STORAGE COLLECTION RECOMMENDATION FROM INTERDISCIPLINARY TOOLS: DOCUMENTATION, PREVENTIVE CONSERVATION, CURATORSHIP, AND ARCHITECTURAL ISSUES

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Abstract. This article aims to examine the historical and conceptual issues which guide the current debate on interdisciplinary tools for recommendations on collections in storage; It examines previous guidelines and the academic, scientific, and international co-operation institutions role in formulating recommendations, standards, and discussions on collection storage.

Keywords: Collections, Storage, Recommendation

1 Historical Issues

When did we start to think of cultural heritage regarding as international protection, and under a scientific thought? How did it impact the international community, the institutions, and the society in general?

We consider that the cultural heritage preservation policies began to be developed by scientific and technical co-operation, as well as within the context of international political protection, during the 20th century. Early, it was discussed by the International Institute of Intellectual Co-operation (IICI-1924/1946) and the International Museum Office (IMO-1924/1945), institutions created by the League of Nations (LN-1920/1946), and then by the United Nations Educational, Scientific and Cultural Organization (UNESCO-1945-) of the United Nations (UN-1945-).

UNESCO reorganized an international program focused on the cultural heritage protection after the World War II (1939-1945) from the International Institute of Intellectual Co-operation references and through the recommendations and charters that were drawn up in its Conferences, Conventions, and Assemblies, after signed by its Member States, building an international co-operation policy. Following the previous work of the International Museum Office, the establishment of the International Council of Museums (ICOM) in 1946, the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) in 1956, and the International Council on Monuments and Sites (ICOMOS) in 1965. UNESCO targeted to produce synergetic spaces to join researchers, professionals and institutions aiming to debate and improve the heritage safeguard. Several international guidelines approved by UNESCO and signed by its State Members came from these institutions, and became the basis for the development of several national policies on cultural heritage protection, including Brazil. In relation to these institutions mentioned, ICOM played a key role in focusing its discussions on the protection of collections under museum custody. As recently as 2016, the ICOM International Committees for Conservation (ICOM-CC), for Architecture and Museum Techniques (ICAMT), and for Collecting (COMCOL) articulated a starting point for a discussion on storage as it affects the museum environment. The discussion on storage concerns was continued at the 18th Triennial Conference of ICOM-CC, held in Copenhagen, Denmark, in 2017. The working document entitled, *Reconnecting with Collections in Storage Recommendation*, which is currently in draft form, can be downloaded from the ICOM-CC website[1]. Preliminaries meetings had already discussed this subject, such as the Re-Org-ICCROM seminar held in Brussels, 28-29 September 2016, *Reconnecting with Collections in Storage*, which inspired the tittle of the actual document.

[1] http://www.icom-cc.org/54/document/draft-recommendation-on-collections-in-storage/?id=1537#.W4r-JhjOog4

The basis of this debate can be seen from the conference organized in 1934 in Madrid by the International Museums Office entitled *Muséographie: Architecture et Aménagement des Musées D´Art,* during which the situation of the collections in storage was examined in several conferences, highlighting the lecture of Alfred Stix (1882-1957), Director of Kunsthistorisches Museum of Vienna, Austria, entitled *Organisation des dépôts, réserves et collections d´études*, and the communication *Problèmes Soulevés par l´accroissement des collections* done by George Oprescu (1881-1969), Director of the Toma Stelian Museum, of Bucharest.

The mainly subjects examined at the chapter *Organisation des dépôts, réserves et collections d´étude* were: *Classification principles and catalogs*: the order by inventory number; by parallelism with the main collection; by subject, with internal classification; by use and in chronological order; by function; by geographical and chronological subdivisions; the case of excavations; by the storage systems. *Repertories*: 1st inventories correspond to the main inventory with mention of the location, 2nd inventory of location with mention of the number of the room and the catalog or based on the system of the libraries with indication of the cabinets or other places of the room, 3rd scientific catalog to find the objects based on scientific data. *Conditions rooms*: protection against theft and fire; weather conditions; lighting; location of storage rooms in the building. *Conservation methods*: description of the systems in use; furniture; the location of heavy objects; devices of suspension, fixation and protection. *Hygiene of the rooms*: dust, humidity, aeration. *Examination of conservation material*. *Proportion between the objects in exhibition and objects forming the collection of studies. The role of study collections. The acquisitions and the Collections Management* (Stix 1934, p.248).

