

# **Basic Preservation Considerations**

#### **Introduction and Definitions**

Deterioration is a natural process that cannot be stopped; it can only be slowed. All cultural items are susceptible to this process. Several factors contribute to deterioration, and these factors are interrelated, with one increasing the severity of another. Being familiar with the causes of deterioration is the first step in slowing the process. Once the causes are known, ways to reduce deterioration can be incorporated into collections care practices.

The emphasis here is on *preventive care*, the measures that reduce or prevent deterioration. Conservation treatment to repair damage caused by deterioration can be costly and is beyond the financial resources available in many situations. Preventive care, however, is a realistic goal. For example, the safe storage and handling of items are easily accomplished and relatively inexpensive. Most of the guidelines described here can be applied to the storage and handling of items in Cultural heritage institutions or private homes, and several of them cost little or nothing.

#### Composite Nature

Many cultural items are *composite objects*. As used here, this term means that they are made up of different materials. For example, an American Indian dance stick may be made of wood, feathers, fur, sinew, skin, and metal beads. A flapper's dress from the 1920's may be extensively decorated with sequins and heavy glass beads on a fragile silk fabric. The composite nature of items often contributes to their deterioration. The various materials of which the items are made have different and conflicting preservation needs. Also the materials frequently interact with each other in damaging ways. This makes their preservation particularly challenging since what is beneficial for one material in an item may not be for another. Preservation becomes a judgment call, a balancing act, a compromise.



## Natural Instability

Many items deteriorate because they are made of materials that are naturally unstable or incompatible. *Inherent vice* is a term used by preservation professionals to refer to this chemical or structural instability of the materials that compose an item. Little can be done to slow the deterioration caused by inherent vice. The best way to lessen its effect is to control the other causes of deterioration as much as possible, which, in turn, will slow the effects of inherent vice.

## **Temperature and Relative Humidity**

Inappropriate levels of temperature and relative humidity promote deterioration. In general, cool and dry conditions are best.

## Avoid Extremes

High heat and humidity speed deterioration and encourage mold growth and insect activity. Extremely low relative humidity, which can occur in winter in centrally heated buildings and year-round in arid climates, leads to splitting, drying out, or embrittlement of certain materials. While some materials are particularly affected by either high or low extremes of temperature and humidity, a few other materials are affected by both extremes. Skin is one example. It can become hard or soft, dry or sticky, flexible or stiff, depending on its tannage and the levels of temperature and humidity under which it is stored.

## Avoid Fluctuations

Fluctuations in temperature and relative humidity can also be damaging. Many materials are hygroscopic, readily absorbing and releasing moisture. They respond to daily and seasonal changes in temperature and relative humidity by expanding and contracting. These dimensional changes accelerate deterioration and can lead to visible damage. It is important to note that relative humidity is dependent on temperature; if one changes, the other changes as well.

## Control Conditions



The ideal storage space has climate controls that are able to maintain generally accepted levels of temperature and relative humidity. Climate control equipment ranges in complexity from a simple room air conditioner, humidifier, and/or dehumidifier to a central, building-wide system that filters, cools, heats, humidifies, and dehumidifies the air (HVAC [Heating, Ventilation, Air Conditioning] system). If you are able to acquire a building-wide system, it is advisable to seek the guidance of an experienced climate-control engineer prior to selection and installation of the equipment. Whatever sort of controls you have, it is best to operate them full time. Avoid turning them off nights, weekends, holidays, or other times when people are not in the space. This could lead to fluctuations and damage to the items.

Note that in certain climates generally accepted museum preservation levels of temperature and relative humidity may damage the structure of the building in which the items are housed. Choices and compromises may be unavoidable.

Less costly measures can be taken to control the temperature and relative humidity:

- Keep buildings well maintained.
- Seal cracks in buildings as soon as they appear, particularly in the walls, floors, and windows.
- Attach weather stripping to doors and windows.
- In areas that experience cold weather, seal windows on the inside with plastic sheets and tape.
- In spaces used exclusively for storage, seal windows more completely using both wallboard and plastic.

When it is not possible to control conditions in the entire storage space, highly sensitive items can be kept in a smaller enclosed space, such as a storage cabinet or a box, where conditions can be controlled to a limited extent by the use of humidity-buffering materials. Such a space is commonly referred to as a microenvironment. One type of humidity-buffering material is silica gel, a commercially available granular form of silica that can be conditioned to maintain a specific level of humidity in a closed container. Paper (tissue), cloth (muslin, towels, or sheets), and cardboard also work as buffers that limit fluctuations, but to



a lesser degree. It is important that these materials meet preservation standards.

