

A Thesis Presented to
The Faculty of Alfred University

Preventive Conservation in the Archives of Alfred University

by

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Understanding the Purpose of the Archives:

This past summer I got the remarkable opportunity to intern at the Philadelphia Museum of Art in their objects conservation lab. Since coming to Alfred University I had known that I was interested in conservation and that my ultimate aim was to be an art conservator but this was my first chance to actually get some hands on experience in the field. The art major part of me was overjoyed to be surrounded by priceless art all summer and the chemistry major part of me was fascinated to begin understanding some of the chemical and physical processes with which art is restored. Yet before I was even allowed to touch a single art object my supervisor asked me about my understanding of preventive conservation.

I had never even heard those words put together in the same phrase before, I just understood the common sense facts about museum environments. All I knew was that they were generally colder and darker than other buildings and that was meant to protect the art; I didn't know the particulars. Consequently, I spent the next 2 weeks polishing small pieces of metal, called coupons, with the purpose of testing for atmospheric pollutants. Thus began my preventive conservation education.

I spent the rest of my summer changing exhausted silica gel packets in display cases, dealing with infestations in deteriorating leather suitcases, cleaning storage rooms, and learning about indoor atmospheric pollutants. With this crash course in preventive conservation I began to wonder what measures other kinds of institutions were taking to protect their priceless historical artifacts. The question of

protecting different kinds of collections intrigued me and sparked me to examine the archives of Alfred University.

The archives of a public institution are important not only for their sentimentality and usefulness but also for the even larger role they play in defining the organization. In the specific case of universities they function as the working memory of the establishment, documenting the past to aid with future development. The archives of Alfred University are home to a collection of objects and materials that are innate to the history of the school. This paper will focus on the preventive conservation measures these archives take in the context of national standards.

The concept of the archive and the concentrated retention of government and institution related material is a fairly recent phenomenon in the United States, although Americans have been collecting and storing information for much longer. In 1934 the National Archives opened, and programs related to it began to draw people into the archival field. Then only two years later an official organization was formed called the Society of American Archivists (SAA), which worked to publicize America's archives as well as create a preeminent source of information for how to preserve and take care of important records.¹ To this day they remain the largest and oldest archival association in the United States.

Their mission as well as their guidelines for the treatment of historical records helps to shape how public institutions approach archive keeping. The SAA states that archive keeping hinges on three important concepts: technology, diversity and public awareness. Due to the rapid advancements being made in

¹ Norma Higgins, "Archives at Alfred or, What am I Supposed to do with That?" (presentation, Alfred University, Alfred, NY, 1981).

technology, archival principles are being challenged not only in terms of the best formats in which to preserve information and make it available to the public but also in terms of capturing and retaining prior information that may exist in a variety of forms.² This can prompt further questions of how to best preserve electronically stored records; due to space and time these will not be covered here.

Diversity also plays a huge role in the retention and organization of historical records; the archives of a society should document in whole and reflect the diversity of the nation they serve.³ This picture is painted on a monumental scale but on a smaller scale each public institution in kind should strive for a diverse collection that fully describes the institution, which it records and handles. The archives of Alfred University aim for a diverse collection by collecting objects and materials that are relevant to the interests and histories of the numerous people that have been a part of Alfred University and the surrounding community.

The last broad concept to take into account when handling archives is public awareness. Public awareness is important for a variety of reasons; the foremost of those being with public knowledge comes public support.⁴ With the support of the public, archives are able to gain the resources needed to store and take care of archival records appropriately as well as continue to make them accessible to those who need them.

² "An Introduction to SAA," *Society of American Archivists*, Accessed April 26, 2015, <http://www2.archivists.org/about/introduction-to-saa>.

³ "An Introduction to SAA," *Society of American Archivists*, Accessed April 26, 2015, <http://www2.archivists.org/about/introduction-to-saa>.

⁴ "An Introduction to SAA," *Society of American Archivists*, Accessed April 26, 2015, <http://www2.archivists.org/about/introduction-to-saa>.

Norma Higgins, the first Alfred University archivist, stated in a presentation, “The Special Collections area of Herrick Memorial Library is the home of a wide variety of materials which are of great potential and current value to the entire university. One approaches the second floor doors by passing a window wall which exhibits a beautiful reading room, dominated by 17th century English oak paneling and an original manor house fireplace façade. Don’t let its elegance fool you: this is a working world, full of useful things, just like the rest of the library.”⁵ The archives of a university or other public institution can often be forgotten in basements, attics, and other odd corners but advertising their availability and usefulness is of the utmost importance to the collections’ permanence.

