

A Conservation Assessment of the Classics Library, UT Austin
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Collection Introduction

Collection History and Use

The Classics Library at the University of Texas at Austin supports graduate and faculty research within the Classics Department, including work in Classical Languages and Literature, Ancient Philosophy, Ancient History, and Classical Archaeology. Much of the contents of the Classics Library originally belonged to Professor William James Battle (1870 – 1955,) an early administrator and classics faculty member at the University. The collection was stored in the main tower building until 1967, when it was moved to its current location on the first floor of Waggener Hall. While the University of Texas also maintains classics resources intended for undergraduate work, these volumes are stored separately at the central Perry-Castañeda Library.

The Classics Library is open Monday through Friday, 8 am – 5 pm. Though some items circulate, high-demand and rare materials may be used in the library only. In-library use is also allowed by the roughly 40 graduate students and 25 faculty members at all hours, even when the library is unstaffed. Because the library does not have a copy machine, items may also be checked out for two hours so photocopies may be made at the Perry-Castañeda Library.

Waggener Hall

The Classics Library is currently housed in a group of nine repurposed rooms in Waggener Hall. Rooms 1 through 3 (with several a, b, and c subdivisions) all link together and house the open stacks. Down the hall, rooms 8 through 8c also link to one another. They house the closed stacks, and may only be accessed by key. Throughout this assessment, room numbers will be used from the Classics Library Room Guide provided on the University of Texas website.¹ (Please refer to Appendix A.)

Built in 1931, Waggener Hall is part of the original Forty Acres that compose the University of Texas at Austin. The basic skeleton of the building is made of concrete, with a concrete slab foundation. Other important structural components include granite, limestone, brick, and clay tile. Over the years, the building has undergone improvement projects to introduce a modern HVAC system and ADA accommodations. However, much of the building's original components, including single pane windows, are still present. Large scale renovations for the building have been discussed for many years, but do not appear to be planned for the immediate future. In the meantime, building repairs are difficult to obtain from university maintenance services due to Waggener's low priority maintenance status.

Staff, Concerns, and Goals

The Classics Library is managed by Gina Giovannone, the library's site manager, and Shiela Winchester, the classics librarian. Giovannone's office is located on-site in the Classics Library, while Winchester's office is located at the Perry-Castañeda Library. Giovannone's goals for this assessment are to improve staff awareness of preservation activities. Her special concerns about the collection include overloaded electrical outlets, causing a potential fire hazard in a retrofitted space with modern electrical needs. She is

¹ Classics Library Room Guide. Accessed 4/29/08 from http://www.lib.utexas.edu/classics/copy_of_room_guide1.pdf.

also concerned about security, due to recent computer theft in Waggener offices. Winchester's chief concern is keeping the collection and its users safe after hours, when there is no staff supervision. Overall, the staff judges that high use and irreplaceable items are their highest preservation priority.

Structure of this Assessment

Because of the uncertain renovation status of Waggener Hall, it is difficult to formulate a concrete set of preservation recommendations for the Classics Library. Best conditions would be achieved by major renovation; however, it is unknown whether that renovation will occur in two years or in 10. For this reason, two sets of preservation recommendations are given throughout this assessment. Minimum recommendations may be applied to the library as it currently stands. Optimum recommendations can serve as a guide when designing a new, purpose-built space for the collection.

Current Collection Conditions

Waggener Hall

As is often the case in small libraries, the Classics Library's conditions are inextricably linked with its surrounding historic building. As a retrofitted space with retrofitted HVAC, Waggener Hall presents a variety of preservation challenges.

Climate control for the building is managed centrally by the University of Texas. Temperature controls are not understood or intended to be used by library staff. Temperature variation is normal from room to room; staff observes that the Reference Room (Room 3) is often hot, while the corners of the main library area are often cold. Original single pane windows contribute to this problem. The windows do not display condensation, but tidelines on the window coverings indicate a leak at some time in the past, most notably through a window crack in Room 2b. Because of Waggener Hall's low priority maintenance status, the cracked window will not be repaired by university staff.

In past years, the library air vents periodically produced clouds of dark, soot-like dirt that landed on the items directly below. Staff do not know the reason for this dirt, and had to clean the mess themselves, although the problem has not occurred recently. Chipping paint and wall cracks are evident around vents throughout the collection, perhaps indicating the presence of HVAC-caused moisture in these areas. Chips of older paint could also contain lead.



Vent with chipped paint.

Beneath its floors, portions of Waggener Hall are exposed to natural elements. Much of the library floor rested on packed dirt until a renovation approximately five years ago added new concrete supports. Open crawl spaces exist beneath some portions of the building, evidenced by past odors of a deceased animal.

