in Illinois and three in Missouri. The St. Louis District's experience in addressing the curation of its own archeological collections has led to a national curation and collection management assistance program. We are working with federal agencies throughout the United States to address these agencies' curation problems.

A Solution

To remedy our national curation problem, the U.S. Army Corps of Engineers, Technical Center of Expertise, proposes a program designed to address not only archeological curation deficiencies, but also collections management needs. This program includes all of the following:

Curation Needs Assessment

Through a needs assessment, the extent of previous archeological work conducted on lands administered by an agency is evaluated through a detailed examination of published and unpublished reports, interviews with agency personnel, curators, archeologists who conducted work, and other individuals who possess knowledge of previous archeological work. From this information a planning document and integrated database are created. The focus of this information gathering is to establish the status of the current collection and to create a master bibliography. The bibliography is a resource for planners that can be regularly updated.

Evaluation of Existing Repositories

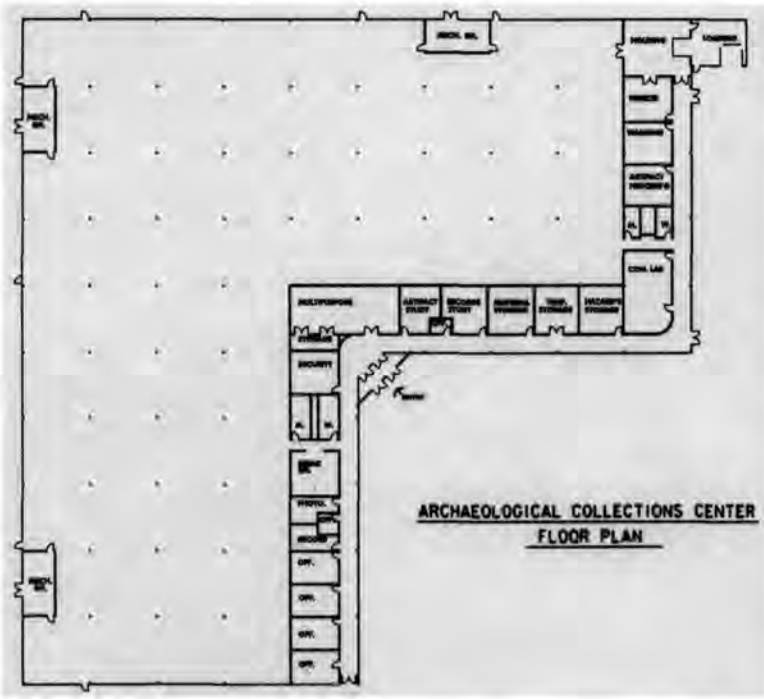
Once the repositories are identified, each is visited and thoroughly evaluated to determine the capabilities of the facility to curate collections according to mandated standards. Facilities that currently meet federal standards are identified in each state. The physical condition of the archeological materials and associated records and their storage environment are also evaluated. Each box and its associated containers are inspected for the preparation of a detailed inventory of the collection. The size of the collection, cubic feet for archeological materials and linear feet for associated records, is also recorded. If the collection is large, a representative sample of the containers is

selected. The resulting database and report enable managers to understand the composition of their collections and plan for the proper curation of the collections.

Design and Construction of Regional Repositories

After the inspection of the collection is completed, some of these collections may require their removal from the facility where they are located. New regional collections centers may need to be built to accommodate these collections. In conjunction with the Army Corps of Engineers Construction Engineering Research Laboratory (CERL), the St. Louis District is currently designing a new collections management center for construction at CERL. This collections center will temporarily house the archeological collections from the installations closed as a result of base closure and realignment.

The modular design of the facility at CERL can serve as a prototype for other regional centers. The modularity allows for the deletion or insertion of rooms according to an agency's needs. Changing the design is dependent on the kinds of archeological materials and associated records that will be processed and housed. We believe the most efficient use of available funds for curation is to focus on a regional approach to curation that brings together a number of federal agencies to share the construction cost of a regional repository. We fully support keeping archeological collections in the region of their origin.



Archeological Collections Center, floor plan.

Archeological Collection Center Model

Our prototype facility incorporates features necessary for an agency or group of agencies to permanently curate their collections, and thus be in compliance with 36 CFR 79. The facility includes:

- Security isolated task areas and staff support rooms directly associated with archeological curation, collections rehabilitation, and conservation.
- Secure collections, archives, and photographic records storage areas. These rooms contain appropriate environmental systems for controlling temperature and humidity needed for collections.
- Public areas, reduced security. Task areas include offices, support rooms and space dedicated to sharing collections information with the public.
- Secure storage areas for supplies and flammable materials. Rooms are specifically designed to withstand explosion or intense fire.
- Dedicated secure study area for the public and researchers to examine records and collections under supervision of staff.
- Mechanical room(s) containing HVAC systems as well as humidity and specialized, zoned temperature control systems.
- Task areas devoted to building security and maintenance.

Operation and Maintenance of Regional Curation Facilities

After a regional collections management facility is built, it must be staffed and maintained to professional and federal standards. Annual funding is required for this effort to ensure that existing and future curation needs can be met. As part of the management of a collections facility, adherence to a uniform database and inventory cataloging system for all collections enables the public and researchers to have access to collections information that otherwise would be unavailable. We need to manage collections for the benefit of present and future generations.

Conclusion

The St. Louis District, Army Corps of Engineers has curation needs assessments projects with military installations, Engineer Districts, and non-military federal agencies throughout the United States to identify archeological collections derived from projects conducted on their lands. These installations or agencies are located in Oregon, Washington, California, Illinois, Missouri, Georgia, Arkansas, Oklahoma, Kansas, and the 39 installations to be closed under base realignment and closure. The District is the Army's designated Technical Center of Expertise for Archaeological Curation and Collections Management. Through the District's national program, we are working in cooperation with other federal agencies to begin to understand the scope of the curation problem these agencies face and move toward addressing the current condition of their archeological collections.

Marc Kodack is staff archeologist in the Curation and Archives Analysis Section, Planning Division, U.S. Army Corps of Engineers, St. Louis District.

Dr. Michael K. Trimble is chief of the Curation and Archives Analysis Section.

Saving WWII Historic Sites

Metals Conservation Course in the Marshall Islands

The Republic of the Marshall Islands (RMI), Australia, and the United States sponsored a metals conservation course and demonstration project December 3-10, 1992, which was attended by nine students—two from the Commonwealth of the Northern Mariana Island (CNMI), two from the Republic of Palau (RP), one from the Federated States of Micronesia (FSM), and the others from the RMI. Micronesia is located in the Western Pacific. The Marshall Islands lie between 7 to 14 degrees north of the equator at the eastern end of Micronesia, which is over two thousand miles WSW of Hawaii. The Historic Preservation Office of RMI organized the course and project. The government of Australia awarded a $16,000 grant to purchase the supplies and equipment for the demonstration project. The National Park Service (NPS) provided the technical assistance and one of the instructors. Bonded Chemicals of St. Louis donated the primer and paint to the RMI.