While Stix structures his text from specific questions about the management of scientific collections, especially those located in the storage rooms, Oprescu presents the problem of museums management from the perspective of exponential growth of collections. He places several questions at the beginning of his text: "The questions arise: where to put objects in museums that are crowded? Where to put those whose come from shopping, donations or legacies? And in some prehistoric or archaeological museums, coming from excavations in the region? What pace to give for new purchases so it does not overload the rooms, which are already full? What rules to suggest to donors and testers - to what extent can this be done - so that theirs requests do not create a greater concern for the director who manage those institutions?". He also points out two significant questions: How to stop the irrational rise of collections? What to do with objects that cannot or should not be permanently exposed? (Oprescu 1934, 295).[2]

In July 1932, the Committee on Intellectual Cooperation, in assessing the impact of the exchange and collaboration movement among the public collections of museums, giving the public access to artistic and scientific production in different regions of the world, sent a recommendation to the League of Nations, subsequently approved, suggesting to Member States the creation of national laws capable of supporting the demand for exchange. For Oprescu, this collaboration should have be done by a real assessment on the situation regarding the overcrowded museums. "The initiatives of the International Office of the Museums in this field thus mark an essential stage, as well in the development of the international collaboration between museums as in the progress of the spirit of intellectual solidarity in the most general sense" (Oprescu 1934, 310).[3]

The typewritten document belonging to the Bibliothèque nationale de France (BnF), entitled *Rapport General N.8*, written by Alfred Stix and not presented in the printed version of the book generated by the Madrid Conference, proposes a questionnaire for the organization of the storage room of museum collections and the study collections. Ten questions argue about the meaning of the museum depots, and twelve questions are related to the study collections. Another report written by Oprescu proposes a survey regarding the museum collections expansion. How do these questions remain current? How can they be revisited and updated in a recommendation on storage collections?

Almost forty years after the meeting in Madrid an *International Conference on Museum Storage* was proposed by UNESCO, held December 13-17, 1976, in Washington DC, also focused on this theme. The first

[2] "Mais la question se pose: où placer (les objets) dans les musées qu'on évince? Où mettre encore ceux qui proviennent des achats, de dons ou des legs ? Et dans certain musées préhistoriques ou archéologiques, des fouilles de la région ? Que rythme donner dorénavant aux acquisitions nouvelles, pour ne pas surcharger les salles, que ne sont que trop encombrés ? Quelles règles suggérer aux donateurs et aux testateurs - pour autant que cela peut se faire - afin que l´effet de leur sollicitude à l´égard des musées ne se traduise pas par des embarras plus grands pour les personnes qui dirigent ces institutions ? " (Original in French).

[3] "Les initiatives de l´Office International des Musées dans ce domaine marquent ainsi une étape essentiale, aussi bien dans le développement de la collaboration internationale entre musées que dans les progrès de l´esprit de solidarité intellectuelle au sens le plus général" (Original in French)

international meeting of experts organized after the World War II was planned by the International Council of Museums, with the cooperation of the American Association of Museums and the United States National Commission for UNESCO. According to the *Final Report*, Yuri Tuchenko, head of the Division of Cultural Heritage of UNESCO, and Luis Monreal, secretary general of the International Council of Museums from 1974 to 1985, were responsible for coordinating the meeting and preparing the basic working document. "The meeting discussed at length and in detail the requirements of stored collection, recent advances in storage and information retrieval techniques, problems of conservation and security and the differing need of museums throughout the world. The participants represented museum whose problems differed widely; nevertheless, from their discussion there emerged a consensus concerning the steps to be taken to improve museum storage" (UNESCO 1976, 2).

"Storage is more than a physical facility" asserts the document (UNESCO 1976, 2). It reflects upon the role of the museum as guardian and interpreter of cultural and scientific knowledge. Therefore, considering that the percentage of stored objects is often higher than on exhibition, especially in national and large museums, the depots of collections should be more carefully thought and planned. The development of museum storage facilities aims to contribute to the intelligent use of the resources, to preserve the collections, and to reinforce its social responsibilities to the community. This report also stated that the protection of all cultural properties involves common needs such as registration, cataloguing and conservation. In relation to museum professionals, the document basically advised the improvement of conservation training; in relation to the Member States, there was a unanimous conclusion on the demand for financial support for the development of the necessary facilities and adequate staff training; the recommendation to UNESCO was directed to its role to assist the developing Member States. It was recommended to ICOM to create an international committee on museum storage, which never happened.