Outside the library in the adjoining hallway, a soda machine and water fountain share a wall with the closed stacks. The soda machine has been known to leak in the past, although the water flowed across the hall and away from the collections.

Waggener Hall is situated on an incline, and used to experience minor flooding problems during very heavy rains. Recent landscaping work has routed the water away from the building, and flooding has not occurred since this improvement.

Building materials that appear in the library are mostly original and intended for a classroom or administrative setting. Most unique among them are the perforated tiles that appear extensively in the ceiling and form the walls in Room 2a. Holes appear in several aged ceiling and floor tiles.

Minimum recommendations:

- Install environmental monitoring equipment in rooms with extreme temperatures to support future conversations with maintenance staff and HVAC engineers.
- Monitor the vents for condensation. If this problem is persistent, report it to UT HVAC personnel.
- Ask UT repair staff to repaint chipped vent areas to seal possible lead paint.
- Ask University grounds staff to seal open crawl spaces beneath the building.
- Keep spill pillows on site in case of future flooding from the soda machine or from outdoors. (Available from library and archival suppliers.)
- Monitor holes and perforations in tiles for insect activity. Consider caulking these holes or replacing the tiles should activity be observed.
- Consider caulking the broken window without UT assistance to moderate environmental fluctuations.

Optimum recommendations:

- Work with UT HVAC engineers to provide steady climactic conditions (see upcoming section *Light, Temperature, and Relative Humidity*.)
- Build the new space with few exterior walls, and use double pane windows to moderate environmental fluctuations.
- Replace perforated tiles with solid ones to reduce insect threat.

Storage and Handling

Throughout most of the Classics Library, collection items are stored on varnished wood shelves of varying ages. The type of wood and varnish is unknown, and either material could be offgassing unknown substances into the collection. Most other University of Texas libraries no longer use wood shelves; more common are the metal shelves like those seen in Rooms 2a, 2b, and 2c. Most collection items are stored on their tails, though large reference works are stored horizontally in cabinets in the Reference Room (Room 3.) This type of storage is ideal for large, heavy volumes. A small number

of oversized items were observed shelved on their foreedges, potentially causing the volumes' textblocks to pull out of their cases.

Classics Library staff have taken careful measures to improve collection handling. A book drop located outside the library entrance is padded with foam, creating a gentle landing for returned volumes. Signs explaining the proper removal of items from the shelf are taped to the bookshelves. These signs probably save the items much cap and spine damage.

Minimum recommendations:

- Recoat the shelves that hold high-priority items with polyurethane to stop harmful offgassing. Alternately, consider reshelving the high-priority items on the available metal shelves.
- Reshelve items shelved on their foreedges. Damage will be minimized by tail-shelving on larger shelves or flat-shelving like in the Reference Room.
- Consider placing a padded book cradle in the Reference Room for use with large, valuable items. Book cradle instructions are available from the Perry-Castañeda Library or the Harry Ransom Center.

Optimum recommendations:

- Replace all wooden shelving with modern metal shelves to avoid offgassing.
- Purchase shelves with taller spaces to accommodate oversized non-reference items.

Electricity and Fire

When Waggener Hall was built in 1931, electrical requirements were relatively light. Today, in the Classics Library, the few electrical outlets are crowded with power strips supporting computers, printers, telephones, lighting, a microwave, a coffee maker, a small refrigerator, and other small appliances. Staff has expressed warranted concerns about a resulting fire hazard.



Overloaded electrical outlet

Smoke detectors and fire alarms in the libraries are intended for the safety of the users and not the collection. No sprinklers are built into the fire detection system, though several fire extinguishers are present. A fire hose and fire control panel for the building are located in the hallway by the library entrance.

Minimum recommendations:

- Place a fire extinguisher in every room.
- Ensure that all users know the location of fire extinguishers. This information could be included in a new users' orientation packet..
- Turn off electrical appliances when not in use, and unplug them when staff goes home for the night. This could be easily accomplished by plugging all optional appliances into identified power strips, which could be disconnected at day's end.

Optimum recommendations:

- Build modern electrical capacities in the new space, as required by code.
- Build a modern fire control system with sprinklers into the new space, as required by code.

Cleaning and Insects

Regular cleaning in the Classics Library is performed by cleaning staff contracted by the University of Texas. As part of the regular schedule, trash cans in public areas are emptied daily, in locked areas weekly, and in general regions of the building every few days. Dirt and grime appear to be controlled in open areas, though some windowsills behind the bookshelves display a concentration of grime and dead insects. Cleaning staff are only allowed a few minutes to clean each room, so library staff understands that major cleaning projects will have to be undertaken on staff time.