In 1991 Carmen Bigler, Historic Preservation Officer (HPO), requested technical assistance from NPS to arrest the deterioration of World War II historic sites in the RMI. Micronesia's climate is highly conducive to deterioration, especially the corrosion of metals—heavy rain, high humidity, salt air and spray, rapid growth and decay of tropical vegetation. In addition, being close to the equator, it has strong ultraviolet rays, which have little or no effect on bare metals but which rapidly degrade any paint and primer films. Since these sites are deteriorating at an alarming rate, RMI has placed their conservation as one of its highest priorities for the next five years. In February 1992 Margaret Pepin-Donat, chief, Division of National Register Programs, Western Regional Office (WRO), sent David W. Look, AIA, chief, Preservation Assistance Branch and co-author of *Metals in America's Historic Buildings*, to assess the situation. Dirk H.R. Spennemann, Ph.D., then RMI archeologist and acting deputy HPO, gave Look an extensive tour of these sites on Majuro, the capital of RMI, and the outer atolls of Mile, Wotje, and Maloelap.

After World War I, the former German Colonies in Micronesia were awarded to Japan under a mandate of the League of Nations. By the 1930s Japan began actively planning for a military confrontation with England and the U.S. in a bid to extend its sphere of influence into Southeast Asia. In order to create a suitable defense system at its perimeter, the Japanese navy decided to develop some of the atolls of the Marshall Islands (Kwajalein, Jaluit, Majuro, Mile, Wotje, and Maloelap) into bases for seaplanes, surface ships, and submarines; and, with the advent of long-range land-based bombers, as airfields, contrary to the arms limitation agreement of the Mandate. The development of Wotje base began in December 1939 as part of their defense strategy. Wotje Island on Wotje Atoll was planned and built as a seaplane base and airfield to provide long-range sector patrols for the defense of the outer perimeter of the Japanese South Seas possessions. In addition, the air base on Wotje was needed to carry out raids on Pearl Harbor and Midway. It was supplied by the main base, Roi on Kwajalein Atoll, with fighter and patrol-bomber planes as needed. Parts of the Wotje Base were still under construction when the first American bombs (over 15,000 tons) fell on the atoll in February 1942. Once the military value of Wotje was destroyed, the Americans moved on to other targets. Although WWII was only a very short episode in the history of Micronesia which many would rather forget, it was a world-wide event that forever changed the lives of Micronesia. Unfortunately, the Marshallese were on the battlefield of two world powers.

After the war, Wotje was so destroyed by U.S. bombing and so littered with unexploded ammunition that little development took place. In the mid-1970s a development plan for Wotje was drawn up, major clean-up of war debris undertaken, and the atoll once again made a district center. Marshallese who had fled to other islands of the atoll slowly returned to Wotje. Since WWII the Marshallese have tried to rebuild their lives and devastated economy. Needless to say, the sites and artifacts

Two different primers with corrosion inhibiting pigments were used to test their effectiveness in the severe tropical marine climate.

from WWII were not valued or maintained. On the contrary, many were the victims of souvenir hunters and scrap metal dealers. Other artifacts have been moved and adaptively reused for a variety of uses.

Today, RMI has a small tourist industry. The visitors are predominately Americans (both veterans and non-veterans), Japanese (especially Japanese bereavement associations), and Australians. The 24 atolls and five separate islands of RMI have thousands of miles of white sandy beaches and beautiful scenery, but Mile on Mile Atoll, Wotje on Wotje Atoll, and Taroa on Maloelap Atoll have the added attraction of almost totally intact WWII sites. The outer atolls are very unspoiled—without electricity, cars, roads, and all the modern conveniences of Majuro. With the assistance of the RMI historic preservation office, Air Marshall Islands has developed one-day guided excursions from Majuro. There are five thatched

guest cottages on Mile for those who wish to stay longer than just a few hours.

Since the assessment visit, Spennemann and Look have been developing a conservation management plan of World War II sites in a tropical marine climate which is still in draft, but should be published in the near future after peer review and editing. Wood, coral, concrete, and metals were the main materials used in the construction of these bases. The Japanese-imported lumber was ill-suited for the climate and has been almost totally consumed by dry rot and insect infestation. The only standing wooden Japanese building is in Majuro and is in such an advanced state of decay that it cannot be saved. It is being documented with Historic American Buildings Survey (HABS) drawings and photographs. The coral blocks quarried from the reefs were mainly used to construct seawalls along the ocean beaches; these are in good condition except where beach erosion and tidal surge have demolished the walls. The concrete construction is in various states—early construction under civilian Japanese administration with imported and/or washed beach sand is in relatively good condition, while later military construction done with haste, dwindling supplies, and frequently with beach sand is in poor condition. With no maintenance since WWII, the metals are in the worst condition with advanced states of corrosion. Thin-gauged metal elements were either removed by

Participants of the Metal Preservation Workshop (from left): David W. Look, AIA (U.S. National Park Service); Dr. Dirk H.R. Spennemann (RMI Historic Preservation Office); John Diego C. Camacho (Northern Mariana Islands Historic Preservation Office); Elvis Killion O'Sonis (FSM Chuuk State Historic Preservation Office); Florencio Gibbons (Republic of Palau Division of Cultural Affairs); Hemley M. Benjamin (RMI Historic Preservation Office); Carthney Laukon (Alele Museum and National Archives, Majuro); Kautechang V. Blaivok (Republic of Palau Division of Cultural Affairs); John Diego Palacios (Northern Mariana Islands Historic Preservation Office); Henrik Christiansen and Laan Lorance (both Alele Museum and National Archives, Majuro).

souvenir hunters and scrap metal dealers or totally consumed by corrosion. Although the thick metal elements are extant, they are heavily encrusted with corrosion. A very few artifacts have traces of paint and primer where they were sheltered enough to create a protective microclimate. Classic examples of almost every type of corrosion can be found at these sites—atmospheric corrosion, pitting, stress corrosion cracking, galvanic corrosion, etc. The study, treatment, and monitoring of these sites is, therefore, not only very beneficial to the RMI and the other Micronesian governments, but also to the NPS which has numerous military sites, both WWII and other eras, in coastal marine climates many of which are also tropical.

The tourists who come to the Marshall Islands are mainly interested in seeing the large coastal defense artillery and dual-purpose anti-aircraft guns, planewrecks, shipwrecks, and to a lesser extent, concrete buildings and bunkers. The thickness of the metal used in the manufacture of the large guns is considerable and explains why they have survived even with advanced deterioration. The government of the RMI is very interested in preserving these large guns for future generations of Marshallese and tourists. The ideal solution would be to hoist the large guns, move them to a conservation laboratory, place them in a large tank for corrosion removal by electrolysis, followed by rinsing, coating with microcrystalline wax, heating in an oven, and then displaying in a museum or storing them in a vault with climate control. The RMI has a very fine museum in Majuro, the Alele Museum, but it is too small to display these guns and does not have a conservation laboratory and a storage vault. The RMI does not have the funds to construct a larger museum, a laboratory, or a vault, nor does it have the funds to send these artifacts elsewhere to be conserved. The lowest estimate for the conservation treatment is about $100,000 per gun without transportation. There are approximately 30 guns per base. Although the conservation treatment described above would be ideal for the artifact, it would have an adverse effect upon the WWII sites as a whole. Even with the advanced state of deterioration of the sites, the viewer can still receive a strong sense of what these installations were like during and after the war. If these artifacts were removed, the sites would lose part of their integrity and their ability to convey the historic character of these bases. It would also eliminate the reasons most tourists take the long trip to these remote atolls.

