

## **Sustainable Stewardship: Preventive Conservation in a Changing World**

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### **Introduction**

I have been asked to provide an overview of the development of preventive conservation within the United States and the challenges involved in collections care and management. While I will try to contain my comments accordingly, I hope the reader will allow me this one excursion into the wider world, since it is increasingly difficult to address such broad and important issues on exclusively a national level.

The world is indeed smaller, shrunken, as it were, by developments in technology and communications that have dramatically expanded our assumptions and expectations regarding accessibility to information, products, people and heritage collections. In this last decade alone a significant desire has appeared, on the part of museums in both economically developed and economically challenged countries, to lend and to borrow increasingly large numbers of works of art and artifacts for exhibition. The world is hungry for direct access; indeed, it demands it.

The coordinated call for such access is clear. At the 2008 Salzburg Global Seminar, Norman Palmer, Prof of Law at Kings College London and chair of the UK Treasure Valuation Committee, continued his support for harmonization of international loan policies and laws. In a session titled “Achieving the Freer Circulation of Cultural Artifacts”, he noted in an interview that the law of lending should be the same world wide.<sup>1</sup>

The trend to minimize barriers to the regular exchange and transport of objects is on the rise, as are the attendant problems with the care of these artifacts and works of art as they are moved from place to distant place. This process is attended by all the assumptions regarding each place’s willingness and ability to provide the very best of care for all of the objects and an adherence to the agreed upon “standard” of care.

The international conservation community is faced with a dilemma in considering these assumptions. And it must decide what role it will play in this exchange of property. Will we be a barrier to be overcome? Or a partner in assuring access? Will we be ready with well thought out, proven and coordinated guidance for the care of loaned objects as well as those which remain “at home”? Or will we cling to precepts that reflect another time...dogmatic rules that provide insufficient answers to increasingly common questions, while taking little notice of the broader concerns for sustainability in the 21<sup>st</sup> century and beyond? And perhaps most importantly, are there essential changes and compromises that are both critical and timely; and that we may now be more willing to make?

This complex set of questions is joined by a myriad of others, making any contemporary overview of preventive conservation rather daunting. But perhaps taking the keywords contained in the title of this paper, *Sustainable Stewardship: Preventive Conservation in a Changing World*, and addressing each in turn will provide the needed structure to venture an attempt. Hence a look at Preventive Conservation, the Changing World, and Sustainable Stewardship.

## Preventive Conservation

The Oxford English Dictionary, authoritative on matters of clarity and meaning, defines the verb *conservation* as: “to keep in safety or from harm, decay or loss; to preserve with care; now usually to preserve in its existing state from destruction or change.”

The definition amply accommodates the adjective *preventive*, and one is left wondering if the couplet, *preventive conservation*, was ever necessary. Is it perhaps a redundant term for a process we should already be undertaking as an essential part of our activity?

None the less the term preventive conservation has existed at least since the early 1970's, though in fact the concept has been with us much longer as related to our desire for maintenance and protection in buildings, monuments, and individual works of art. In 1849, for example, John Ruskin wrote “Take proper care of your monuments and you will not need to restore them”<sup>2</sup>.

Preventive conservation has been labeled a conceptual approach as opposed to the more traditional (read: bench oriented) conservation activities, themselves assumed to be a series of specific, often intrusive, treatments aimed at the stabilization of works of art or items of assigned historic or cultural importance. But conservation, as a whole, is no longer a set of dogmatic and standard acts. The entire effort is now more dynamic, responsive, and significantly broader in scope than just a few decades ago. Increasingly it incorporates a more diverse group of disciplines and relies upon a significantly greater number of areas of expertise. Conservation is not, by its very nature, conceived or executed exclusively by conservators. And a more holistic approach to the challenges of preservation is now, more than ever, necessary. How else will we ever address the ongoing and changing preservation needs of collections, monuments, historic buildings, landscapes and even the intangible aspects of past and present cultures? And this names only the major areas of the pursuit.