Cleaning staff will also wax the floors when requested. In the past, wax and water has splashed onto books and furniture, causing damage that is still visible. When library staff request waxing, they cover books close to the floor with cling film or towels as a precaution.

Library visitors may not have food or drink. Excessive food trash was not observed in the library, though one piece of fruit was found in a student work area in the closed stacks. A candy jar is also kept on the reference desk.

Direct or indirect evidence of all the following insects was found in the collection: termites, flies, spiders, silverfish, roaches, and beetles. Termites, silverfish, roaches, and beetles all pose threats to paper materials. Old insect traps are present in the collection, but library staff primarily monitor for insects visually.

Termites are a specific problem in Waggener Hall. They often appear in the springtime and eat wood trim. Library staff calls the University to stop the outbreaks, but the University will not monitor for termites regularly. Evidence of past years' termite damage is still visible in baseboards in the Reference Room. A termite bait station also appears in that room, though it is no longer monitored by UT staff.

Evidence of flies, spiders, and silverfish appears in windowsills and underneath cabinets. Insect grazing, primarily by roaches, appears on the spines of many volumes in the collection. A live silverfish was identified in a plywood spaceholder on a shelf.



Spine showing evidence of roach grazing.

Minimum recommendations:

- Establish a regular pest control program with the University. Enlist the help of Jennifer Lee, UT's Head of Preservation, to emphasize the importance of this issue with university administrators.
- Ask staff to empty trash cans as part of closing procedures to minimize insect food.
- Create a regular shelf and windowsill cleaning schedule, to be performed by library staff, and to rotate through the collection. Dirt can impart acidity in paper materials and can provide food for insects.
- Replace old insect traps with new ones, and establish a spreadsheet and inspection schedule to quantify, record, and track insect activity to support future conversations with UT pest control personnel.
- Keep large sheets of plastic on hand to provide seamless protection for books during floor waxing.
- Replace plywood spaceholders with flags of 20 point archival board to direct users to an item's shelf location.

Optimum recommendations:

- Work with architects and builders to ensure that a new space is tightly sealed.

Security

The classics bibliographer expressed concerns about security within the library, especially after hours. Perhaps the library's strongest security feature is its position within a tightly knit academic community. Students, faculty, and library staff all know each other's personalities and research interests. When the site manager performs regular shelf reading and checks for missing volumes, she usually knows who may be in

possession of a specific book. Because the community is small and users are proud of the collection, missing items are usually promptly returned. Pride in the collection also makes users alert to safety and security concerns after hours.

Library doors are locked at closing time. The Classics Library cannot use a magnetic security gate like other UT branches because the gate's magnetic field would interfere with the nearby circulation computer. Instead, the library uses a card entry system, through which library staff can track users' comings and goings after hours. Users may swipe into the library with their UT ID card at any time and use the collection in-library only. This system is well liked by both users and staff.

Minimum recommendations:

- Post library staff contact lists so users may alert staff after hours in case of emergency.

Optimum recommendations:

- Install a magnetic security gate in the new space to reduce chance of theft.

Relationship with the Perry-Castaneda Library

The main hub of library preservation activity at UT is the Perry-Castañeda Library (PCL,) a five to 10 minute walk away from the Classics Library. There, in the Preservation Department, preservation and conservation needs for the entire UT system are addressed. While staff at the Classics Library performs basic repairs themselves, most of their conservation work is shipped to the PCL, with a quota of 10 items per month. Though the classics bibliographer admits there is always more work to be done, she feels the quota is reasonable within UT's preservation budget.

Because it is UT's preservation center, the PCL houses all available environmental monitoring equipment, including thermometers and psychrometers. This equipment is available to all branches, but is not currently used at the Classics Library.

Since there is no copy machine in the small Classics Library, students often rely on copy machines at the PCL. Alternately, students use copy machines in the Classics Lounge in Waggener Hall, where books can be accidentally left behind.

Minimum recommendations:

- Schedule a training session with PCL preservation staff to ensure that basic repairs performed at the Classics Library are safe and long-lasting.
- Obtain repair supplies from PCL so repair costs come from the UT preservation budget.
- Schedule usage of environmental monitoring equipment (see section on *Light, Temperature, and Relative Humidity.*)
- Write a grant for a copy machine. Consider rearranging less densely packed areas of the entry room (Room 1) to accommodate it, or investigating obtaining the use of the locked closet in the closed stacks (Room 8a.) Items will be less prone to theft if copies may be made in-house.

Optimum recommendations:

- Leave space in a new library design for a copy machine, and build money into the budget to buy a machine.