The 1970s were especially promising in the discussions related to Preventive Conservation research, both on exhibition and storage needs. It is important to highlight the relevant role of ICCROM in promoting the *Security, Climate Control, and Lighting in Museums Course* (SEC-1975/1985), which strengthened the concept of Preventive Conservation for the area. The ICOM Committee for Scientific Museum Laboratories conceived the idea of this course, as we can see in the *Motion nº 17* discussed at its 4th General Assembly held in Geneva in 1956, and adopted by the 5th ICOM General Assembly held in Stockholm in 1959. The motion recommended that the studies on the climatic conditions for the conservation of museum objects should be extensively investigated, and museum professionals should be trained in the application of these studies. Three other permanent courses were offered by the institution during this period: *Architectural Conservation Course* (ARC-1966/1998); *Mural Paintings Conservation Course* (MPC-1968/1999), and *Scientific Principles of Conservation Course* (SPC-1973-1999), which acted in an integrated way through the conducting of H.J. Plenderleith (1898-1997), Paul Philippot (1925-2016), Giorgio Torraca (1927-2010), Paolo Mora (1921-1998), Laura Mora (1923-2015), Jukka Jokilehto, and Gaël de Guichen, as well as several researches integrated these courses. Nearly 180 students from 49 countries participated in the 11 editions of *Security, Climate Control, and Lighting in Museums Course*, later named *Preventive Conservation Course*, from 1975 to 1985. Several didactic materials produced by its teachers were later published, such as *The Museum Environment*, published in 1978. Garry Thomson (1925-2007, also a lecturer in ICCROM courses, can have his intellectual production in Preventive Conservation in the ICCROM Library, with approximately 100 texts produced between 1956 and 1994 as achievement of forty years of his scientific production (Froner 2016).

The result of the ideological transformation in the international cultural heritage doctrine was a change in the definition of cultural heritage, and consequently its management processes. The *Security, Climate Control, and Lighting in Museums Course* (SEC-1975-1985), so-called *Preventive Conservation Course*, was created in this context. From 1985 to 2000, ICCROM launched the PREMA program (PREVention in Museums in Africa) to respond to the growing need for a strategic approach towards preventive conservation in museum collections. In 1998, a second program, AFRICA 2009, was established to provide training and technical advice on immovable heritage. The PREMA (1985-2000) and the AFRICA (1999-2009) programs should be saw as a straight outcome of ICCROM historic courses, and its research efforts in the field of Preventive Conservation. (Froner 2016).

However, the focus on climate issues since the publication of *The conservation of cultural property with special reference to tropical conditions* (Series Museums and Monuments, XI, 1968) until the end of 1980s seems to have departed from the integral perception of management, already indicated by Oprescu and Stix since the meeting in Madrid. Cataloguing, the potential studies of collections outside the exhibition, the role of building maintenance in relation to climate control, safe systems of wrapping and storage of objects seem to have been relegated throughout the discussions.

The understanding of Preventive Conservation research as a field in Conservation Sciences area was significantly expanded through the development of distinct studies in the second half of the twentieth century, resulting in a growing body of technical-scientific literature, training of researchers, and elaborating of methodological tools. As asserted by Dardes and Staniforth (2015, 2), "an examination of the practical aspects of preventive conservation shows the complexity of the concept of the museum environment, an ecosystem comprising both physical and organizational layers. While research is clearly essential for a better understanding of collection materials and their preservation, preventive conservation is fundamentally an applied pursuit, using scientific knowledge as a basis for policies and practices that contribute to safe collection environments".

In the 1990s, an integrated view of interconnected relationships related to the preservation of museum collections seems to have recomposed the debate. The principle of priority management in relation to climate control begins to be revised, especially when the area starts to develop a full perception of the demands of the collections. In the same period, the energy and financial crises became a determinant factor in the discussions, considering the high investment in equipment for climate monitoring and control. In turn, it is perceived that documentation management as a preventive conservation tool precedes subsequent actions in the planning of collections. Especially in regions experiencing humanitarian crises such as wars and natural disasters, the greatest vulnerability is the loss of collections through theft and detachment of information. The Getty Conservation Institute (GCI) launched in this period a series of training projects, beginning with the course of *Preventive Conservation: Museum Collections and their Environment*. "This course was designed to encompass both technical information and the management skills essential for implementing preventive conservation within museums. One significant feature, unique for the time, was the focus on museum buildings and their systems and on the role conservators can play within museum design, building, and renovation projects to ensure that preventive conservation concerns are addressed early in the design and construction process" (Dardes and Staniforth 2015, 3). The development of criteria, concepts and methodologies for the management of museum storage facilities aims to contribute to the intelligent use of resources, preserve collections and reinforce their social responsibilities to the community, as already mentioned, as well as to for the training of the the technical personnel of the museum to act in a subsidized way through the skill and knowledge of the principles of Preventive Conservation.

Various modeling and evaluation tools were developed for museum collections in the late 1990s and early 2000s. Erica Avrami, Kathleen Dardes, Marta de la Torre, Samuel Y. Harris, Michael Henry and Wendy Claire Jessup published, in 1999, *The Conservation Assessment: A Proposed Model for Evaluating Museum Environmental Management Need*. The publication was produced from the experiences gathered through the courses given by the GCI team and the previous document *The Conservation Assessment: A Tool for Planning, Implementing, and Fundraising*, published in partnership with the National Conservation Institute (NIC). Based on this tool, ICCROM and UNESCO launched in 2007 a project focusing on the *Preventive Conservation of Endangered Museum Collections in Developing Countries*. "This project aimed to improve museum skills and provide tools to analyze documentation systems and storage areas to facilitate conservation, research and education, and prevent theft and illicit traffic. It was felt by both organizations that these two issues required stronger political support and a greater involvement of decision makers at both institutional and professional levels. ICCROM responded by developing new tools designed to address the specific context of small institutions with limited access to resources or expert technical advice" (Lambert 2011, 6). According to Lambert, this project, titled Re-Org, should be seem as the first storage reorganization methodology.