A full accounting of all details related to the development of preventive conservation is outside the scope of this paper. The task would surely require an entire book. But it is worthwhile noting a few highlights that formed the concept and the label.

What is often cited as the first position for a Collections Care Specialist in Preventive Conservation in the United States began in 1983 at the Smithsonian Institution.<sup>3</sup>

A few years later the Bay Foundation funded the Pilot Program in Collections Care and the National Park Service began offering training to those involved in the aspects of preventive conservation. The NPS also undertook the development of the Conserve-O-Gram series, which continues today.

At this point I must, by necessity, cross several international borders to note perhaps two of the most influential professionals who have contributed to the development of Preventive Conservation, G ael de Guichen and Stefan Michalski.

G ael de Guichen has long and tirelessly worked toward the establishment and enactment of preventive conservation principles. In 1999 he defined a comprehensive plan for preventive conservation as “a project encompassing everybody involved with the heritage of a public or private establishment which provides for the concerted implementation of well-defined direct and indirect measures aimed at the natural and human causes of deterioration in order to increase the life expectancy of the collection and guarantee dissemination of the message they carry”.<sup>4</sup> As we will see the most operative words include “everybody”, “well defined” and “life expectancy.”

Stefan Michalski (as well as others) at the Canadian Conservation Institute began his work on Preventive Conservation in the 1980s with the creation of the CCI Notes, the Framework for Preventive Conservation, and the Light Damage Calculator. His research continues to produce corner stones in this area.

Professionals like Carolyn Rose, who worked with Heritage Preservation on the development of the Conservation Assessment Program, clarified the purpose and direct benefits of preventive care. So too did the Getty Conservation Institute (GCI) when it assembled a group of conservators, engineers and architects to develop the curriculum for the course "*Preventive Conservation: Museum Collections and Their Environment*", offered from 1990 to 1995.

Of particular note in the development of preventive conservation was the Dresden ICOM-Triennial Meeting of 1990. It was here that many formative presentations were given, such as Stefan Michalski's "An overall framework for preventive conservation and remedial conservation," which provided a structure for future growth of the concept.<sup>5</sup>

Four years later, the IIC's 1994 international congress was devoted exclusively to preventive conservation and in 1997 the GCI initiated projects to develop strategies for preserving collections in hot and humid climates using more sustainable and affordable approaches.

Perhaps the greatest step forward in recent years has been the Heritage Health Index developed by Heritage Preservation and the Institute of Museum and Library Services in 2005. The Index was the first comprehensive survey of condition and preservation needs of U.S. public collections. Distributed to more than 14,500 collections encompassing all types of collecting in every U.S. state and territory, its very existence reminded us that over 4.8 billion artifacts are cared for nationwide, in collections that are visited 2.5 billion times a year. The scope of the need became public and undeniable.

The Heritage Health Index found that only 11% of museums in the United States had adequate storage facilities and that 58% of museums believed that some form of damage had occurred because of this lack in appropriate storage.<sup>6</sup> The most urgent preservation need in U.S. collecting institutions was environmental control and it is likely that the situation has, at best, only marginally improved in the five years since the survey.

More recently the field has begun to more actively recognize the issues embedded in sustainability and the changing world climate as rising challenges to effective preventive conservation. And the dialogue is growing regarding what can be done. In 2007 the topic formed the basis for a conference entitled *Gray Areas to Green Areas: Developing Sustainable Practices in Preservation Environments*,<sup>7</sup> as result of a partnership between the School of Architecture, University of Texas at Austin and the Getty Conservation Institute.

One year later, in 2008, the International Institute for Conservation launched the first in a series of public roundtables entitled *Dialogues for the New Century*, with the event *Climate Change and Museum Collections*<sup>8</sup>. This first roundtable explored the effects of global climate change on collections in museums and institutions around the world. Later that same year the Getty Conservation Institute hosted a similar panel discussion that brought together, for the first time, those involved with the conservation of cultural property and those working toward the preservation of natural resources. The GCI and the Natural Resources Defense Council examined the potential impacts of global warming and climate change on natural ecosystems, the

communities in which we live, and the places that we have assigned value to. The broadening scope of challenges is clear. And the need for an equally broad scope of solutions is upon us.