Light, Temperature, and Relative Humidity

The Classics Library is filled with windows and attractive natural light. Due to each room's small size, bookshelves must be placed in front of these windows. Wide-slat, wooden, painted blinds cover all the windows, and the blinds are regularly left closed to lessen light damage. Nevertheless, items near windows receive an elevated dose of natural light, in addition to the fluorescent light used in the interior space.



Typical window and blinds.

Digital hygrometer readings were taken throughout the collection. For a complete listing, please see Appendix B. The average temperature was 76.4 degrees Fahrenheit, and the average relative humidity was 51.12%. Environmental standards for most museum and library collections range from 65 – 70 degrees F and 40 – 60% RH. Modern HVAC engineers consider that an acceptable compromise between artifact storage and human comfort in a museum or library environment is 70 degrees F and 50% RH. Given that the Classics Library is in a historical building and a repurposed space, its average temperature and humidity are moderately acceptable. Reducing the temperature to around 70 degrees would be beneficial, but the average RH level is reasonably close to ideal. However, it is important to note that these readings were taken on one afternoon in the springtime. More information gathered by monitoring equipment provided by the PCL would be critical in learning whether the environment fluctuates frequently or widely. Such fluctuations can cause great stress in hygroscopic (water-loving) paper materials.

While the measured temperature fluctuated only 3.8 degrees from room to room, RH fluctuated fully 12.6%. RH spiked at 58.7% in Room 2a, near the cracked window. This not only poses a threat to hygroscopic materials, but provides a favorable environment for insects like silverfish. RH in the closed stacks was overall lower, averaging only 46.4%. This difference may simply reflect a lower number of visitors. The door to the hallway is opened less in the closed stacks than in the open stacks, so that environment is under greater HVAC control.



Cracked window.

Because light deterioration is cumulative and irreversible, it is important to minimize light exposure. Light accelerates fading, discoloration, and embrittlement of paper-based materials. Throughout the collection, visible light averaged 36.88 footcandles, and UV averaged 28.89 microwatts per lumen. Museum literature recommends light levels of 5 footcandles for very sensitive materials, 15 for intermediate, and 30 – 50 for lower sensitivity material. It also recommends UV levels of no higher than 75 microwatts per lumen. Measured UV and visible light in the Classics Library is highest near west-facing windows, a finding that makes sense during a springtime afternoon. However, the fluorescent bulbs used throughout the collection are notoriously high emitters of UV, as well.

The aforementioned standards indicate that UV levels in the Classics Library are reasonable, while visible light levels are fairly high. However, total light damage stems from both the amount of light and the time of exposure. The Classics Library has several signs placed by closed stack light switches asking users to turn lights off when leaving the room. This policy both reduces potential damage and saves energy.

Minimum recommendations:

- Caulk the crack in the window to help control RH.

- Use PCL’s environmental monitoring equipment to assess environmental fluctuations, which can damage paper materials. Digital data loggers are best suited to the Classics Library due to their low maintenance and durability.
- Perform blue wool testing in the windowsills to evaluate light damage on items stored by windows. (Blue wool and usage instructions are available from library and archival suppliers.)
- Install ultraviolet filters in the fluorescent lights and over the west-facing windows, or near high-priority items. (UV filters are available from library and archival suppliers.)
- Place more lights-off signs in the open stacks, especially for after-hours users.

Optimum recommendations:

- Work with an HVAC engineer familiar with libraries to design a new environment to hold a temperature of 65 – 70 degrees Fahrenheit and 45% - 50% RH, and maintain it with minimal fluctuation.
- Encourage specific construction budget allotments for HVAC design and upkeep.
- Do not place bookshelves in front of windows in the new space.
- Place the library in interior rooms to minimize the environmental fluctuation linked with exterior walls.
- Outfit the new space with incandescent or compact fluorescent bulbs to reduce UV. Choose fluorescents with a warmer spectrum, as cooler colors have shorter, more damaging wavelengths.

Top Recommendations

Minimum Recommendations

A top ten list of prioritized minimum recommendations for the Classics Library is as follows. Top recommendations address multiple issues and can produce the greatest impact. This list is not exhaustive, and specific recommendations for each issue should be consulted in each section above.

Recommendation	Rationale
1. Install environmental monitoring equipment and establish a system for gathering and recording data. Broadly, this equipment includes data loggers from the PCL, new insect traps, and blue wool for windowsills.	Will help identify specific environmental problems and support future conversations with HVAC and building personnel.
2. Caulk the broken window without the aid of University repair staff.	Will help optimize and stabilize existing environmental conditions. A stable environment will prolong paper’s life, and reduced RH will help control insects.