With this in mind the technicalities of how these records are kept must also be addressed. There are eight main components which instruct preventive conservation practices: light, temperature, humidity, atmospheric pollutants, pests, human factors, natural factors and the inherent vice in objects.⁶ Due to my interests in the subtle, less easily observable factors that cause gradual deterioration this paper will focus on four out of the eight: light, temperature, humidity and atmospheric pollutants. The other four will be included in the introduction only to give a context of all the components that must be taken into account when caring for a collection.

⁵ Norma Higgins, “Archives at Alfred or, What am I Supposed to do with That?” (presentation, Alfred University, Alfred, NY, 1981).

⁶ “Introduction to Preventive Conservation,” *Museum of Texas Tech University*, Accessed April 28, 2015, <http://www.depts.ttu.edu/museumttu/CFASWebsite/5332%20folder/Intro%20to%20Prev%20Cons.pdf>.

Light may be one of the most complicated components of preventive conservation since its use hinges ultimately on the balance between the rights of our generation and the rights of the next generation. Light, while needed to view objects and make use out of them, can damage and age records over time especially those on paper. Therefore great care must be taken in the lighting of archival facilities.⁷

Temperature relates to light and is often grouped with it or humidity. Temperature can mainly be detrimental in one of three ways: too high of temperature, too low of temperature or if there is temperature fluctuation. The correct temperature required for a collection depends on the materials it houses. For varied collections of objects such as those housed by the University Archives it can be difficult to find a temperature that satisfies all materials present.⁸

Incorrect humidity can also impact records in a negative way. This is most commonly seen in instances of high dampness where moisture in the air can cause cases of mold in paper objects and rapid corrosion in metal ones. Measures should be taken to not only control excessive moisture but to also monitor the humidity of the records storage.⁹

Atmospheric pollutants are becoming an issue for not only record keeping institutions in cities, where pollutants are more concentrated, but also in rural areas

⁷ "Agent of Deterioration: Light, Ultraviolet and Infrared," *Canadian Conservation Institute*, Accessed April 28, 2015, <https://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap08-eng.aspx>.

⁸ "Agent of Deterioration: Incorrect Temperature," *Canadian Conservation Institute*, Accessed April 28, 2015, <https://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap09-eng.aspx>

⁹ "Agent of Deterioration: Incorrect Relative Humidity," *Canadian Conservation Institute*, Accessed April 28, 2015, <https://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap10-eng.aspx>.

like Alfred. While city facilities do need to take greater care to monitor air purity versus in more rural areas, outdoor pollutants as well as indoor pollutants can still pose a problem to collections regardless of location.

Pests can be extremely destructive to collections composed primarily of organic material such as archives or libraries. Pests fall into three main categories: rodents, microorganisms, and insects. Depending on which of these categories and sub-categories they fall under, the materials these pests will attack differ. For instance molds and bacterial spores most commonly attack paper-based objects such as photographs and prints.¹⁰

Related to pests there is also the problem of natural factors, which can include anything from flooding to fires. Natural disasters can form an unexpected dangerous threat to historical records. For example many important papers and photographic documentation could not be removed before the Hurricane Katrina hit in 2005. These documents became susceptible to water and many of those that survived are still undergoing restorative treatment.

A similar situation was just narrowly avoided at Alfred University's Scholes Library where a weather related radiator issue caused a small flood on the ground floor. The emergency situation was handled succinctly and all books that were in the immediate area were removed before the water could come in contact. If the flooding had put the archives in Scholes at risk a number of factors would have had

¹⁰ "Agent of Deterioration: Combatting Pests of Cultural Property," *Canadian Conservation Institute*, Accessed April 28, 2015, <https://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap06-eng.aspx>.

to be accounted for regarding humidity and how records would be stored while the storage area was being renovated.

The last two factors that have to be taken into account when anticipating the preventive measures that need to be taken for a collection are first, the inherent vice of objects. This phrase may initially appear ambiguous but it basically refers to the natural tendency of objects to deteriorate. For instance the University Archives collects the local newspaper, the *Alfred Sun*. Newspapers are designed to be produced cheaply and are not in anyway designed for permanence; their purpose being to be read once and then disposed of. Therefore they are often printed on thin paper that is susceptible to light damage and physical damage. By collecting objects of this kind their inherent vices must be accounted for and further preventive measures taken.