This brief and surely incomplete list represents an evolution in the field from the myopic concern for simple maintenance toward a broader more encompassing effort leading to preservation. The field now not only looks beyond its confines for resources to achieve its mission but queries the impact its own activities may have on the world at large.

## **The Changing World**

Not only has the scope of heritage conservation expanded but so has its very nature. In the last few decades, indeed in just the last few years, a combination of threats has risen that creates a rather unique and deeply disturbing situation. As a result we must now manage change brought on by a far broader spectrum of agents. The dynamic challenges to our success in such management have expanded to include:

- Climate change
- Higher energy costs
- The global economic downturn
- A greater demand for access
- The growth of nationalism

Let's consider two of these problems which, when combined as they are now, present a formidable challenge to heritage conservation: climate change and economic downturn.

Although a limited number of locations will find climate change favorable for economic growth and sustainable care of heritage, most parts of the world will experience the negative effects of climate variables. And these variables are expected to only increase in the foreseeable future.

In February 2007 the Intergovernmental Panel on Climate Change (IPCC) issued its fourth assessment of the future.<sup>9</sup> The report noted that the link between global climate change and human activity is unequivocal, and it identified several trends:

- An increase of warmer days and nights over most land masses
- A greater frequency of hot days
- More frequent heat waves
- More frequent incidences of heavy rain
- Increased occurrence of drought
- Increase of intense tropical cyclone activity
- Increase of incidences of extreme high sea level

Such a list should no longer hold any surprises for us. Scientists have predicted such scenarios for decades. What has changed is that we are no longer pointing to subtle effects or models; the stark evidence is all around us. The eight warmest years on record (since 1850) in the United States have all occurred since 1998, with the warmest year yet being 2005 (as of this writing). If greenhouse gases continue to increase, and unfortunately it appears they will for at least a number of years into the future, climate models predict that the average rate of warming over each inhabited continent is very likely to be at least twice as large as that experienced during the 20th century.

While it remains difficult to predict which parts of the country will become wetter or drier, there is no doubt that associated difficulties will follow, such as fires, floods and severe weather.

In his studies on climate change Dr. Thomas R. Knutson of the Geophysical Fluid Dynamics Laboratory at Princeton has noted “It is likely that greenhouse warming will cause hurricanes in the coming century to be more intense on average and have higher rainfall rates than present-day hurricanes.”<sup>10</sup>

The implication of such studies is that of an increasing risk in the occurrence of highly destructive storms. Recent events on the US Gulf Coast certainly remind us of the immense loss in human and cultural resources that can result. Is environmental management part of preventive conservation? And when we say “environmental” are we, should we, be speaking only of the galleries and storerooms, or should we mean our entire scope of responsibility to heritage and the planet? They are, after all, quite inseparable.

Michael Henry, one of the authors in this publication, has called environmental management the single most important effort in making our efforts of cultural heritage preservation sustainable, because of its “consequences for cultural heritage conservation, energy consumption, and capital as well as operating costs”.<sup>11</sup>

We have not always thought so broadly, even though one of the pioneers of collections environmental control, Gary Thompson, was already noting the eventual problem when he insightfully remarked, in the very last paragraph of his seminal book “The Museum Environment”, that: “There is something inelegant about the mass of energy-consuming machinery needed at present to maintain constant RH...something inappropriate, in an expense which is beyond most of the world’s museums”.<sup>12</sup>

It has become clear that the measures we take to control collections environments can no longer be allowed to contribute to the overall problem of our planet’s environment. Higher capacity HVAC systems, which consume large amounts of energy to reach and maintain the target environmental parameters for a collection, are no longer a sustainable, or even reasonable, answer to collections care. Seeking better answers brings us to the next key word: sustainability.

## **Sustainability**

While the very word sustainability can raise the current angst over rapid changes to our modern world, it is also a word that is perhaps a bit overused and even teetering on banality. For our purposes in conservation it might be helpful to take just a moment to remind ourselves of its origins and earlier meaning.