As a part of the conservation management plan, Spennemann and Look developed two demonstration projects. The first was vegetation removal. Plants and trees grow very rapidly in the tropics and soon take over, not only obscuring the sites from view by tourist and maintenance workers but also contributing to their deterioration. Plants in contact with the metal surfaces hold moisture and eventually decay—providing an ideal situation for corrosion similar to wet, rotting leaves in a metal gutter. Overhanging limbs continue to drip long after the rain stops and the shade they create slows down evaporation, thus allowing moisture to stand on the metal surface for a prolonged period of time.

The second demonstration project was the treatment and monitoring of the large guns. The objective was to find a cost effective method of slowing down the deterioration. Without being able to treat and place them in a controlled environment, there is no way of being able to arrest deterioration, but if it can be slowed down, the large guns may survive long enough in this severe climate for more effective means to be developed. Heat, chemical, and electrochemical removal of corrosion *in situ* is impossible, impractical, and/or not economical at this time.

*(**Metals Conservation**—continued on page 24)*

(*Metals Conservation—continued from page 23*)

In compliance with the *Secretary of the Interior's Standards for Preservation Projects*, historic materials should always be cleaned with the most gentle means possible. More severe methods of cleaning should only be used when necessary to accomplish the state of cleanliness necessary, but stopping short of doing any damage to the resource. Ferrous metals (iron and its alloys) are hard enough to withstand mechanical cleaning methods of scraping, wire brushing, and sanding and even grit blasting within limits. Also, any remaining rust on the surface of ferrous metals will continue to spread under the paint, causing it to peel (a common condition found on automobiles). For best results, paint preparation requires that the rust be removed to bare or white metal. The $16,000 grant from Australia was used to purchase a generator and sand-blasting equipment and supplies. The RMI used their own funding to purchase additional supplies.

Extensive research was done to study various corrosion-inhibiting primers and paint systems available from the U.S. and Australia. The three systems selected were red lead, zinc-rich, and epoxy primers followed by compatible finish coats of paint. Since the manufacturer of the epoxy system did not respond in time to order their product, only the red lead and zinc rich systems were used. E. Blaine Cliver, chief, Preservation Assistance Division (PAD); the National Association of Corrosion Engineers (NACE); Herbert D. Bump, Research and Conservation Laboratory, State of Florida; and Daniel Riess, metals conservator, Harpers Ferry, WV, were helpful in providing technical assistance.

At the suggestion of Joseph Wallis, chief, Grants Administration Branch, NPS, the demonstration projects were combined with classroom training; and invitations were sent to all of the historic preservation offices in the Pacific. The demonstration projects were conducted during the day when it was not raining, and classroom training was conducted during the rain and in the evening. Dirk Spennemann gave lectures and walking tours on the history of the Marshall Islands (especially WWII) and on the identification and operation of military equipment and guns and their emplacements, safety, and vegetation removal. David Look gave classes on the *Secretary of the Interior's Standards for Preservation Projects*, identification of metals and alloys, properties of metals and alloys, causes of corrosion, types of corrosion, methods of corrosion removal, and coatings. A battery of three six-inch British guns manufactured between 1898 and 1905 by Elswick Ordinance Company, a subsidiary of W.G. Armstrong & Co., Newcastle-on-Tyne, U.K., were cleared of vegetation by one team while another team assembled the sand-blasting equipment. During the clearing, one 50lb. unexploded American bomb was found and marked. The other team discovered another problem. Unfortunately, two hoses were missing and the sand-blasting equipment could not be used.

The original plan was to clean and prime two of the large 6" guns, one with each of the primer and paint systems. Without the use of the sand-blasting equipment and with the daily rains, it was necessary to scale back the demonstration to only one gun. All corrosion had to be removed by hand methods of scraping, wire brushing, and sanding. Instead of cleaning two of the guns that were cleared of vegetation, the 120 mm gun in the village next to the church was selected because it eliminated the 45-60 minute walk twice a day to and from the site along the ocean. This 120 mm gun has been moved twice: in 1942 it was moved from the shipwrecked *Goyotsu Maru* to a location on the oceanside of Wotje (at the end of the presently used runway) and in the 1970s it was moved again from the ocean side to the church. Conserving the gun by the church had the added advantage of increased public awareness. Villagers, especially the children, watched with great interest our progress of corrosion removal, priming, and painting. At first it seemed awkward and untimely for the class to be working on the gun next to the church which had part of its roof torn off by super typhoon Gay the week before the class arrived. But we did not have the supplies or equipment to help them with their church and the Federal Emergency Management Agency (FEMA) did not arrive until two days after commencement of the class.

The zinc-rich primer was used on the middle section of the barrel and the red-lead primer was used on the remainder of the gun. Two coats of primer were applied followed by two coats of finish paint. Two different colors were selected for the finish coats of paint so that the painters could easily see what had or had not been painted. The final coat was a taffy color. It is close enough to the existing rust color so as to not totally change the character of the resource but different enough to detect rust during future inspections. Twenty-four hours were allowed between each coat of primer and finish paint. If there had been more time, it would have been preferable to allow more time for each coat to dry. The frequent rains and high humidity slowed the drying of primer and paint. Large tarpaulins were stretched between metal scaffolding to provide protection for the students from the strong tropical sun and to keep the rain off the metal surface. To extend the project another four days until the next plane would have been impossible and too expensive.

Each student took a seven-page final examination which lasted about two hours. All passed the exam with high grades. The results of the test showed that the students had studied hard and learned a lot.

On the last day after the final coat of paint was applied, the minister of the church gave an invocation, the acting mayor of the village gave an address and thanked the class, the youth choir sang, and certificates were presented. The students were very proud of their work. The students flew back to Majuro. That evening Carmen Bigler had a graduation party for the students at her home.

In the future, the condition of the 120 mm gun will be monitored and the two paint systems will be assessed for their effectiveness in this situation.

The information in this article was provided by Dirk H.R. Spenneman and David W. Look. For additional reading see *CRM*, Vol. 15, No. 2, p. 15.

Historic Preservation at Vandenberg Air Force Base

Holly Dunbar

The National Park Service has awarded a contract to the Chambers Group, Inc., Irvine, CA, for archeological survey, data recovery, National Register evaluation of prehistoric and historic properties, and preparation of an historic preservation plan for Vandenberg Air Force Base, a 98,400-acre coastal installation located in south-central California, 60 miles northwest of Santa Barbara. Nearly two million dollars in funding for the current cultural resources investigations are being provided by the U.S. Air Force, with some assist through the Department of Defense Legacy Program. Principal investigator for the research is Dr. Phillip de Barros. Co-principal investigators are Carmen Weber, also of the Chambers Group, and Craig Woodman of Chambers' primary subcontract affiliate, Science Applications International Corporation (SAIC), Goleta, CA.

Historic preservation at Vandenberg is now in its 24th year. (The Vandenberg-NPS partnership is in its 21st year.) With only 7% of the Base surveyed, over 700 archeological sites spanning nearly 9,000 years of prehistory have been recorded. These include several large and highly significant Chumash village sites known from early Spanish Mission records. However, Vandenberg also contains a challenging array of potentially significant historic properties in need of evaluation and treatment. These include remains dating from the Mexican Period, Chinese fishing camps probably associated with building of the Southern Pacific Railroad, World War II, and Cold War Period structures, and unique and highly specialized engineering properties associated with Vandenberg's commitment to Space Age programs.