Conservation Assessment, Risk Management of Collections, and other methodological instruments have been developed, most of them focusing on fields of specific knowledge, such as art collections, archaeological or natural history museums, as well as related to the areas such as Museology, Information Science, Architecture, and Conservation Science.

In the UK, *Benchmarks for Collection Care* was developed in 2002 by the Council for Museums, Archives and Libraries. According to Anna E. Bülow (2010, 66), "Benchmarks is a very good tool to show strengths and weaknesses in collection management by assigning basic, good and best practice levels to particular practices. However, as well as identifying areas for improvement in The National Archives' collection management, the project also aimed to quantitatively assess collection needs in order to help prioritize necessary improvements and underpin strategic decisions. In addition, a quantitative assessment would be pivotal in helping to strengthen arguments at senior management level for improvement measures. Assessment results in the form of numerical values allow graphic demonstrations of a collection's needs. As *Benchmark* assessment does not result in numerical values, it was necessary to look at other evaluation methods". She cotes two other assessing tools available in the UK: the *Preservation Assessment Survey*, published and evaluated through the National

Preservation Office (now the Preservation Advisory Centre) and the *British Standard BS 5454*, last updated in 2000.

Robert Waller have been producing since 1994 several articles regarding his research on conservation assessment and risk model for preservation based on his experience with the Canadian Museum of Nature (CMN). The risk model for preservation developed by Waller involves both the application of systems science to describing the role of preservation in an institution and the detailing of failure modes that lead to the loss of collection value. According to the researcher "in the past 10 years, there has been considerable interest in and development of ideas about how the preservation of cultural property can benefit by adopting a risk assessment model (Waller 1994, Michalski 1994, Ashley-Smith 1999). There appears to be a growing consensus that this approach will improve the effectiveness of preventive conservation" (Waller 2002, 102).

In 2012, the *International Conference on Risk Management in Museums* held in Ankara aimed to discuss the heritage protection in emergency situations. Hosted by the Museum of Anatolian Civilizations in cooperation with the Friends of Cultural Heritage (FOCUH) and the International Council of Museums (ICOM), this conference prioritized the following issues: standards and tools to fight illicit traffic in cultural goods, risk preparedness and security in museums, risk management in museums, and cross-sectorial collaboration and the role of NGOs in risk management.

José Luiz Pedersoli Jr., Catherine Antomarchi, and Stefan Michalski wrote a booklet entitled *A risk management approach to the preservation of cultural heritage* in 2016, a joint publication of the Canadian Conservation Institute (CCI) and ICCROM. The so-called `ABC Method´ described in the guide was based on the three week ICCROM course on *Reducing Risks to Collections* organized in partnership with the Cultural Heritage Agency of the Netherlands (RCE) and the Central Institute for Conservation in Serbia (CIK). The purpose of this booklet was to present a simplified and accessible guide, capable of guiding the planning and implementation of institutional practices in different contexts and by different types of museum staff.

In addition to the problems of different methodologies for conservation assessment and risk management, museums and other memory institutions today face the problem of data organizing and access to information, both in terms of its collections and its own history. In the field of New Information and Communication Technologies (NICTs), different systems and modeling platforms, such as the *Collection Trust* and *Spectrum*, sought to generate operational parameters.

The *Collection Trust* is a UK based platform designed to devise museum documentation management standards, systematizing and updating the use of new technologies in the field of information management. Its history dates back to the 1970s and to the pioneering work of Information Retrieval Group of the Museums Association (IRGMA). In 1977, this group formed the Museum Documentation Association (MDA), and later in 2008 it was re-launched as the *Collections Trust*. This group is responsible for the creation of the *SPECTRUM Standard – the Museum Collections Management Standard* – in 1994, an information modeling system for managing collections, including guidelines of how to treat the artefacts at each stage of their lifecycle in a collection. The *SPECTRUM standard*, born in the legal and professional context of the United Kingdom, is today the main international reference for the management and documentation of collections in Museums (Poole 2011, 2013). In the Brazilian and Portuguese context, the standard was translated and published in version 4.0, with the support of the Secretariat of Culture of the State of São Paulo in 2013, sought to make known to the museums communities of Portuguese-speaking countries a normative instrument of reference (Panisset 2017).

However, rapid technological transformations and system volatility force this field of study, supported by Information Science, to the demand for constant updates, almost simultaneously with the launch of the products of its research. In what way and to what extent would it be possible to adopt such indicators in a draft recommendation aimed at guiding the planning of collection areas?