Sustainability, as originally defined by the economist James Tobin in 1974, is the ability to maintain balance. He wrote:

“The trustees of endowed institutions are the guardians of the future against the claims of the present. Their task in managing the endowment is to preserve equity among generations.”<sup>13</sup>

A simple replacement of a few words with terms more familiar to conservation issues provides a more usable version:

“The conservators caring for a collection assure future access to that collection by managing its use and preservation today.”

Tobin also noted that sustainability involves *pillars*, such as environmental, social and economic sectors or contributors, upon which the process depends for effectiveness. Integrating these pillars when developing sustainability policies results in what is known as *intergenerational equity*. This principle cautions that the spending rate must not exceed its compound return, so that investment gains are spent equally on current and future constituents of the endowed assets. Continuing our translation of Tobin's words, what might we see as the pillars for conservation and what form would intergenerational equity take? The sectors that must be involved for successful conservation of cultural heritage have already been discussed. They are continually increasing and no longer are simplistically limited to chemists, art historians and craftsmen. An entire universe of expertise is now called upon to advise, undertake and review conservation efforts. But broader understanding and support for conservation efforts, which are just as essential as technical finesse, require society's familiarity with the purpose and limitations of conservation in order for the profession's efforts to be effective and sustainable. A review, and perhaps an adjustment, of the pillars we depend upon may well be in order.

In such a light *intergenerational equity*, when applied to heritage, cautions that the long term resources committed to the preservation of cultural material must not exceed the benefits to the material (or to those enjoying the results and consuming the material) and its long-term survival. Those resources should be used while balancing the current and future needs not only of the heritage collections, but of the planet we live on. Both, after all, should be considered "endowed assets" under our care.

It is a fairly straight forward conclusion to make: our conservation efforts as applied to heritage material today should not contribute to global problems that affect the ability of future generations to enjoy the very heritage we are preserving.

In these challenging economic times such a concept is not only responsible, but is necessary. We will no longer have the luxury of ignoring whether conservation practices not only fail to contribute to sustainability but may work against larger preservation needs by contributing to excessive costs and unregulated, wasteful use of natural resources.

There are, of course, any number of new challenges as we begin to adapt to these emerging concerns. And the perception of our mission and how we go about achieving it are significant among these challenges. Conservators and collections managers already have a reputation (perhaps well deserved and perhaps unavoidable) of concentrating on threats and resisting, rather than facilitating, access. As we add sustainability concerns to our discussion we may be seen even more as agents of alarm and doom. We may become yet one more bearer of bad news, adding even greater burden to an otherwise increasingly saturated populace. But we do have an option which is to broaden the appeal of our efforts by broadening their associated scope. When we say "conserve" we should aim at communicating our larger purpose. It is time we join the other preservation and conservation communities (those concerned with communities, species and natural resources for example) who share our goals. Differences abound of course, but what we have in common far outweighs any of them.

### **What we might lose and what we might gain**

Without care and advocacy for heritage health we will lose our irreplaceable treasures prematurely. Without mitigation and advanced planning for response we will lose our historic buildings and our collections to moments of disaster.

It is no longer sufficient to only raise the alarm, we must respond now with proactive commitment to the larger issues before us. Decades have passed and storerooms have not improved, emergency plans are not in place, and the field remains largely unaware of the direct impact global climate change will have on its mission and how addressing that impact will be made much more difficult by shrinking budgets.

In the past half century expectations of comfort have been upheld by advances in technology and cheap energy. From homes to shopping malls and museums we are rarely too cold and rarely too hot, but kept *just right* by massive and energy-wasteful systems. A full 20% of power consumption in the United States is used for air conditioning and much of the energy used to run those systems comes from the consumption of non-renewable and often polluting sources.<sup>14</sup>

Conservation expectations have been built on the same factors, the same expectations, as personal comfort. Museum gallery and storage environmental control is continually being defined and redefined by what degree of control is possible, by what can be measured, not necessarily by what is actually needed.