The current phase of cultural resources investigations is being conducted under an Advisory Council programmatic agreement (in preparation), an interagency agreement between Vandenberg Air Force Base and the National Park Service-Western Region, and a long standing but recently revised and updated Native American memorandum of agreement with the local Santa Ynez Reservation. The University of California at Santa Barbara will maintain collections and research data emanating from the Vandenberg projects pursuant to yet another memorandum of agreement. Contract delivery orders will include research and data assessment for the development of the Base Historic Preservation Plan, survey, rock art, public reports, and in-depth site evaluations. The latter will require limited data recovery and prestabilization assessments of several National Register eligible prehistoric sites that are threatened by coastal and riverine erosion. The prestabilization assessments will be conducted by Dr. John Ehrenhard, NPS-Atlanta, and Dr. Robert Thorne, University of Mississippi, under a special cooperative agreement for interagency site stabilization studies.

Holly Dunbar is an archeologist in the National Park Service, Interagency Archeological Services Branch, San Francisco, CA. For further information, contact Holly (telephone: 415-744-3916) or Laurence Spanne, base archeologist, Vandenberg Air Force Base, CA (telephone: 805-734-8232, ext. 5-0748).

Interdisciplinary Manager Course Develops

James Corless

For five years the "Facility Manager Development" course has been instrumental in meeting the NPS call for highly trained managers in the maintenance field. In 1993, for the first time, that course was expanded to include park professionals in maintenance, interpretation, law enforcement, and administration. Thirty-six individuals, mostly supervisors—some line, some division chiefs—from these four disciplines came together for the "Leadership and Management Skills" course at Albright Employee Development Center in January. The course was made possible through the efforts of the NPS Employee Development Division, the Washington divisions of Interpretation, Engineering and Safety Service, and Park Planning and Protection, and the regional administrative offices.

During the five weeks of the course, this group came together not only in locality, but intellectually as well. The course provided countless opportunities to approach problems from a multi-disciplinary perspective, using the collective diversity of knowledge and skills of the varied group. The result was dramatic.

Participants, who themselves pointed out that they often were at odds with other divisions in their parks, found that they were able to meet management objectives far better when they worked with these other disciplines from the very start of planning or problem-solving activities. And in most instances, their own objectives were met in the process. This is being confirmed when participants go on their individual four-week details to new units—and often to new divisions—to broaden their experience and put their new learning to the test.

However, the one shortfall of the course was the scarcity of natural and cultural resource management expertise. While the course agenda included resource management topics, the exercises would have been even more powerful if resource management specialists had been included to add their perspective and respond to the objectives of the other disciplines.

(Interdisciplinary—continued on page 26)

(*Interdisciplinary—continued from page 25*)

"Teamwork," the tired, frequently overused label, was mentioned only once in the course agenda. However, without thinking much about it or calling for it directly, a team approach developed quickly as participants became room mates, then work mates solving exercise problems, then often friends who discussed their park concerns to come up with creative solutions. They recognized their differences but soon found that they could help each other, not only in the exercises, but in planning after-hours activities, preparing for classwork, taking a hike in the canyon, or in addressing existing park issues.

At the course's conclusion, with equal enthusiasm for each discipline, the group themselves adopted an action plan—a set of objectives and actions—to further their self-defined mission: to strengthen the pride and vision of the NPS by empowering people through creative leadership and an interdisciplinary team approach. The first objective was to attain a pervasive awareness throughout the service of the need for interdisciplinary efforts. This article is one of the actions identified to achieve this objective—to call attention to the course and to the enthusiasm the course participants have for working together to achieve park goals.

Focuses of the course included human resources management—a delegation of responsibility and authority approach was advocated, one of the elements of effective leadership. Diversity in personal and work styles was illustrated through testing participants and illustrating how diverse styles can complement each other in a work environment. Decision making, time and risk management, communications and negotiating, press relations, and managing change were all interesting components of the management curriculum. Sessions on planning linked well with the resource management segments, and Associate Director Jack Davis fittingly linked the course to the Vail Agenda and the leadership required as the NPS enters the 21st century.

Nine each of park interpreters, administrators, maintenance professionals, and protection rangers have committed themselves to professional leadership and management of park resources into the next century after completing this course, what many called their "best course ever." Their hope is that all park specialists are able to join in this program through future courses to share knowledge and understanding among an even wider group of park professionals.

James Corless is chief of interpretation and resources management at Hopewell Furnace National Historic Site, Pennsylvania.

(*Mary Washington—continued from page 5*)

measured drawings and photographs and undertake documentary research on a historic building as well as analyze materials deterioration in a laboratory setting. For the museum studies focus, the Center's James Monroe Museum, also a National Historic Landmark, offers students an opportunity to develop exhibitions. Folklore-focused students may document vernacular buildings in a rural landscape. For those students who select historical archeology as a focus, the Germanna Archaeology Project (Governor Alexander Spotswood's 18th century plantation manor house) or the Market Square site in downtown Fredericksburg provide literal hands-on experience.

Classroom work frequently involves projects with community value. For example, students are required to prepare nominations to the National Register of Historic Places and to shepherd the nominations through the Virginia Department of Historic Resources. Students also create documents to be used in a wider venue, such as preparing a computerized database for the Mutual Assurance Society insurance policies from the 1790s to the 1860s, making accessible information on Virginia buildings that includes site maps, floor plans, and building materials. Other projects include the creation of a database on advertisements for runaways from the 1740s to the 1780s, made from those published in the *Virginia Gazette*, which will provide valuable information on the ethnography of the indentured white laborers; the preparation of an index to the journal of the *Association for Preservation Technology;* and the re-survey of properties in the Fredericksburg Historic District using the National Park Service's Integrated Preservation Software to update the district's documentation (since its listing in the National Register of Historic Places in 1971).

What is the future of the College's historic preservation program? Clearly, the undergraduate program has reached a threshold in its evolution. Department chairman W. Brown Morton III reflects: "The hard work of basic undergraduate program development is accomplished. We will continue to strive for excellence. We are presently developing a curriculum for a graduate program in cultural resource management."

On the horizon are expanded architectural conservation and historical archeology laboratories. The program is working toward the use of Computer Assisted Drafting (CAD) to document historic and archeological properties. The folklore and folklife laboratory class will be developed. Finally, the Center for Historic Preservation will expand international academic and field work opportunities for students, faculty, and alumni. Across the nation, the "business of preservation" has subsided with changes to the federal tax code and the recession. However, the late Prince B. Woodard's vision of historic preservation as liberal arts has found a secure niche in higher education at Mary Washington College.

Antoinette J. Lee is a historian with the National Register of Historic Places, Interagency Resources Division, National Park Service.

Book Reviews

Past Meets Future: Saving America's Historic Environments, edited by Antoinette J. Lee. Washington, DC. The Preservation Press, 1992. 288pp., illus.

Reviewed by Robert E. Stipe, Emeritus Professor of Design, North Carolina State University, Raleigh, NC.

This book is a repository of the papers of key participants in the 1991 San Francisco meeting of the National Trust for Historic Preservation, celebrating the 25th anniversary of the passage of the National Historic Preservation Act. Predictably enough, according to its title, the book looks at where we have been, where we are, and where we—the preservation movement, that is—are headed.

It is a tough book to review. In its entirety, it reminds me of the local upscale cafeteria to which my wife and I occasionally repair for supper. Behind the tray line is a variety of beautifully-arranged dishes for every taste, from white wine and quiche to canned Pepsi, barbeque and Brunswick Stew. Something for everyone and every taste.