#### What Should Conditions Be?

The ideal temperature and relative humidity differ for various materials. A frequent recommendation in keeping with standard museum preservation practice that is suitable for mixed collections is a stable temperature no higher than 70°F and a stable relative humidity between a minimum of 30 percent and a maximum of 50 percent. Research indicates that relative humidities at the lower end of this range are preferable because deterioration then progresses at a slower rate. Some materials, however, such as items made from wood or skin, require a higher relative humidity. In general, the lower the temperature the better. Note that maintaining *stable* conditions is very important. It is better to maintain conditions that are less than ideal but do not fluctuate. If this is not possible, less stringent conditions can be chosen for the most extreme times of the year, such as summer and winter, with gradual changes in temperature and humidity between these times.

An exception to this recommendation applies to those geographic areas where conditions do not often fall within this recommended range. One example is certain parts of the southwestern United States, where the relative humidity is often below 30 percent. Other examples are the Pacific Northwest and the southeastern United States, where conditions are often more humid than recommended. Items that have been kept in the same temperature and humidity conditions since they were made have probably acclimated to these conditions. If the conditions are changed to match more closely the recommendation above, damage may occur to the items. In extreme cases, parts of the items may shrink, crack, or burst.

When deciding on the best temperature and relative humidity range for your collection, consider your geographic area and the average temperature and relative humidity there. Also, examine your cultural items. If they do not appear to have suffered from the effects of extremes of temperature and relative humidity, you can assume that they have acclimated to their environment. It is probably better to keep them in the conditions to which they are acclimated than to change the conditions to match the recommendation. Note that if you expect your items to be sent on loan to another area where the conditions are different, damage may occur to them unless you provide a controlled microenvironment for them while they are on loan.



The same is true for items you borrow from another area.

# General Recommended Conditions

For mixed collections of composite objects in a moderate climate:

- *stable* temperature no higher than 70°F
- *stable* relative humidity between 30 percent and 50 percent
- *avoid* sudden extreme fluctuations

But remember that in some geographic areas collections may have acclimated to conditions outside this range. Be sure to take this into account and adjust conditions accordingly.

# Monitoring Is Important

Ideally the temperature and relative humidity should be systematically measured and recorded. These measurements will tell you what the conditions actually are, justify a request you may make to install equipment, or let you know if equipment you already have is operating properly and producing the desired conditions. Various instruments are available that measure temperature and relative humidity. These range in price and complexity. The choice you make depends on your resources and needs. When selecting monitoring equipment, you may want to contact a preservation professional for advice on what would work best in your particular situation.

# Monitoring Equipment

- The simplest and least expensive instruments are thermometers and certain types of dial hygrometers. The disadvantage of these instruments is that they can become inaccurate after a few years, and the user needs to keep a systematic written record of readings to obtain useful information.
- Humidity indicator strips or color cards are inexpensive and produce reliable *approximate* readings. Again, the readings need to be recorded manually.
- Several types of instruments provide reliable accurate humidity readings,



but these cost approximately \$100 or more. Only some provide written records.

• Instruments that accurately measure both temperature and relative humidity and record these measurements are best. Different types are available. Until recently recording hygrothermographs were used most frequently. Now data loggers are often used to transfer information to a computer that produces customized charts. Both of these instruments are used primarily by museums and are excellent tools. They range in price from a little under \$200 to over \$1,000, not including software and cables where needed.

## Light

Light accelerates the deterioration of materials by acting as a catalyst in their chemical and physical breakdown. Light also causes natural colors, dyes, and certain pigments to fade or change in color, altering the appearance of some items in a relatively short period of time. Feathers are particularly sensitive to color change from light. Basketry fibers and wood are also sensitive to color change but to a lesser degree. Vegetable dyes are particularly prone to alteration. These dyes were (and sometimes still are) used to color such items as baskets, quills, horsehair, rawhide containers, and textiles. The colors in the vegetable tanned skin used for some bookbindings also tend to fade.