The final component of preventive conservation is human factors. This can cover such big topics as negligence and theft but it can also cover smaller aspects such as repeated human contact. Storing historical records in areas that have high human traffic can be dangerous not only in regard to physical damage (someone accidentally knocking over a priceless vase) but also in regard to the spread of microorganisms which can attack paper objects. There can also be observable damage in the repeated handling of delicate historical objects.

This paper will begin by giving a brief description of the archives at Alfred University before focusing on the threats posed by light, temperature, humidity and atmospheric pollutants. It will give a summary of how these factors can be

detrimental to records and conclude with a discussion of what measure the archives at Alfred University are taking to address them.

The History of the Archives at Alfred University

The University Archives:

In 1978 when the eastern wing was added to Herrick Memorial Library, a permanent location for the University Archives and Special Collections became possible.¹¹ Previously, these records had been kept in assorted locations across campus and this created the first opportunity for a localized depository.

This location houses Special Collections, which consists of various book and manuscript collections, and also the Archives which are specifically made up of documentation pertaining to the history of the university as well as the history of the town.¹² These materials are diverse and include such things as papers, photographs, magnetic media, glass slides, negatives and digital files. With the variety of material the University Archives and Special Collections maintains one can begin to see how important this information is to the identity of Alfred University as an institution.

The New York State College of Ceramics (NYSCC) Archives:

¹¹ "About the Library," *Alfred University Herrick Memorial Library*, Accessed April 28, 2015, <http://herrick.alfred.edu/index.php/about/about-the-library>.

¹² Laurie McFadden (University archivist) in discussion with author, April 2015.

While the NYSCC is also an innate part of Alfred University its archives, located in Scholes Library, are separate from and serve a different purpose from those of the University Archives. Instead of documenting the entire university and the surrounding area, its aim and subject matter is more specific, focusing solely on the history of the NYSCC. Its intent is just as important to the identity of the institution and hence their records require just as much attention.

Presently the NYSCC Archives are located on the third floor of the Scholes Library. The archives are composed of papers about or by faculty, ceramists, students and friends of the NYSCC as well as documents and photographs chronicling the college's history. Also of note are the records of the National Council on Education for the Ceramic Arts.¹³ While its purpose and mission differ from the University Archives it still works to accurately describe and maintain the diversity of the NYSCC.

Preventive Conservation

Conservation as a profession began as the care for individual objects but today, because of the large increase in the number of museums and archives, the bulk of historical objects can no longer be cared for by this method. Instead other steps must be taken to limit deterioration and preserve large collections. This is where preventive conservation comes in, also sometimes called collections care. Preventive conservation is prevention of deterioration and corrosion by the control

¹³ "Archives," *Alfred University Scholes Library*, Accessed April 28, 2015, <http://scholes.alfred.edu/index.php/archives>.

of environmental conditions.¹⁴ Although preventive conservation focuses on non-treatment rather than treatment, in the long term it can be the most effective form of conservation especially for libraries and institutions that cannot afford to hire an in-house conservator. Below, the control of light, temperature, humidity and atmospheric pollutants will be examined in terms of preventive conservation.

Light:

With light, as described in the introduction, comes the problem of loss of value due to poor visual access or loss of value due to permanent damage. The energy of light that typically causes the disintegration of materials is 3 eV or greater whereas the energy of light required by the working mechanisms of the eye to see is between 2 eV and 3 eV.¹⁵

Light can be divided into three different types: ultraviolet which ranges from 300 to 400 nm, visible radiation which ranges from 400 to 760 nm, and infrared radiation (IR) which starts at 760 nm and goes beyond. The smaller a wavelength is the more detrimental that type of light, which is why protecting archival records from ultraviolet (UV) light, is so important.¹⁶ Even though UV is the most detrimental of the three, negative aging effects can still be sustained from visible

¹⁴ Jeffrey Levin, "Preventive Conservation," *The Getty Conservation Institute*, Accessed April 28, 2015, http://www.getty.edu/conservation/publications_resources/newsletters/7_1/preventive.html

¹⁵ "Agent of Deterioration: Light, Ultraviolet and Infrared," *Canadian Conservation Institute*, Accessed April 28, 2015, <https://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap08-eng.aspx>.