So it is with this book: a handsomely-edited arrangement of all the best concoctions of current preservation philosophy, edibly prepared, sequentially arranged, elegantly presented, and offered at a reasonable price—$25.95, which is not an outrageous price for a book these days.

Excellence abounds. In addition to its strikingly handsome format, for which production manager Diane Maddex must be specially credited, all 32 essays easily pass a threshold level of substance, coherence, and readability (although in a few cases one detects the imprint of the fine hand of editor Toni Lee). In terms of content, there is also revealed, explicitly and implicitly, the abundance of the tensions and contradictions so symptomatic of every broad-based social movement.

By contrast with National Trust annual meetings of yesteryear, one finds in this record relatively little of such traditional topics as house museum management, archeology, or preservation education, except as they deal with the need for a broader, more inclusive historical perspective, or occasionally, matters of social equity. Perhaps this reflects nothing more than a tendency for national conferences in many fields to focus with greater intensity on an increasingly narrow range of topics. However, a cynic would also recognize the faint odor of PC or the special concerns of a rising generation of younger preservationists with people- rather than building-concerns—the very topic with which this conference, by design, was intended to deal. While the emphasis is perhaps appropriate for the times, many traditional preservationists will come away from such a conference and its permanent record with a sense of isolation or personal irrelevance.

Few in this volume are heard to say kind words about the suburbs, suburban living, rubber-tired transportation, or the malling of America—quite the contrary. And if there is considerable agonizing over the continuing plight of central cities, a subject I would be the last to belittle, there is also comfort in the belated recognition that historic preservation programs can make a significant contribution to the solution of that problem. (See the July, 1972 issue of the Trust's *Preservation News* containing an article to this effect by this reviewer, who was then roundly criticized by the Washington preservation establishment for holding such revisionist views.) The essays of Arthur Ziegler, Brown Morton, and Patricia Gay, dealing with this phenomenon, are well stated. Ziegler was, of course, one of the first to recognize the connection between preservation and people.

In other topical areas, Sam Stokes's insights regarding the imperative for preserving the heritage of rural America and the American landscape should be required reading for everyone still fixated on architecture (especially the nobler bits and pieces) as the primary associative value in preservation; and the superb essays by Boasberg, Sax and Shepherd are all the response the preservation community presently requires to counter the noisy fulminations of today's advocates for "property rights." Donovan Rypkema's treatise on the origins of real estate value is the most articulate and persuasive ever to reach the eyes of this reviewer.

Other tensions are nicely handled, even if less space is devoted to them than is desirable. Michael Tomlan posits an interesting and potentially useful theory concerning the difficulty of defining when something is old enough to be worth preserving. Carried to its logical conclu-

(Stipe—continued on page 28)

Reviewed by Chester H. Liebs, professor of history and founder and director of the Historic Preservation Graduate Program, University of Vermont, Burlington, VT.

In October 1991, the National Trust, National Park Service, and Advisory Council on Historic Preservation, celebrated the 25th anniversary of the National Historic Preservation Act with a major symposium on the past and future of the preservation field. A national advisory committee sent out a call for papers. It then sugared down the over 200 queries received into a couple of dozen conference papers. *Past Meets Future* is the post-conference book containing edited versions of the papers presented, plus a few more salted in for good measure. The book also contains a list of conference recommendations.

In his provocative essay in the book titled "Personal Dialogues with Ghosts," South Street Seaport Museum President Peter Neill expresses concern that preservation "has earned public indifference by its own history of exclusionary complacency and failed imagination...This failure is based on our fascination with objects, our insistence in seeing buildings as ends in themselves rather than as chapters in narrative, contexts for history, places for people." Many of the papers in this volume, however, suggest at least on paper, that preservation in the 1990s is "brains on" and full speed ahead.

The clear standout both at the conference and in the book is the paper by now Secretary of Housing and Urban Development Henry G. Cisneros, a Mexican American, and former Mayor of San Antonio. Cisneros categorizes the near future of America as a clash between two worlds—a decentralized, well-educated, aging, and high-tech world dominated by Americans of European descent, and a more poorly educated, younger, rapidly growing world of Native, African,

(Liebs—continued on page 28)

(*Liebs—continued from page 27*)

Latin, and in some cases Asian Americans. Having no doubt gained first-hand knowledge from his former experience as Mayor of multi-cultural San Antonio, and its highly effective, inclusive, and sophisticated preservation community, Cisneros sees preservation as a forum of negotiation between these two worlds.

The language Cisneros uses to describe the importance of historic resource conservation is more highly evolved than current preservation institutional speak. For Cisneros, preservation offers "an intelligent way of relating people to their human origins," a means to "stimulate a sense of intellectual inquiry, excitement, and hunger for continuous learning," and assistance in "the process of multicultural adaptation."

Other papers also explore this larger dimension of preservation. W. Brown Morton III asserts that "geographic displacement, social estrangement, and the loss of cultural memory seriously erode the possibility of successful human development for millions of Americans." He exhorts the field to place greater emphasis on "social significance."

Antoinette J. Lee sees America moving from "melting pot" to a "salad bowl" with visible ingredients. She challenges preservationists to record and preserve the "initial adaptations to the American scene" of recent immigrant groups. Like Cisneros, she hopes that a greater unity will emerge from a recognition of differences.

Richard Longstreth is also concerned with expanding preservation's purview, in this case to conserving the design legacy of the mid-to-late 20th century. He calls for "the expunging of taste, or current aesthetic predilections, as a force in decision making." He also implores the field to spend less energy sorting the cultural residue by "contexts," while placing more emphasis on "substantive interpretation."

Still another voice for inclusiveness and breadth of interpretation is David McCullough. From a mind which has explored, in great depth, historical phenomena from the building of the Brooklyn Bridge to the childhood of Theodore Roosevelt, comes the realization that preservation is not about saving old things. McCullough observes that what really draws us to the past is a fascination with "What changed? What was new?" He also reminds us that "history is a spacious realm. There must be no walls." These calls for inclusiveness are balanced by notes of caution. Tersh Boasburg observes that "as preservationists find that their first-tier goals are being achieved—securing protection for the most obvious and most significant resources—they are extending their reach to protect less architecturally distinguished structures and districts." He then warns that this may lead to "a concomitant loss of political power." This point is an interesting juxtaposition to Cisneros' who sees greater power in expanding the dialog. Striking a similar chord to Boasburg's, Randall T. Sheppard declares, "There should be a unified agenda for preservation in this country. There should be a commitment to a single script."

One of the major proponents of the single-scrip school for preservation is Larry Light who reports in the book the results of a market research survey he conducted for the National Trust. Light concludes that "inconsistency breeds uncertainty," and he suggests that preservationists "must speak with one focused and consistent voice." Yet the conclusions of his survey appear to offer a complex portrait of general attitudes of the present public toward the past. His findings ranged from the view that "preservation's mission is to preserve the best, the most differentiating, the most relevant qualities of the past" to a recognition of people's hunger for "a true and genuine picture of America's diverse heritage."

The data, then, also seems to support the conclusion—opposite to Light's perceived longing for uniformity—that the public both expects preservation to edit the cultural memory, and to present the unabridged version at the same time. Light's work poses an interesting question. Is the field best served by masking these differences with market-researched unifying themes or are a diversity of views and approaches a strength? Most likely the ghosts of Ruskin, Morris, and Viollet-le-Duc will continue to haunt the field.