## How Much Light Is Too Much?

Any exposure to light, even for a brief time, is damaging, and the damage cannot be reversed. Although all wavelengths of light are harmful, ultraviolet (UV) is particularly harmful. One of the most common sources of UV is the sun. Certain types of lamps, such as fluorescent tubes, also emit high amounts of UV energy and should be avoided. If they cannot be avoided, they can be filtered with relatively inexpensive plastic filtration films that reduce UV emissions.



#### What Is Recommended?

As total damage from light is a function of both the intensity and the duration of exposure, standard museum preservation practice calls for illumination to be kept as low as possible and used for the least amount of time. Ideally, items should be exposed to light only while they are on display or being used. At all other times, according to museum preservation guidelines, they should be stored in a light-tight container or in a windowless room illuminated only when the items are being retrieved or replaced, or when the room is being cleaned. Light levels should be kept as low as possible while still enabling location of items and cleaning of the room, and exposure should be for the shortest time that is feasible. Ideally illumination should be by incandescent bulbs. It is important to note that these bulbs generate heat and should be kept at a distance from items. In general, light sources that emit UV energy should be filtered.

#### Standard Museum Preservation Recommendations

- Minimize exposure to light, especially UV.
- Keep levels as low as possible.
- Use storage rooms that are windowless.
- If storage rooms contain windows, cover these with drapes, shades, blinds, or shutters that completely block the sun. This will also aid in temperature control by minimizing heat loss and limiting the generation of heat by sunlight during the day.
- If skylights allow sunlight to shine directly on items in storage, either cover them to block the sun or paint the skylights with titanium dioxide or zinc white pigments, which reflect light and absorb UV energy.
- Filters made of special plastics also help control UV energy. Ultravioletfiltering plastic films or rigid sheets can be used for windows to lower the amount of UV passing through them. Because these filters do not provide 100 percent protection against light damage, drapes, shades, blinds, or shutters that completely block the light are preferable. Fluorescent tubes can be covered with ultraviolet-filtering sleeves. An alternative is the use of special low-UV fluorescent tubes, although these are more costly than



regular fluorescent tubes.

• To help limit the duration of exposure of materials, timed light switches can be used in storage rooms.

# Air Quality

Pollutants contribute heavily to the deterioration of all sorts of items. The two major types of pollutants are gases and particulates. Gaseous contaminants, such as sulfur dioxide, bring about chemical reactions that lead to the breakdown of materials and may, for example, cause some metals to rust or turn green and others to tarnish. Particulates are very fine dusts, often generated by construction, mining, or other earth-moving activities, that can travel long distances. These fine dusts can abrade, soil, and disfigure materials, causing items to become scratched and surface details on them to be hidden.

Controlling the air quality in storage spaces is a difficult and complicated matter that depends on several interrelated factors. Equipment is available to improve air quality. It varies in size, complexity, and effectiveness. Any equipment you have or plan to acquire should be matched to the particular level of pollution in the area where your storage space is located. Before purchasing equipment, you may find it helpful to consult an engineer with experience in air quality control in museums or other cultural institutions for recommendations. Various standards for air quality have been suggested, but until greater experience is gained, the most reasonable recommendation is to reduce the amount of pollutants in the air as much as is feasible.

## What Measures Help Control Air Quality?

- In geographic areas that are dusty and windy, keep windows closed and put filters on air registers. Use doormats to help collect dirt at all building entries. Having two doors through which to enter a building at each entry point, an outer and an inner door, with a vestibule between them, is advisable.
- Provide good air exchange in areas where items are stored. Be sure that replacement air is as clean as possible. For example, air intake vents should



be located as far as possible from sources of heavy pollution, such as a loading dock where trucks idle.

- Storing items in containers may help decrease the effects of pollutants. If the storage space is in a highly polluted area, such as an urban or industrial center, you may want to consider containers made from materials that have special agents for trapping pollutants, called molecular traps.
- Eliminate as much as possible the origins of pollution from inside or near the storage space. While automobiles and industry, major sources of pollution, will probably be beyond control, other sources may be reduced. These include cigarette smoke, photocopying machines, certain types of construction materials (wood, paints, sealants), cleaning compounds, and new furniture and carpets, which can release harmful vapors such as formaldehyde.

#### Water and Fire

Protection from *water* damage is essential. Even a minor water accident, such as one caused by a leaky pipe, can result in extensive and irreparable harm.