¹⁶ "What effect does light have on a museum's collections?" *Philadelphia Museum of Art*, Accessed April 28, 2015, <http://www.philamuseum.org/conservation/10.html?page=2>.

light and IR as well. Visible light, especially, can cause similar deterioration to UV in materials just over longer spans of time whereas IR is often understood in terms of incorrect temperature.¹⁷

Light intensity is measured in units of lux with the total exposure of light being recorded as lux over time in hours. Reasonable visibility is considered 50 lux but it is understandable that with the purpose of the archives more light may be required versus in a museum situation. The high sensitivity of paper must not be forgotten though, especially with historical objects that are more inherently delicate such as the *Alfred Sun* newspaper. With low quality papers, such as newsprint, yellowing and permanent damage can happen as quickly as in three days with repeated exposure.¹⁸

In the archives at Alfred University the damaging aspects of light are taken well into consideration. The NYSCC Archives located as they are on the 3rd floor of the building, do not have any windows and thus natural light does not impact the collections. What does need to be examined though is the use of artificial light in the archives.

Light damage happens cumulatively over repeated exposures and once a piece is affected the results are irreversible.¹⁹ Due to staffing the NYSCC Archives

¹⁷ "Agent of Deterioration: Light, Ultraviolet and Infrared," *Canadian Conservation Institute*, Accessed April 28, 2015, <https://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap08-eng.aspx>.

¹⁸ "Agent of Deterioration: Light, Ultraviolet and Infrared," *Canadian Conservation Institute*, Accessed April 28, 2015, <https://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap08-eng.aspx>.

¹⁹ "What effect does light have on a museum's collections?" *Philadelphia Museum of Art*, Accessed April 28, 2015, <http://www.philamuseum.org/conservation/10.html?page=2>.

are open infrequent hours, which inadvertently reduces light exposure. When the archives are not open the NYSCC Archives works to further reduce the risk of light damage by keeping the lights off. Even when the archives are open only the reading room is routinely kept lit, the main storage rooms are kept dark except for the light coming in through the door. Regardless light levels within the room should still be checked routinely and if not already in place all fluorescent lighting should make use of appropriate ultraviolet light filter screens.²⁰

The University archives, located in the west wing of the building have the added problem of daylight, posed by the windows, to take into account. To regulate daylight the archives not only utilizes UV filters on the windows but also keeps window shades drawn. To further protect objects most material is enclosed in boxes and folders when not in use and, like the NYSCC Archives, the lights are turned off when no one is present.

Temperature:

Temperature is often grouped with humidity but in this section its implication will be examined alone. There are three ways in which temperature can be detrimental to a collection: too high of temperature, too low of temperature and temperature fluctuation. The conditions temperature-wise in which a collection should be kept ultimately depend on the materials within the collection. By the

²⁰ "Facilities and Equipment," *Society of American Archivists*, Accessed April 28, 2015, <http://www2.archivists.org/node/14805>.

standards of the Society of the American Archivists the optimum temperatures for archival collections should be between 60° to 70° F or 16° to 21° C.²¹

Fluctuation in temperature can cause expansion of the material when heated or shrinkage when chilled. If these processes happen too quickly they can cause damage to the historic material and can also cause damage if different components of an object expand or shrink at different rates. While fluctuation of temperature should be avoided, taking energy costs into mind, fluctuation does not cause damage within certain degrees depending on the sensitivity of the material.²²

What this means is that material of lower sensitivity, like most papers, can experience greater fluctuation than items like unstable photographic material or other inflexible objects. It has been determined that the largest degree of fluctuation that low sensitivity materials can experience with low risk of damage is around 88.2° F or 50° C between temperatures. Daily fluctuation of higher than this degree can cause fatigue cracking over time even for low sensitivity objects.²³

High temperatures can cause paper records to not only chemically break down but along with humidity they can also create situations in which biological phenomenon such as mold or fungi are possible. Temperature and humidity are often grouped together for just this reason. With this in mind it is often better with archival spaces to err on the side of colder temperatures rather than warmer. In

²¹ "Facilities and Equipment," *Society of American Archivists*, Accessed April 28, 2015, <http://www2.archivists.org/node/14805>.

²² "Agent of Deterioration: Incorrect Temperature," *Canadian Conservation Institute*, Accessed April 28, 2015, <https://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap09-eng.aspx>.

²³ "Agent of Deterioration: Incorrect Temperature," *Canadian Conservation Institute*, Accessed April 28, 2015, <https://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap09-eng.aspx>.

fact colder temperatures can be beneficial to collections in that they lower humidity and halt pest infestations. The only downside to cold temperatures is that they can cause physical damage to already inflexible objects by making them stiff and brittle.²⁴

Temperature control also inevitably brings up the question of energy cost, environmental impact and sustainability especially for smaller institutions. In the NYSCC archives the temperature is kept around 68° F but can fluctuate slightly depending on the weather and the heating/cooling unit. Similarly the University Archives' main collection room, the temperature is kept at about 70° F and can also experience some fluctuation. In the University Archive's Annex storage room this fluctuation is amplified towards the warmer side due to the outside temperature and the ITS server rack which generates additional heat.²⁵ Even though warmer temperatures are generally more detrimental and fluctuations should be avoided if possible, with paper being a material of lower sensitivity records shouldn't experience an excess of damage.