Assessing the meaning and potential of museum collections was gradually recognized as an integral element of strategic collections management. At the beginning of the 21st century, new parameters began to be delineated from the interdisciplinary view of Heritage Science, associating humanities and hard sciences, which came to understand that principles related to collections management could no longer be structured from a single approach. Words such as sustainability and resilience have rescued the fundamental principle of the preservation of collections in museums: the significance of their social role. This new approach requires flexible thinking. "Within the conservation field, the notion of an ideal environment for collections was replaced by the concept of an appropriate environment. In place of a universal standard (that was neither quite universal nor a true standard), a localized approach was taking hold. With this approach, preventive conservation solutions were geared to the

specifics of a given climate, museum building, collection, set of identified risks, mission, and range of operational priorities, as well as to the available resources" (Dardes and Staniforth 2015, 4).

What does sustainability mean currently? How do we or How can we encompass this issue within the field of cultural heritage preservation? "Since the 1970s, the concept of sustainability has been used more and more in the sense of natural and cultural heritage sustainability, which coincides with the 1972 Convention concerning the Protection of World Cultural and Natural Heritage, and involves discussions regarding climate change, ecology, and the impact of the industrialization and urban growth on nature and society. After the 1980s, the discussion of human sustainability (economic and social) has resulted in the most widely quoted definition of sustainability as a part of the concept of sustainable development, considering the impact of socio-economic unbalance towards nature, and vice versa. According to the *Brundtland Commission* of the United Nations, sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Froner 2017, 212)

In 2016, we were invited to attend a meeting on the creation of the E-RIHS (European Research Infrastructure for Heritage Science) in Amsterdam, The Netherlands. The invitation arose from the participation of the Laboratory of Conservation Science of the Federal University of Minas Gerais in the creation of the National Association of Technology and Science of Heritage (Anticipa) in Brazil, mainly through the common interest of producing joint actions. My contribution for the working document was highlighting the issue of sustainability in relation to Heritage Science. Regarding this discussion and these initiatives, the concept of sustainable heritage emerges from several meanings:

(1) Sustainable cultural heritage should be understood as a technical and scientific approach to maintain the physical integrity of a cultural material property, as well as to ensure the expression and the memory of immaterial culture. In the first case, it depends on qualified personnel at all levels, and of the conservation science field to support the preservation of material culture, both movable and immovable. In both cases (material and immaterial culture), these actions require legal protection, training, and approach from the heritage science field. In this sense, the concept of sustainability of cultural heritage is attached to the management capability to support, over time, the material and immaterial protection by employing the use of advanced transdisciplinary knowledge. The memory tools such as records and inventory apply both immaterial and material culture, also require knowledge and creative ability to self-centered innovation. Sustainable management requires qualified professionals to manage the cultural heritage and institutions from a scientific and technical basis.

(2) The sustainability of cultural heritage is strongly related to the political, legal, and economic programs, and it requires the capacity of management and legal skills to provide the financial support required to fulfil the previous item. Governmental, intergovernmental, non-governmental, and private programs, at national and international levels should foster economic and political assistance regarding this topic. However, sometimes the most prominent problem of the institutions is not the absence of financial support, but the inexistence of management capacity, as well as no defined sustainable institutional conservation program over the short, medium, and long term based on primary assessment tools. Hence, sustainable heritage requires management skills for the financial administration of an institution, such as the ability to produce assessments and projects aside from raising funds. At the governmental level, it means the facilities and skills to create and develop government programs for the cultural area supported by legal instruments.

(3) The central implication of the concept of sustainable cultural heritage to society comes from the meaning that the cultural heritage acquires for a particular community. Primarily, it is related to the environment in which cultural heritage is installed, as local community must be understood as the original and principal articulator of meanings. Sequentially, it relates to the meaning constructed for the various communities who have the usufruct of its existence or manifestation. Regarding the neighboring community of the material culture or the immaterial manifestation, they must be involved in the projects a way to manage and safeguard it, and continually be educated regarding its value and meaning. Self-pride of memory is an essential factor, as is the cultural testimony that remains from the past. Sustainable tourism policies, which are designed to maintain the community's well-being and the cultural heritage preservation, should be designed to foster local development. The community's sense of belonging is the primordial relationship of its protection (of the community and its culture). When it incorporates the local workforce into cultural management, and the advantages regarding the cultural heritage protection are

> demonstrated, the community becomes the main force of sustainability. Likewise, economic development attached to the concept of culture became a two-way street for sustainability, to heritage and the social context.

In view of the huge losses generated by wars mainly in regions such as the Middle East and Africa, the natural disasters strongly linked to climate changes, and the economic instability experienced by many countries in the early 21st century, what is the role of museum collections? Why invest in non-exposed collections? Why invest in invisible deposits despite a virtual world of possibilities? Society and culture form a historical totality, such that the quest of freedom in society is inseparable from the issue of culture, as well as the economic balance of society. A lack or loss of freedom in society - in the political, economic, and legal structures within which a singular society lives - indicates a concomitant failure in cultural identity and social conditions of life.