3. Integrate preservation activities into staff time by establishing a regular windowsill and shelf cleaning schedule and by creating daily closing procedures to empty trash and unplug unnecessary appliances.	Will discourage future insect activity by eliminating the dirt and trash insects feed on. Will reduce fire risk.
4. Place a fire extinguisher in every room, and disseminate safety information like fire extinguisher locations and staff phone numbers to users.	Will improve after-hours safety and reduce fire risk.
5. Control light exposure by using incandescent bulbs and installing UV filters on light fixtures and windows as possible.	Will slow fading and embrittlement.
6. Write a grant for an in-house copy machine to be located in a rearranged entry area (Room 1) or negotiated space in Room 8a.	Will improve security, as fewer items will leave the library.
7. Coat wooden shelves with polyurethane.	Will minimize harmful offgassing.
8. Keep spill pillows and plastic sheeting on hand.	Will help control damage in water emergencies.
9. Make a padded book cradle for the reference room	Will minimize rough handling in large, valuable volumes.
10. Shelve oversize items on their tails or horizontally.	Will minimize damage to bindings.

Optimum Recommendations

A top ten list of prioritized optimum recommendations for a new library space is as follows. As before, top recommendations address multiple issues and can produce the greatest impact. This list is not exhaustive, and specific recommendations for each issue should be consulted in each section above.

Recommendation	Rationale
1. Minimize exterior walls in the new space.	Will help stabilize the environment and reduce HVAC load.
2. Install an HVAC system suited to the space and budget for this system and its maintenance in new construction.	Will minimize harmful environmental fluctuations and help control pests.
3. Build modern electrical loads into a new electrical system.	Will reduce fire risk.
4. Install a modern fire control system.	Will reduce fire risk.
5. Replace wooden shelves with metal shelves that have larger spaces to accommodate oversize items.	Will stop the offgassing of harmful substances, and will provide appropriate support for large volumes.

6. Ensure that the new space is tightly sealed.	Will minimize insect incursion and environmental fluctuation.
7. Move bookshelves away from windows.	Will minimize light damage.
8. Outfit the new space with incandescent or compact fluorescent lights.	Will minimize light damage.
9. Build space for a copy machine and build money into the budget to purchase a copier.	Will improve security, as fewer items will leave the library.
10. Install a magnetic security gate like those used in other branches.	Will improve security.

Vendors

The following vendors sell the archival supplies recommended throughout the course of this survey:

- Gaylord Brothers: www.gaylord.com
- Conservation Resources: www.conservationresources.com
- Talas: <http://www.talas-nyc.com/>
- Hollinger Corporation: <http://www.hollingercorp.com/>
- University Products: www.universityproducts.com

Recommended Reading

- Applebaum, B. (1991.) *Guide to Environmental Protection of Collections*. CT: Sound View Press.
Provides discussion of storage and display conditions for cultural artifacts. Addresses light, temperature, humidity, and other conditions.
- Florian, M.-L. E. (2002.) *Heritage Eaters: Insects and Fungi in Heritage Collections*. London: James & James.
Discusses insects and fungi that can attack museum and library materials. Includes discussion of susceptible materials and sympathetic environments.
- Thomson, G. (1994.) *The Museum Environment*. London: Butterworths.
Authoritative discussion of environmental conditions in collections storage and display. Includes detailed investigation of light, humidity, and pollutants.

Appendix A: Classics Library Room Guide

Appendix B: Hygrometer Readings

Location	RH (%)	Temperature (F)	Dewpoint	UV (microwatts / lumen)	Visible Light (foot candles)
Room 1	50.7	76.3	56.3	33	30.6
Room 1a	55.4	74.8	58.0	25	35.7
Room 2	51.5	74.8	57.0	33	29.6
Room 2a	58.7	75.7	59.4	26	40.6
Room 2a, south window	--	--	--	26	40.7
Room 2b	51.8	75.2	57.0	33	32.5
Room 2b, lights off	--	--	--	23	12.0
Room 2b, south window	--	--	--	34	28.6
Room 2b, west window	--	--	--	40	36.2
Room 2c	53.3	75.1	56.7	38	27.8
Room 2c, west window	--	--	--	39	25.6
Room 3	50.5	77.0	57.0	26	32.1
Room 3, south window	--	--	--	26	47.5
Room 8	46.1	78.1	55.7	25	44.1
Room 8b	46.9	78.4	57.4	23	55.7
Room 8b, west window	--	--	--	25	49.5
Room 8c	46.3	78.6	56.1	23	40.8
Room 8c, west window	--	--	--	22	54.3
Average	51.12	76.40	57.06	28.89	36.88