#### Precautions That Protect against Water Damage

- Regularly inspect roof coverings and flashings over the storage space, and repair them as needed.
- Clean gutters and drains frequently.
- Never store important items under water pipes, steam pipes, bathrooms, air-conditioning equipment, or other sources of water.
- Always store items at least four inches above the floor, never directly on the floor.
- Avoid storage in basements or other areas where the possibility of flooding is great.
- If items *must* be stored in areas that are vulnerable to flooding, install water-sensing alarms to help ensure that water is quickly detected.

Damage caused by *fire* can be even more serious. If items survive at all, they



are likely to be charred, covered with soot, brittle from exposure to high heat, wet from water used to extinguish the fire, moldy, and reeking with the smell of smoke.

#### Precautions That Protect against Fire

- Several fire-suppression methods are available. Make sure at least one is in operation in the storage space. If nothing else, make sure every storage area has one or more portable fire extinguishers of the "ABC dry chemical" type, and have everyone trained in their use, preferably by local firefighters.
- Regularly inspect and properly maintain the fire suppression system(s).
- Equip the storage space with an adequate fire detection and alarm system. At the very least, install a smoke detector.
- Wire the detection and alarm systems directly to the local fire department or to another twenty-four-hour monitor if available.

Opinion varies regarding the preferred type of detection and suppression for storage spaces containing important items. Many options are available, and some of the systems are complex and expensive. Before investing in a system, consult an experienced fire safety engineer who is familiar with current developments in the field and with your situation.

## Preparation Helps

Being prepared for an emergency is the best way to prevent it from becoming a disaster. If several items are stored together in one location, such as a museum or cultural center, it is advisable to have a plan for protecting these items in an emergency. Many cultural institutions that contain items of value have an emergency plan that covers all hazards that pose a reasonable threat, including water and fire. Emergency preparedness plans range in size from long complex documents for large museums to short lists of pertinent information and phone numbers for use in homes. A systematically organized, formally written plan enables you to respond efficiently and quickly to an emergency, minimizing danger to people and damage to items and the building in which they are kept.

When preparing the emergency plan, risks to the building in which items are



kept should be identified and eliminated if possible; those that cannot be eliminated, such as location in an earthquake zone or proximity to a water main, should be addressed in the plan. Most plans include such information as the names and telephone numbers of staff to call immediately, the telephone numbers of emergency services (fire department, police, recovery services, etc.), floor plans showing the locations in the building of various shut-off valves, the locations of inhouse emergency supplies and equipment, and the names and telephone numbers of outside sources of additional emergency supplies and equipment (flashlights, paper toweling, wet vacuums, dehumidifiers, etc.)

If items are stored in a private home, you should likewise be prepared for an emergency. Check regularly for threats, such as leaky pipes. Make sure smoke detectors function and fire extinguishers are maintained annually. Know where water and fuel pipes are, as well as all shut-off valves. Maintain a list of the items about which you especially care, and keep it in a secure place off-site.

#### **Insects and Mold**

#### Insects

Insect damage can be devastating. Insects eat anything from which they derive nourishment. Items that contain materials rich in protein, they are particularly susceptible, and insects are especially attracted to items containing skin, feathers, textiles, fibers, paper, and wood. As many precautions as possible should be taken to prevent infestations.

#### Integrated Pest Management

Museums have traditionally relied on pesticides for preventing and solving pest problems. But pesticides often do not prevent infestation, and the chemicals in most pesticides pose health hazards to staff and damage collections. Newer extermination methods, such as controlled freezing, heat, and modified atmospheres, are good alternatives for dealing with existing infestations, but they do not prevent infestation. Prevention can best be achieved through strict housekeeping and monitoring procedures. Preservation professionals recommend a strategy called *Integrated Pest Management* (IPM). Nonchemical means such as controlling the temperature and relative humidity, food sources, and building entry points are used to prevent and manage pest infestations. Chemical treatments are used only as a last resort when other methods have failed or when serious damage is occurring rapidly.

## What Precautions Can Be Taken?

Because insects are attracted by clutter, keep storage areas clean at all times, and do not allow clutter, dust, and dirt to accumulate. Remove trash, especially that which contains food, from the building every day. Food presents special problems. Since insects are attracted by it, standard museum preservation practice maintains that food should never come in contact with items. Food, however, can be a collection item. Dried berries, candy, and medicinal tonics are sometimes found in collections and are accessioned items. Regularly examine items such as these and their storage areas so that if insects are present they will be discovered immediately.