Humidity:

Many of the components of preventive conservation overlap and relate to each other; in just this way humidity shares a close relationship with temperature, light and pests. Relative humidity is measured by comparing the amount of moisture in the air versus the amount of moisture that the air could hold maximum at that

²⁴ "Agent of Deterioration: Incorrect Temperature," *Canadian Conservation Institute*, Accessed April 28, 2015, <https://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap09-eng.aspx>.

²⁵ Laurie McFadden, e-mail message to author, May 1, 2015.

temperature. Relative humidity is then expressed as a percentage of moisture in the air at a given time and temperature.²⁶ The Society of American Archivists suggests an optimum relative humidity that ranges between 40 to 50 percent with few fluctuations.²⁷

Changes in relative humidity cause changes in moisture content within materials like paper that are of organic origins. Variations in moisture cause archival objects to either expand or shrink accordingly. If objects are allowed to slowly adapt to the moisture in the air and expand and shrink without constraint they should experience no major damage. On the other hand, if materials are constrained by any other component while they are expanding and shrinking they may experience fractures.²⁸ Less than 5 percent fluctuation above or below the set point within a 24-hour period and less than 15 percent fluctuation with seasonal changes is the suggested parameters of permissible variation without detrimental results.²⁹ The fact that most records and books are also formed from a variety of materials that expand and contract at different rates means that fluctuations in relative humidity should be even more controlled to avoid damage to archival materials.

²⁶ "Temperature and Relative Humidity," *National Gallery of Art*, Accessed April 28, 2015, <http://www.nga.gov/content/ngaweb/conservation/preventive/preventive-temp-rh.html>.

²⁷ "Facilities and Equipment," *Society of American Archivists*, Accessed April 28, 2015, <http://www2.archivists.org/node/14805>.

²⁸ "Agent of Deterioration: Incorrect Relative Humidity," *Canadian Conservation Institute*, Accessed April 28, 2015, <https://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap10-eng.aspx>.

²⁹ Toby Raphael, "Preventive Conservation Recommendations for Organic Objects," *Conserve O Gram*, July 1993, 1/3.

Fluctuations in relative humidity are most often caused by rapid shifts in weather patterns. In climates where there is often rain, relative humidity values, unless controlled, will be on the high side indicating dampness. Dampness can cause physical changes such as warping, cracking, and loss of material as well as chemical reactions, including the fading of dyes and the disintegration and yellowing of paper. Warm damp temperatures can also lead to bio-deterioration from organisms such as mold or bacteria.³⁰

Low relative humidity on the other hand is usually present in colder climates and results from cold air being heated. This causes a fall in relative humidity and likewise the reverse is true for warm air being cooled.³¹ Low relative humidity can cause embrittlement and make objects more delicate especially in the case of organic materials.

Some ways in which relative humidity can be further controlled to avoid the stresses on materials caused by inconsistent levels of moisture are to create an environmental buffer around archival material. For individual objects, this can be done by the use of silica gel, microclimate packages or even just by shielding the object with more of a protective structure.³² With this in mind relative humidity should be checked on a regular basis to ascertain when corrective measures must be taken to maintain constant relative humidity.

³⁰ "Temperature and Humidity," *Philadelphia Museum of Art*, Accessed April 28, 2015, <http://www.philamuseum.org/conservation/10.html?page=3>.

³¹ "Agent of Deterioration: Incorrect Relative Humidity," *Canadian Conservation Institute*, Accessed April 28, 2015, <https://www.cci-icc.gc.ca/resources-ressources/agentsofdeterioration-agentsdedeterioration/chap10-eng.aspx>.

³² "Temperature and Humidity," *Philadelphia Museum of Art*, Accessed April 28, 2015, <http://www.philamuseum.org/conservation/10.html?page=3>.

In the NYSCC Archives an effort is made to measure relative humidity on a regular basis but humidity varies greatly depending on the weather. To ultimately fix this problem the heating, ventilating and air conditioning (HVAC) system would have to be reworked but at its current standing fluctuations are not to a large enough degree to significantly damage records.