The book is crammed with an array of other perspectives. Jerry Rogers hopes the era of federal government plundering for short-term profit of "the largess of all the people" is over. Blaine Cliver calls for creation of a "national organ bank" of new uses waiting to be matched up with endangered historic buildings, and Patricia Gay discusses the effect of anti-urban media values on the task of renewing cities. Sam Stokes calls for greater alliances with environmentalists to save the rural landscape. David Lowenthal places the discourse in a global context. Michael Tomlan does a Siskel-and-Ebert-like medley of thumbs up and thumbs down on recent developments in the field, and preservation patriarchs Arthur Ziegler Jr. and William J. Murtagh present interesting retrospectives.

Many other papers in the book are worthy of mention but this would call for a longer review than time and space permit. The many challenging conference recommendations, compiled by Peter Brink and Grant Dehart, must also be left to another reviewer to pursue.

Now for a few words on the downside. One thing the book solely lacks is commentary. Inclusion of some of the questions raised and critiques offered by conference participants would have helped place the many different perspectives presented in better context. It would also have made the book more of a record of a dialog rather than an anthology of monologues.

For all the issues covered there are also surprising gaps. Perhaps I missed it but I could not find a mention of lead paint, an issue which may have profound consequences on the nation's perception of old buildings, and their future viability. Major figures like James Marston Fitch, and his role in historic preservation in America, were not mentioned, while an article at the end of the book ignores many of the intellectual and applicational roots of heritage education. A compelling case can be made for a number of historians to begin simultaneously researching the history of preservation posthaste.

These few shortcomings do not detract from the fact that *Past Meets Future* is a very stimulating collection of essays expressing the precepts, conflicts, and hopes of the preservation field today. In his introduction, National Trust chair Robert Bass hopes the book will help answer "how historic preservation can best make its contribution to the lives of people in the years ahead." The essays in the book certainly do. The conference sponsors and editor Lee are to be congratulated.

(*Stipe—continued from page 27*)

sion (although he does not say it), it carries the strong implication that the 50-year rule should be strengthened or lengthened to 60- or 70 years. Bryan Mitchell's blunt statement concerning the tension between Washington, the states and, by implication, local governments, hits the nail right on the head. While lip service is paid throughout the book by a number of the essayists to the importance of local government involvement in preservation, the book nonetheless subtly betrays a paternal, federal mindset, perhaps inevitably, given that preparation of the San Francisco agenda was shared by the National Trust with the Advisory Council and the National Park Service.

One of the important current tensions within the preservation movement is that of multiculturalism. The issue of *pluribus v. unum* is presented in Dr. Lee's chapter in a compelling way, notwithstanding her discernible bias toward the *pluribus*, which is clearly shared in greater or less degree by most of the San Francisco conference participants who dealt with the issue. However, many of the systemic and practical problems of definition, administration and political authority yet to be presented by this new emphasis remain

to be addressed. A future conference and book will no doubt deal with these in a balanced way, and perhaps Dr. Arthur Schlesinger will be invited.

Are there any negatives? Yes. A few essays, presumably included for public relations purposes, are so short that they add little to the substance of the book. One could wish in such a publication for fewer essays and greater explication in those remaining. In fact, much of the substance of this conference is as well or better stated in the Trust's own *Preservation: Toward an Ethic in the 1980s* (The Preservation Press, 1980), containing the recommendations of its 1978 annual meeting in Chicago and a subsequent Williamsburg seminar in 1979. Not all that much has changed, and it is both interesting and ironic that a national historic preservation movement has such a short institutional memory.

The inclusion of the text of the National Historic Preservation Act, without elaboration or commentary, is a waste of pages and effort, again betraying an inner-Beltway mindset. And although not a negative, the absolutely superb effort of Peter Brink and Grant Dehart to make sense of all this and to define a comprehensive course of action for the future should have been set in bold-face type and given a much more prominent display and location in the overall publication. (Most readers skip over Forewords, Acknowledgments and Introductions, and for any reader to be allowed to escape the Brink-Dehart formulation for the future is most unfortunate.)

Finally, given the emphasis throughout the book on "putting people first" in preservation, it is interesting to note that of its 79 illustrations, there are fewer than 10 (not counting the dust jacket) in which there are any recognizable faces to counter the inevitable preoccupation with buildings, structures, districts and objects. Whether this is the result of tension, contradiction, or a mere Freudian slip is a matter of conjecture.

But all this is mere carping. On balance, this book rings clear in its overall message, and it is a very good investment for anyone who requires a current reading on the people who do preservation.

© 1993 Robert E. Stipe

Preservation Resources

New from the National Register

Several new publications, including three new *National Register Bulletins*, are now available from the National Register of Historic Places, Interagency Resources Division, National Park Service. *National Register Bulletins* provide technical guidance for citizens; preservation professionals; and federal, state, and local government agencies preparing National Register of Historic Places nominations. The new bulletins focus on the diverse topics of cemeteries and burial places, historic battlefields, and historic mining sites. They fulfill a need for guidance on the registration of increasingly fragile resources, threatened by development, neglect, or environmental hazards, and reflect a more comprehensive appreciation for all aspects of our cultural heritage. Each of the new bulletins discusses the National Register Criteria for Evaluation, and provides examples of how to apply the criteria to the various resources.

National Register Bulletin 40: Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields, written by National Register historian Patrick W. Andrus, responds to the overwhelming national interest in documenting and preserving Civil War sites. The bulletin provides guidance on identifying, evaluating, and registering historic battlefields from all eras of our history. Sections on assessing the integrity and defining boundaries for historic battlefields are significant components of this bulletin. It provides clear guidance on developing historic contexts and conducting research and survey. The extensive bibliography and glossary of terms are invaluable to researchers.

Cemeteries and burial places are significant resources that represent themes and customs important in America's history. These places are coming under increasing threat due to abandonment, theft, vandalism, and environmental hazards. The fragility of cemeteries, monuments and burial places, and interest in funerary art, social history, landscape design, and cultural diversity, has fostered an increased awareness of their significance. *National Register Bulletin 41: Guidelines for Evaluating and Registering Cemeteries and Burial Places*, written by Beth Boland, National Register historian, and Elisabeth Walton Potter, National Register coordinator for the Oregon State Historic Preservation Office, provides needed guidance on evaluating cemeteries and burial places, and on how to apply the National Register Criteria—special attention is paid to the National Register Criteria Considerations. The bulletin includes a concise description of selected historical trends that influenced American burial customs and cemetery design. The glossary and bibliography will prove to be an important first step for research on the topic.

The United States is one of the world's leading producers of precious metals. Mining has made a significant impact on settlement and modification of America's landscape. *National Register Bulletin 42: Guidelines for Identifying, Evaluating, and Registering Historic Mining Properties*, written by Bruce Noble, historian in the Preservation Planning Branch, Interagency Resources Division, Washington, and Robert Spude, chief, National Preservation Programs Branch, Rocky Mountain Regional Office, provides invaluable guidance on the documentation and evaluation of historic mining sites—particularly challenging as many of the sites were constructed for temporary use. Today they are extremely fragile resources. Rather than concentrating on mining camps and their architecture, this bulletin focuses on frequently over-looked mining sites and industrial areas, including iron works, precious metal mills, dredges, and associated outbuildings. Sections on the identification of mining related property types, applying the National Register Criteria and Criteria Considerations, and the selected bibliography, are particularly useful.