In fact, vigilance may be your best all-around protection. Ideally, frequent routine visual checks of storage areas should be conducted. Be sure to look inside containers such as boxes, which can hold several items. Often an infestation destroys every item in a container before it is discovered. For monitoring storage areas, the use of "sticky" traps, a type of insect trap, is recommended. These are available at most hardware and grocery stores. They capture insects, allowing types, locations, and quantities to be determined over a period of time. This information helps in eradicating the problem.

Note that insect problems can be related to rodent problems. Poisoned baits should not be used for rodent control as the animals will get sick from the bait and die in an inaccessible area. This will lead to a secondary infestation of insects feeding on the rodent carcass. So if you have an insect problem, you may want to determine if it is the result of a rodent problem. Glue boards are a useful rodent monitoring and trapping device if used properly and checked regularly. Traps that catch but do not harm rodents are another useful control method.

High temperature and, in particular, high relative humidity encourage insect activity, so control these in storage areas. Since insects enter through windows,



doors, and vents in storage areas, keep these closed as much as possible. Cracks or breaks in the building fabric are also points of entry, another reason for buildings that contain storage spaces to be well maintained. Cut back grass and plantings at least eighteen inches from any building that houses items.

If possible, check all items that enter the building, and certainly all that enter the storage area, for insects, and then place them in quarantine for three weeks before storing them with the rest of the collections. These items include those that have been out for use, new items for the collection, items that are being returned after a loan, and all equipment, supplies, and packing materials. If after three weeks you do not see any signs of insect activity, the items can be removed from quarantine and put away.

#### Quarantine Procedures

An enclosed space separate from the storage area should be designated as the quarantine area. A room or large chamber works best. It should be reasonably well sealed so that insects cannot migrate from it to other parts of the building. The area should have similar room conditions to the storage area so items can acclimate to the storage conditions while in quarantine.

Because of varying incubation periods for insects, it is probably best to quarantine items for three weeks. Each item should be double-bagged in plastic (polyethylene, if possible), with each bag closed with a twist tie. Each double bag should contain just one item. If an item is too large to fit in a bag, it should be double wrapped with polyethylene sheeting and tape. If the items enter the quarantine area from outside when the weather is cold or humid, you may want to wait for a short time before bagging the items so you do not trap moisture in the bags from humidity or condensation on the items. After the items have been bagged for three weeks, carefully examine them for any signs of insects.

#### What If You Find Insects?

If you *do* see signs of insects, you need to act fast. The best way to deal with this situation in most instances is to freeze the item following very specific guidelines.

Although the advisability of controlled freezing for certain materials, such as glass beads, has been questioned by preservation professionals because it is not without risk, most agree that this is the simplest, safest, and most practical approach to the problem. This procedure is easy, relatively inexpensive, and effective if done properly.

An alternative to freezing is to heat an infected item, again following very specific guidelines. This method, developed by the Canadian Conservation Institute (CCI), uses the sun as the source of heat and is in the process of being informally field tested in various climates. It utilizes very little equipment and promises to be inexpensive.

Another alternative that is employed in several museums is the use of modified atmospheres. This procedure, however, uses specialized equipment and supplies, such as carbon dioxide, nitrogen, and oxygen scavengers, and is more expensive and complicated to accomplish.

If an infestation is discovered in the storage area, isolate the affected items from the rest of the collection and securely wrap them in polyethylene bags or sheeting. Also isolate items adjacent to affected ones. The insect should be identified, as this will aid in extermination and may help determine the source of the infestation. Local and state agricultural extension agents can often identify insects and have useful information on control of infestations. You can take photographs of insects that have been identified or make a roster of the suspects and post it for easy reference.

Avoid the use of over-the-counter spray-type insecticides to remedy the problem; the chemicals may damage items. Instead, call a licensed pest-control operator. Choose one who works with a licensed and bonded service and who is familiar with integrated pest management. In fact, having *regular* pest control service in and around the building where items are stored is a good preventive measure. The extent of the infestation will determine the best way to deal with it. If only a few items are affected, controlled freezing may be the approach to take. If most of the collection is affected, other methods need to be considered.

If you have any questions when faced with an insect infestation, do not hesitate to contact a preservation professional immediately for guidance and for the most up-to-date information.