In the University Archives relative humidity isn't measured as specifically as it is in the NYSCC Archives but it is known that the main collection room stays at about 35 to 45 percent relative humidity and the Annex storage room is around 50 percent relative humidity. Thirty-five percent relative humidity is a little on the low side of what is suggested for archives by the Society of the American Archivists.³³ Yet with collections that consist largely of organic materials it is better to err on the side of lower humidity rather than higher humidity.

Atmospheric Pollutants:

Outdoor-generated pollutants warrant discussion since weather patterns encourage the travel of highly concentrated atmospheric pollutants from Midwestern cities and low concentrated emissions from the Alfred area can contribute further. There are two different types of atmospheric pollutants: outdoors and indoors. Outdoors atmospheric pollutants are generated from industrial processes that emit detrimental emissions while indoor atmospheric

³³ "Facilities and Equipment," *Society of American Archivists*, Accessed April 28, 2015, <http://www2.archivists.org/node/14805>.

pollutants are generated from the off-gassing of non-stable materials such as certain types of paints, boards, cleaners and other products/materials.³⁴

Paper, as compared to other materials, is on the low side of atmospheric pollutant susceptibility. It is primarily affected by sulfur oxides, which along with moisture and mechanical wear can cause the paper to become embrittled and extremely vulnerable to physical damage.³⁵ Sulfur dioxide is primarily an outdoor atmospheric pollutant produced by the combustion of sulfur-containing fossil fuels although it can also be associated with the cement industry, paper productions and petroleum refineries. It can become an indoor atmospheric pollutant if cooking facilities that use sulfur-based fuels are part of the building in which an archive is housed or through the presence of vulcanized rubber. Neither of these indoor atmospheric pollutant situations are applicable to the archives of Alfred University. The deterioration of the paper's cellulose structure is not readily apparent to the naked eye and is even more of a reason that atmospheric pollutant levels should be examined on a regular basis.³⁶

Pollutant levels can be determined through passive or active sampling; in both approaches pollutants are measured on an absorbent or reactive surface directly or through laboratory analysis.³⁷ Since sulfur oxides are the major atmospheric pollutant that targets records, installing a heating, ventilation and air

³⁴ Cecily M. Grzywacz, *Monitoring for Gaseous Pollutants in the Museum Environment* (Los Angeles: Getty Publications, 2006), 2.

³⁵ "Pollutants," *Philadelphia Museum of Art*, Accessed April 28, 2015, <http://www.philamuseum.org/conservation/10.html?page=4>.

³⁶ Cecily M. Grzywacz, *Monitoring for Gaseous Pollutants in the Museum Environment* (Los Angeles: Getty Publications, 2006), 97.

³⁷ Cecily M. Grzywacz, *Monitoring for Gaseous Pollutants in the Museum Environment* (Los Angeles: Getty Publications, 2006), 23.

conditioning system with gaseous filtration or upgrading an already existing system to include gaseous filtration could help further reduce deterioration in collections. Identifying factors that could contribute to indoor atmospheric pollutants such as un-stable storage materials is also of equal importance.³⁸

While neither of the archives at Alfred University measure atmospheric pollutants on a regular basis, both utilize some manner of filtration system and take precautions to limit indoor atmospheric pollutants by using approved storage material for the housing of archival records.

Preventive Conservation and the Archives at Alfred University:

The role of preventive conservation is to mitigate the risks inherent in the environment. This is of monumental importance especially in terms of the archives at Alfred University, which are home to collections of historical records that cannot all be individually attended to. These records are of great importance not just because Alfred University is the second oldest co-educational school in the United States but also because they serve as the identity of the institution. They describe where the university has been and how it has become what it is today, as well as preserving important logistical paperwork.

For an institution of their size, the archives at Alfred University have been doing a wonderful job of adhering to the four components of preventive conservation mentioned in this paper as well as others. With any facility, improvements could always be made given the money and staff but as it stands the

³⁸ Cecily M. Grzywacz, *Monitoring for Gaseous Pollutants in the Museum Environment* (Los Angeles: Getty Publications, 2006), 90.

records of Alfred University through the effort of the archivists should be available for the students and faculty of Alfred University to make use of and enjoy for many years to come.

The knowledge I have gleaned from this project will aid me as I continue to pursue my art conservation goals at the Library of Congress this summer. As I go on to continue my studies I leave a copy of this thesis in the hands of the archivist with the insight that my words will be preserved and accessible to those who come after me.

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