The *Manual for State Historic Preservation Review Boards*, written by Patrick W. Andrus, with Susan L. Henry, Stephen A. Morris, and John W. Renaud of the Preservation Planning Branch, Michael J. Auer of the Preservation Assistance Division, and Caroline R. Bedinger, Historic American Buildings Survey/Historic American Engineering Record, is a comprehensive guide for individuals serving on State Historic Preservation Review Boards. The manual covers issues relating to the Review Board, from duties of the board and ethics, to the role of the Historic Preservation Fund in preservation. The sections on the National Register of Historic Places, environmental review, Certified Local Governments (CLGs), Tax Incentives, Documentation, and Public Participation, make this manual extremely useful for all individuals involved in historic preservation. The appendix includes a listing of agencies, both government and private sector, that are involved in historic preservation, federal laws affecting historic preservation, and a glossary of terms.

To obtain copies of these and other National Register publications, please contact the National Register of Historic Places, Interagency Resources Division, National Park Service, P.O. Box 37127, Washington, DC, 20013-7127; 202-343-5726.

Patty Sackett Chrisman
Historian
National Register of Historic Places
National Park Service.

*(**Resources**—continued on page 30)*

(Resources—continued from page 30)

Underwater Archaeology

The Society for Historical Archaeology (SHA) announces the publication of a special issue of its journal, *Historical Archaeology*, titled "Advances in Underwater Archaeology" (Volume 26, Number 4), edited by J. Barto Arnold III. The issue includes such topics as major shipwreck investigations and replication and experimental archeology. Single issues are available from the SHA, P.O. Box 30446, Tucson, AZ 85751-0446 for $12.50, plus $1.75 postage and handling.

HABS/HAER Bibliography

Because of a growing interest in HABS/HAER documentation, the need for a comprehensive bibliography became apparent. *Historic American Buildings Survey/Historic American Engineering Record: An Annotated Bibliography* was compiled in 1992 by James C. Massey, Nancy B. Schwartz and Shirley Maxwell. The scope of the bibliography covers the years 1933 through 1991 and has been limited to publications issued by HABS/HAER, the National Park Service, and the Government Printing Office, those issued by HABS/HAER cooperators for HABS/HAER, and those in which HABS/HAER has substantially participated in preparing the publication. In addition to the basic components of a bibliographic entry, the citations have been annotated with material about the character of the publication, the number and type of illustrations, the reasons for its preparation, and the names of cooperating organizations which have played such an important role in the success of the HABS/HAER program.

To obtain a copy of the publication, send a check for $5.00 (includes postage and handling) made payable to "HABS General Donation Account" and mail to Jean Yearby, HABS/HAER (429), National Park Service, P.O. Box 37127, Washington, DC 20013-7127.

Native American Directory

A Native American Directory is now available which includes such information as a list of national Indian organizations, Indian schools, libraries, museums, and urban Indian centers. Write to Native American Directory, P.O. Box 1030, San Carlos, AZ 85550-1030.

Viewpoint

Letter to the Editor

Dear Editor:

I thoroughly enjoyed *CRM*, Vol. 16, No. 1, and its focus on administrative histories.

Last fall, I did a paper for a graduate program in history entitled "Preservation, Politics and Presidents: How Two Roosevelts and Their Congresses Managed Preservation Policies" which dealt with the Antiquities Act of 1906 and the Historic Sites Act of 1935. In researching the paper, I was surprised at how little has been written about preservation legislation and how little is known about its genesis. It seems as though a good deal more needs to be done in this area before we lose this knowledge for good. Fortunately, there are still a few people around, such as Charles Peterson, who can be tapped for some of the information.

Again, thanks for getting us started on a long overdue task.

Walter S. Marder, AIA
Preservation Architect
Florida Department of State
Division of Historical Resources
Tallahassee, FL

Bulletin Board

Call for Papers

The first national conference on Reclaiming Women's History through Historic Preservation will be held June 17-19, 1994, at Bryn Mawr (PA) College.

The symposium will examine the interrelationships between women's history and the built environment.

The conference welcomes proposals for papers or panels focusing on aspects of two themes: identification of buildings, sites and objects associated with women's history; and how interpretation and education programs associated with these sites can enhance and promote understanding and appreciation for women's history.

Persons interested in submitting proposals should contact Gayle Samuels at 215-527-4470 to obtain further information and forms necessary as a presenter or exhibitor. All proposals must be received by July 16, 1993.

Preservation Conference

The 47th National Preservation Conference will be held September 29 to October 3, 1993, in St. Louis, MO. The theme will be the challenge of livable communities and the role of historic preservation in meeting this challenge. Co-sponsors are the National Trust for Historic Preservation, the National Park Service, and the Historic Preservation Program of the Missouri Department of Natural Resources. For more information and a brochure, contact the National Trust, 1785 Massachusetts Ave., NW, Washington, DC 20036; 800-937-6847.

Newport Mansions Schedule

The mansions of The Preservation Society of Newport (RI) County opened for the 1993 season on March 27. For a free color brochure or further information on the Preservation Society properties or programs, contact The Preservation Society, 118 Mill Street, Newport, RI 02840; 401-847-1000.

Historic Houses in PA Receive Grants

In an effort to help preserve the Delaware Valley's cultural resources, The Philadelphia Historic Preservation Corporation (PHPC) has awarded $2 million in matching grants for historic building studies and "bricks and mortar" improvements to 30 historic house museums. Awards made under the Historic House Museum Challenge Grant Program, established in 1992, with funding from The Pew Charitable Trusts went to institutions located in Bucks, Chester, Delaware, Montgomery and Philadelphia counties.

Awards were made under the Historic House Museum Challenge Grant Program which provides sustained support to the house museum community and was the first group to recognize architectural heritage and organize to preserve it, becoming the core of the modern historic preservation movement. The grants will enable the community to complete much needed repairs, build on their existing base of community support, and better understand the unique characteristics and needs of each historic building.

Ann Harris, program director for the Challenge Grant Program, reports that the Philadelphia region has approximately 180 historic house museums which are like walk-through text books that teach, inform, enlighten, and entertain about the past and its people, traditions, and architecture. And like a good book, she says, they need to be preserved if they are to tell their story.

Of the funds awarded, $200,000 will be used for planning grants to study and

better understand the houses and $1.8 million will be used for capital projects. Capital grants will be awarded with a challenge component, which is expected to leverage nearly $1 million in additional funds raised by the house museums from donations by local groups and individuals supporting their efforts.

To be eligible for the grant competition, houses were required to meet certain criteria including listing on or eligibility for the National Register of Historic Places; annual budgets of $500,000 or less; a primary mission of preserving and interpreting the house museum for the public; and at least 500 hours of public access each year. House museums interested in receiving material or finding out more about the program should contact Adam Schneider, Program Coordinator, PHPC, 1616 Walnut Street, Philadelphia, PA 19103; 215-546-1146.

Urban Squares and Parks Symposium

An International Symposium on the Conservation of Urban Squares and Parks will be held May 12-15, 1993, in Montreal, Canada. The scientific themes which will be developed throughout the course of the symposium have been chosen to reflect the differing fields of activity within heritage preservation, the diversity of the concerns both in Canada and abroad, the new challenges facing heritage preservation, and the breadth of the dialogue taking place in the preservation field the world over.

Prior to the symposium, three educational opportunities in landscape conservation will be offered on May 10, 11, and 12 by the Canadian Society of Landscape Architects.