## Mold

Mold damage can pose a serious threat, especially if the storage space is located in a hot, humid climate or near a large body of water where humidity is high. Mold spores are ever present in the environment, and the higher the temperature and relative humidity, the greater the risk of mold. Items made of skin, textiles, fibers, and paper are particularly susceptible to mold growth.

# What Precautions Can Be Taken?

The most important precautions are sustaining levels of temperature and relative humidity that meet standard museum preservation guidelines, as discussed earlier; providing good circulation of air; and maintaining clean, clutter-free storage areas. In most instances mold does not grow below 60 percent relative humidity and also has difficulty growing in areas where there is air movement. Mold prefers humid, still environments. Mary Lou Florian, a researcher in British Columbia, stresses the importance of keeping air moving around items to ensure that moisture does not settle on them, but moves off so they stay dry. This means the air around an object or display case should circulate. Also, avoid displaying and storing items on or near cold walls, floors, and windowsills, and metal and cement surfaces. Move and inspect items regularly. If you smell mold, improve the environment immediately. If a water-related emergency occurs, such as a flood or fire, tend to wet items right away, before any opportunity for mold growth develops.

## What If You Find Mold?

Once mold growth appears, isolate the affected items from the collection. Disposable rubber or plastic gloves and a particle dust mask, sometimes referred to as a filtering face piece, should be worn when handling moldy items. Select a mask with a rating of N99 or N100 or with the equivalent of a HEPA (high-efficiency particulate air) filtration rating. Also select one with two head straps rather than one because these fit more securely, providing better protection. These are available from safety supply houses and large home improvement stores. Inhaling mold spores can cause serious medical problems that are difficult to remedy and sometimes cannot be cured. Wearing a respirator with a HEPA filter provides



better protection than a dust mask. It should be noted that the Occupational Safety and Health Administration (OSHA) requires that employers provide a medical evaluation for employees before they use a respirator and, technically, before they wear a dust mask as well. This evaluation is important as some people cannot safely wear respirators for various reasons. Also, respirators need to be fitted properly to provide adequate protection, and a formal fit-test must be conducted by a qualified person.

Once moldy items have been isolated from the collections, they should be dried thoroughly, and when they are dry, the mold should be removed from them. A preservation professional should be contacted for advice on how best to do all this given the particular circumstances with which you are confronted.

#### Security

All items of cultural significance, beauty, and high monetary value may be vulnerable to theft and vandalism. If necessary, adequate protection should be provided. Also, adequate security may be a requirement of other institutions loaning items to yours. Protection can range in complexity from simple locks on cabinets to elaborate building-wide security systems. In some cases a security specialist should be consulted.

Many measures can be taken, including the following suggestions. Securing the building is important. Standard museum preservation practice maintains that the building that houses items should be well secured during hours when it is closed to the public. Perimeter intrusion alarms and internal motion detectors that are wired directly to the local police department or to another reliable twenty-fourhour monitoring agency work well. During working hours it is best to use only one building entrance and exit, which is used by visitors and staff alike; all other doors should be alarmed so that any unauthorized use can be detected. Keep windows closed and locked. Carefully limit the distribution of building keys, and limit even further the keys to storage areas or to cabinets that contain highly valuable items. Keep the list of key holders current, and require staff members to return keys when they leave the employ of the museum. Keep combinations to safes highly confidential, and give them to the least number of people possible.



Keeping good records of the cultural items you have in the building is also an important security measure. Follow standard museum practice and registration methods. If a theft occurs, you will need to prove ownership of the stolen items. Sound registration methods facilitate this. These methods include marking each item with its own unique accession number or other form of identification.

If you discover that any items have been stolen, contact the police, your insurance company, and any other relevant organizations. The following organizations are good places to begin:

National Antique and Art Dealers Association of America, Inc., at http://www.naadaa.org/htm; telephone: 212-826-9707; e-mail: inquiries@naadaa.org:

Art Loss Register, a database used by dealers, museums, and collectors, at http://www.artloss.com; telephone: 212-297-0941; e-mail is info@alrny.com.

Notices can be posted at the following sites:

- American Association of Museums newsletter at http://www.aamus.org.htm; telephone: 202-289-1818; e-mail: aviso@aam-us.org:
- American Association for State and Local History at http://www.aaslh.org.htm; telephone: 615-320-3203; e-mail history@aaslh.org.