In the face of a mass culture, usually superficial, erratic and promoting of a uniform and non-critical way of thinking, can education, science, culture and art make any difference? "We see two contrasting ways of understanding the present, and both appear to have resonances for sustainability issues. The first viewpoint asserts the present only manifests its narrative across the past and the future, and the process of transition is more important than the present per se. The second viewpoint understands that the present is not a continuous system of transition, a connecting operator between the past and the future, but a primordial space in which to live" (Froner 2017, 213).

From Canada to the United States; from the United Kingdom to the Netherlands; from Brazil to Australia; from Mozambique to China, in the most diverse contexts existing systems of modeling of knowledge in museums, risk management and evaluation of conservation of collections were created and applied. Given the technological advances and the speed of the transformation of knowledge, how can it be possible to create a draft recommendation for the management of collections in storage, which will not be quickly outdated and obsolete? What is its importance and need, considering almost ninety years after the meeting in Madrid?

2 Operational Issues

Before starting the discussion on operational issues relating to a recommendation for collections in storage, there is a need for some questions: What is the social, scientific, educational, and cultural role of preserving stored collections? How will have a significant impact the investment in this invisible and sometimes non-existent space in the institutions? In fact, considering the above questions, what is the point of producing a guidance with this focus?

Having presented these concerns, other questions arise: which areas of knowledge have experience, expertise, scientific and technological knowledge, as well as methodological tools capable of supporting this recommendation? How to organize the crucial points of this orientation, maintaining the complex but necessary relationship between flexibility and normative demand, especially when we see how quickly technological advances make standards obsolete? How extensive, profound or structured should a proposal be, considering the economic, cultural, political, and legal differences of museums around the world? So, how can we produce an orientation on storage collections management?

2.1 Previous approaches

The constitution of the United Nations Educational, Scientific and Cultural Organization was adopted by 20 countries at the London Conference in November 1945, and came into effect November 4th. The institution currently has 195 Member States and 11 Associate Members. "The main objective of UNESCO is to contribute to peace and security in the world by promoting collaboration among nations through education, science, culture and communication in order to foster universal respect for justice, the rule of law, and the human rights and fundamental freedoms that are affirmed for the peoples of the world, without distinction of race, sex, language or religion, by the Charter of the United Nations. To fulfil its mandate, UNESCO performs five principal functions: 1) prospective studies on education, science, culture and communication for tomorrow's world; 2) the advancement, transfer and sharing of knowledge through research, training and teaching activities; 3) standard-

setting actions for the preparation and adoption of internal instruments and statutory recommendations; 4) expertise through technical co-operation to Member States for their development policies and projects; and 5) the exchange of specialized information" (UNESCO 2009, ii).

The history of the organization arose long before its constitution. The Paris Peace Conference in 1919 proposed establishing of an international intellectual co-operation institution for the development of international, moral, scientific and artistic relations among nations, as well as proving the formation of the international mentality, as suggested by the Belgian delegate Paul Hyman (1865-1941), (Miller, 1928). The interwar period ensured for the first time a global structure, the League of Nations, guided by the debate fostered by an intellectual community and by the referendum of the commitment of its Member States.

In 1931, the International Institute for Intellectual Cooperation and the International Office of Museums hosted the Athens Conference, which focused on the protection and conservation of historical and cultural monuments. Subsequently, the document resulting from the meeting supported the *Athens Charter for the Restoration of Historic Monuments*, in fact, the first international document accepted at an intergovernmental level that deals with general principles and doctrines related to the protection of cultural heritage. The four meetings promoted by IICI and IOM - Rome, 1930; Athens, 1931; Madrid, 1934 and Cairo, 1937 - provided the main reflections on an international orientation for the protection of cultural heritage.

The charts, declarations, resolutions, recommendations, norms, rules, treaties, and conventions produced by the international community during the second half of the twentieth century and the beginning of the twenty-first century, discussed at the UNESCO general assemblies and adopted by its Member States were produced from the improvement of the format previously organized by the earlier mentioned institutions. These documents not only provide regulations and recommendations on the management of world heritage but also point to its real significance as a collective property of humanity and its unique meaning to the community from which it came. The intellectual, academic, scientific, political, and public commitment must be understood as a shared and common responsibility. ICOM, ICOMOS, and ICCROM have contributed with the preparing of these documents.

Therefore, the validity of the construction of a *Recommendation on Storage Collections* stems from two fundamental bases: the merit of this kind of document as common guidelines and the commitment of the signatory states to adopt it. What kind of knowledge is needed for this project? If we understand the defined fields: curatorship, documentation, climate control from the architectural perspective, and preventive conservation from the perspective of the object, we will recognize the relevance of the ICOM International Committees involved in the development of the proposal.