For complete information on both the courses and symposium, write Conference Secretariat, Coplanor Congress Inc., 511 Place d'Armes, Suite 600, Montreal, Quebec H2Y 2W7 Canada.

Historic Site Care Workshops

All all-day workshop titled "Care of the Historic Site: Assessing Needs and Implementing Solutions" will be held during 1993 in Atlanta, GA; Austin, TX; and Bethel, ME. The workshops are intended for site administrators, individuals responsible for obtaining conservation services, and professionals from small and medium size museums. For more information on the workshops, contact the following: Atlanta on May 24—Mary Ann Eaddy, Office of Historic Preservation, Georgia Department of Natural Resources, Floyd Tower East, Suite 1462, 205 Butler Street, SE, Atlanta, GA 30334; 404-656-2840; Bethel on October 2—Tom Johnson, Executive Director, Maine Citizens for Historic Preservation, P.O. Box 1198, Portland, ME 04104; 207-775-3652; and Austin on October 15—Frances Rickard, Director of Local History Programs, Texas Historical Commission, P.O. Box 12276, Austin, TX 78711; 512-463-6100.

BASIN Course

Building Advisory Service and Information Network (BASIN) will offer a course on "The Preservation of the Earthen Architectural Heritage" in Grenoble from September 19 to October 7, 1994. For more information, write Mrs. Marina Trappeniers, BP 2636, 38036 Grenoble Cedex 2, France.

Maintenance Guide

The first-ever model for developing maintenance programs, *A Guide to the Maintenance of Outdoor Sculpture* is a resource for those involved in maintaining a sculpture: owner, conservator, art historian, conservation technician, artist, volunteer, administrator, support personnel, and other professionals. Emphasizing the need for team work, the book addresses the roles of all the players and covers the basics, step by step, of caring for outdoor artworks. The *Guide* was drawn from materials assembled for the symposium "Maintenance of Outdoor Sculpture: Whose Job is it?" held in June 1992 in Buffalo, NY, in conjunction with the 20th annual meeting of the American Institute for Conservation of Historic and Artistic Works. It was co-authored by Virginia N. Naude, president of Norton Art Conservation Inc., Lafayette Hill, PA, and Glenn Wharton, a conservator in private practice in southern California. For price and ordering information, contact AIC, 1400 16th Street, NW, Suite 340, Washington, DC 20036; 202-232-6636; fax: 202-232-6630.

World Congress

The 125th annual convention of The American Institute of Architects (AIA) will coincide with the XVII Congress of the International Union of Architects (UIA) in a four-day architectural summit to be held in Chicago June 18 to 21, 1993. The World Congress of Architects, hosted by the AIA, will feature the AIA Expo93 and will be followed by NeoCon93, a major U.S. furnishings exhibition. The gathering will focus on the delicate balance between the natural and built environment. Its theme, "Architecture at the Crossroads: Designing for a Sustainable Future," reflects the event's global scope and increasing international environmental concern. The gathering will also celebrate the centennial of Chicago's 1893 Columbian Exposition, which included the first World Congress of Architects and sparked a Beaux Arts renaissance in American architecture. For information call the AIA Convention Hotline, during business hours, at 202-626-7395.

Western History Association

The Western History Association will hold its 33rd Annual Meeting in Tulsa, OK, October 13-16, 1993. For information, contact: Patricia Campbell, Western History Association, University of New Mexico, 1080 Mesa Vista Hall, Albuquerque, NM 87131; 505-277-5234.

There is a call for papers for the 34th Annual Conference, to be held in Albuquerque, NM, October 20-23, 1994. For further information and to submit proposals, due September 1, 1993, write to Melody Webb, Committee Chair, P.O. Box 308, Moose, WY 83012.

ICOMOS Assembly

The 10th ICOMOS General Assembly will be held in Sri Lanka between July 30 and August 7, 1993—the first gathering ever to be held in Asia. Under a general theme of the "Heritage of Asia and Oceania," the meeting will focus on the role and impact of tourism at cultural sites; the economics of acquiring, conserving, interpreting and managing historic properties; and the issues of management practices at national, state, and local historic sites. The meeting is open to all ICOMOS members.

Antiquities Trade Conference

A conference titled "Conservation and the Antiquities Trade" will be held November 4 and 5, 1993, at The British Academy in London, England. The conference is to provide a meeting place for the wide range of people who are concerned with the preservation and care of antiquities: archeologists, conservators, museum curators, and those who work in antiquities services; collectors and dealers who wish the antiquities trade to be regulated; and lawyers, regulatory bodies and enforcement agencies who have to form and effect the guidance and control of such a trade. For more information, contact Helena Jaeschke, 3 Park Gardens, Lynton Devon, England EX35 6DF.

Summer School

A summer school to be offered June 14-25, 1993, by the Institute of Advanced Architectural Studies at the University of York, England, will emphasize studying the art of good architecture, learning to draw, and site work on historic buildings and in landscape parks in the Yorkshire region. To obtain an educational prospec-

*(**Bulletin**—continued on page 32)*

*(**Bulletin**—continued from page 31)*

tus, call John Poppeliers, Cultural Resources International Programs Liaison for the National Park Service, 202-343-7069.

Accessibility Workshop

The challenging task of making historic properties more accessible for people with disabilities and the elderly is the subject of a workshop to be held June 24-25, 1993, in Chicago. Participants will be provided with an in-depth understanding of the relationship between accessibility and historic preservation laws at the federal and state levels. For more information, contact Historic Windsor, Inc., Main Street, P.O. Box 1777, Windsor, VT 05089; 802-674-6752.

Call for Papers

The National Council on Public History solicits papers, workshops, and presentations for its March 1994 annual meeting to be held in Sacramento, CA. The theme of the conference is "Public History and the Environment." The Program Committee invites sessions that reflect the work of public historians in a variety of areas, as well as any other topics of interest to public historians. For more information or to submit your one-page proposal plus a brief resume due by July 1, 1993, contact 1994 Program Committee, c/o Alan S. Newell, Program Chair, HRA, Inc., P.O. Box 7086, Missoula, MT 59807-7086; Phone: 406-721-1958; fax: 406-721-1964.

Conservation Research Underway

The Architectural Conservation Laboratory of the University of Pennsylvania and the Southwest Region of the National Park Service are currently undertaking research and treatment on the conservation of a weathered calcareous sandstone column at the Convento of Mission San Jose, San Antonio Missions National Historical Park, San Antonio, TX. The project, conducted under a cooperative agreement established in 1992 between the university and the NPS will provide practical conservation information and training. Funding is being provided by the friends group, Los Compadres de San Antonio Missions National Historical Park who secured a grant from the Marcia & Otto Koehler Foundation. The project is scheduled for completion in May of 1993. Team members for the project include: Frank G. Matero (University of Pennsylvania), Jake Barrow (NPS/Southwest Regional Office), Anne Brackin (University of Pennsylvania), Keith Newlin (NPS/Denver Service Center) and Diana Motiejuanaite (NPS/ICOMOS Intern). For further information, contact Jake Barrow, National Park Service, Southwest Region, Santa Fe, NM 87504-0728.

Printed on recycled paper

CRM

VOLUME 16 • NO. 5

Cultural Resources
Washington, DC

U.S. Department of
the Interior
National Park Service
Cultural Resources
P.O. Box 37127
Washington, DC 20013-7127

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $200

FIRST CLASS MAIL

Postage & Fees Paid
U. S. Department of the Interior
G-83