It is time for us to ask what we really need, what our collections really need, versus what we have come to think is ideal and what we think we can provide ...or once could provide, seemingly free of consequences and in a world of cheap and ample energy.

It is time for us to be aware of and applaud the recent advances in energy efficiency. Improvements in HVAC systems have made them more energy efficient and there is a growing recognition that proper choices of systems as well as their tuning and maintenance can improve performance significantly.<sup>15</sup> The Environmental Protection Agency continues its work to monitor and regulate potential threats. The Energy Star program has encouraged energy efficient developments but must make greater headway in the museum world. The US Green Building Council with its leadership in Energy and Environmental Design (LEED) programs has made a significant impact on new museum construction. And in 1999 a separate chapter entitled "Museums, Libraries and Archives," published again in 2003 and 2007, was developed for the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE).<sup>16</sup> A significant advancement.

All of this represents notable gains, but much more is needed. It is time to develop informed decision-making regarding what the material heritage we care for really needs to survive. A review of our present assumptions and guidelines informed by new research, modeling and the gathering and analysis of empirically formed information is paramount if we are to conserve in a sustainable way.

Promising concepts and suggestions are already at hand. Stephen Michalski, for example, has put forward the concept of "proofed fluctuations," essentially observing how objects and collections react to given environments over long periods of time, indeed, the period of observation may be generational.<sup>17</sup>

Such an effort at characterization and reevaluation will require what the ASHRAE team called "common professional knowledge."<sup>18</sup> It turns out that conservators have reported that some collections have survived quite well in conditions less than what has been defined as "ideal." And it has been discussed that museums who have claimed to provide ideal conditions did not always in fact do so.<sup>19</sup> Rather than scorning such information, perhaps we should investigate the lessons it contains. Has the ideal surpassed the achievable, surpassed the necessary, and surpassed the responsible? We have a great deal of work to do to answer those questions.

## Conclusion

Chris Caple has noted that, in undertaking preventive conservation, the conservator must by necessity leave the confines of the laboratory (or studio) and enter the broader world of management, venturing as Caple says to “the edge of their territory.”<sup>20</sup> But in fact many conservators do this daily; sometimes it’s all that can be achieved in any one day. Conservators have already made the shift to expanding their influence and responsibility. The question really is whether they will be able to defend the present practices undertaken in their traditional territory. As we step across boundaries, by desire or necessity, can we be confident that our priorities are, or should be, shared?

There is no doubt that conservation is far more complex than it was just a decade ago and that this complexity is a good thing. The profession has taken on much broader responsibility and enjoys the input of a larger community of expertise. We see perhaps more clearly than ever before our impact upon the appearance, stability and life-span of objects, collections and the information carried by each. We must now add to those concerns our impact on the planet itself and the cost effective, or not, nature of our actions.

Our response should seek a balance that is reasonably weighted and firmly well founded. But our conservation data, as Stephen Michalski points out, consists of unlinked case histories and fragmentary deterioration studies.<sup>21</sup> Small groups convene to explore mutual interests and concerns without sufficient concern for inclusivity and outreach. And our profession remains, as has recently been noted, invisible to the population as a whole.<sup>22</sup>

It is time to change. It is time, as David Stam had encouraged so many years ago,<sup>23</sup> to abandon partitioning in favor of integration to accomplish the museum’s mission of preservation. And that integration includes acceptance of broader responsibility and stewardship, not as a unique mantle but as a shared effort.

Samuel Jones and John Holden, the authors of “It’s a Material World, Caring for the Public Realm”, have stated that, “Conservation refreshes and sustains the values of the past, where we have been, but also reflects values of the present and the future.”<sup>24</sup> They imply that conservation reflects the values that are both associated with and are the driving force behind, our journey into the future. If this is the case, and I am sure it is, the inclusive and holistic values of today and tomorrow may well call for more substantiated decisions and broader definitions of what we are stewards of, what we should be conserving....and how.

## Notes

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