Simon Lambert, current Preservation Development Advisor at the Canadian Conservation Institute (CCI), and consultant for the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) in Rome, where he assisted in the coordination of international conservation training activities, also working on developing RE-ORG, and Anna E. Bülow, PhD at De Montfort University in Leicester, UK, in 2002 and Head of Preservation at The National Archives, UK since 2003, (both currently Assistant Coordinator and Coordinator of the ICOM-CC Preventive Conservation Working Group) were asked to sound-out and gather together the discussions on storage among Preventive Conservation Working Group. Several issues guided this discussion: a) The recognition that only a few number of National States have launched campaigns to reorganize its museum storages; b) The ICOM Code of Ethics, which states that it is essential to create and maintain a protective environment for the museum collections; c) The understanding related to the need for specialized training focused on the ability to plan, organize, and promote the conservation and risk management evaluation on the stored collections.

3 Initial points towards future recommendations for collections in storage

The following principles are based on previous experiences as a consultant and teacher of the subject of planning technical collection storage in museums offered to the undergraduate course in Conservation and Restoration of the School of Fine Arts of Federal University of Minas Gerais (UFMG), as well as from discussions with the

colleagues Willi de Castro Gonçalves e Luiz Antônio Cruz Souza from UFMG (Brazilian Central Region), Sue Costa from Federal University of Pará (Brazilian North Region), and Andréa Bachettini from Federal University of Pelotas (Brazilian South Region) as well as points presented in the work-in-progress document by ICOM-CC *Reconnecting with Collections in Storage Recommendation*.

3.1 Key documents supporting the discussion

The key documents supporting the discussion was previously raised by the *Declaration on the Collections Preservation Environment* (2013); and *Reconnecting with Collections in Storage Recommendation*, a Re-Org-ICCROM seminar held in Brussels, 28-29 September 2016, which inspired the tittle of the actual document in progress. They are:

- The conference on *Museographie, Architecture and Management of Art Museums*, organized in 1934 (October 28th – November 4th) in Madrid by the League of Nations, during which the alarming situation of collections in storage has been raised;

- The *Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property*, adopted by the UNESCO General Conference at its 16th session in 1970, (November 14th) in Paris;

- The *1st International Conference on Museum Storage*, organized in 1976 (December 13th - 17th) by ICOM, at the Smithsonian Institution in Washington D.C., which has urged the museum profession to give immediate attention to the improvement of museum's storage;

- The resolution D2, voted at the same conference in 1976, which required ICOM to create an *International Committee on Museum Storage*, and considering that the referred Committee has never been created;

- The UNESCO publications on the topic, emphasizing *Museum Collection Storage* (1979) and *Collection Storage* (1995) in which it is stated that "in fact probably more harm has been done to museum collections through improper storage than by any other means";

- The resolution made by the XXVII General Assembly of ICCROM in November 2011, regarding the need for a global strategy to address the situation of collections in storage worldwide;

- The outcome of the 2011 ICCROM-UNESCO survey indicating that 60% of collections in storage are at risk, either because of management and documentation issues, improper building or furniture, and that this situation exists in all countries irrespective of their level of development; and also indicating that on average only 10% of museum collections are displayed and accessible to the public while 90% are in storage;

- The *Recommendation concerning the Protection and Promotion of Museums and Collections, their Diversity and their Role in Society*, adopted by the UNESCO General Conference at its 38th Session in 2015 (November 17th), in Paris.

- The Article 2.23 of the ICOM Code of Ethics which states that "It is an essential responsibility of members of the museum profession to create and maintain a protective environment for the collections in their care, whether in store, on display, or in transit."

- Recognizing that a few number of National States have launched campaigns to reorganize their museum storages and that some museums have faced the problem and have exemplary reorganized their storage areas with very positive outcomes.

3.2 Rationale for the proposal

The proposal urges all heritage professionals to take all measures and make use of all the available tools and developed methodologies at their disposal to ensure that, throughout the world, collections in storage be given the best possible conditions to reduce all possible risks and to serve the mission of the museum for the research, education and enjoyment of present and future publics.

(a) Considering the fundamental mission of museums, libraries, archives and other institutions of memory to preserve, produce knowledge and give access to material culture, thereby contributing to the wide diffusion of culture and the education of humanity for justice, freedom and peace,

(b) Also, considering that one of the functions of UNESCO, as established in its Constitution, is to maintain, increase and disseminate knowledge, ensuring the conservation and protection of natural and cultural heritage testimonies;

(c) Recognizing the importance of culture in its various forms in time and space, and the need to adopt appropriate methods to preserve its diversity, in national and international development policies, in the interest of communities, peoples and countries;

(d) Affirming that the study and conservation of cultural and natural collections are of great importance for all societies, in the present and from future projections

(e) Reaffirming that differed kinds of institutions of memory have an intrinsic value as custodians of heritage, and that its role involves preserving the material characteristics and documental information of their collections for further studies, exhibitions, and access

(f) Further affirming that the preservation of collections contributes to the enhancement of human rights, as set out in the Universal Declaration of Human Rights, and in the International Covenant on Economic, Social and Cultural Rights,

(g) Considering that it is the responsibility of every Member State to protect the cultural and natural collections, in the territory under its jurisdiction in all circumstances and to support the actions of its institutions to that end,

(h) Also, considering that museums in all countries are the custodians of much of humanity´s natural and cultural heritage, Member States are urgent to recognize the importance of a Technical Collection Storage as an essential element in the proper management and use of collections;

(i) Noting that a body of international standard-setting instruments – adopted at UNESCO and elsewhere – including conventions, recommendations and declarations, exists concerning the role of collections, all of which remain valid,

(j) Considering the need to develop specific guidelines related to the Technical Collection Storage aiming their preservation and conservation for studies, expositions and access,

(k) Desiring to strengthen the role of Conservation Science and Heritage Science in the production of specialized knowledge for the preservation and conservation of collections in favor of the protection of cultural and natural heritage, considering their role and related social responsibilities,

(l) Recalling that a UNESCO recommendation is a non-binding instrument that provides principles and policy guidelines addressing different stakeholders,

(m) Having considered proposals on the Recommendation concerning on the Preservation of Collections in Technical Collection Storage,

3.3 Proposal guidelines

The International Conference of Experts for the Study of General Museography Problems held in Madrid on October 28, 1934, included in its agenda the following items: 1. The Architectural Program of the Museum - General Principles; 2. Development of the Museums: a) Exhibition halls and premises accessible to the public; 6) Services and tools; 3. Natural lighting and artificial lighting; 4. Heating, ventilation and climate control of museums; 5. Adaptation of Ancient Monuments and other Buildings for Museum use; 3. Natural lighting and artificial lighting; 4. Heating and ventilation of museums; 5. Adaptation of Ancient Monuments and other buildings for the use of Museums; 6. General principles of the enhancement of works of art; 7. Presentation of the different collections presentation systems; 8. Organization of deposits, reserves and study collections; 9. Permanent exhibitions and temporary exhibitions: 10. Problems raised by the increase of collections; 11. Exhibition equipment; 12. Topography of the rooms. - Numbering and labeling of collections; 13. Problems peculiar to prehistoric collections; 14. Problems peculiar to ethnographic and folk art collections; 15. Problems peculiar to sculpture collections; 16. Problems peculiar to collections of decorative and industrial art; 17. Problems peculiar to collections of coins and medals; 18. Problems peculiar to graphic collections. These themes are as current now as ninety years ago.

Collection conservation matters cover conceptual and technical-scientific issues, as well as the political, legal and economic support of civil society and States in promoting adequate exhibition and storage spaces for collections.

Despite the different conditions between the needs and resources of museums and custody institutions around the world - as well as between large and small museums; rural and urban places; private and public institutions - general principles should guide and promote the adoption of common procedures regarding the organization and conservation of stored collections, based on a technical, scientific and professional approach.

Collection storage is more than a physical facility. It reflects the role of the museum as guardian and interpreter of cultural and scientific knowledge.

a. Definition of a Technical Collection Storage

- Technical Collection Storage is a set of actions specially developed for a specific collection storage facility of collections in a custody institution, considering the demand for preservation and protection of the collection when not in laboratory, exhibition or loan;

- Technical Collection Storage is more than a physical facility, it reflects the institution's role as guardian, exhibitor, interpreter, educator, preserver, and conservator of natural and cultural objects and collections, and as a research organization; (International Conference on Museum Storage, 1976);

- Technical Collection Storage should not be confused with other types of deposits or storage rooms present in the custody institutions, since its fundamental role is to organize and conserve natural and cultural objects and collections inside it by technical-scientific principles.

b. Main functions of a Technical Collection Storage

- The main function of a Technical Collection Storage is to preserve and conserve the material characteristics and identification data related to the natural and cultural collections under the museum's care;

- To achieve these objectives, the planning, monitoring, and control of the Technical Collection Storage must be carried out by professionals with specialized knowledge and training concerning the documentation, curatorship, conservation, climate control, security, and building suitability;

- In certain circumstances the preservation of a cultural or natural objects for posterity may be strictly limited by a period and certain conditions under which, it can be exposed to public view. Conversely, certain types of collection may lend themselves to be stored in permanent Technical Collection Storage for study and access. In this context, the Technical Collection Storage has the role to provide adequate conditions to conserve these objects; (International Conference on Museum Storage, 1976)

c. Preservation and Conservation policies for Technical Collection Storage

Documentation standards

- The protection of all cultural properties involves common needs, such as registration and cataloging, and it is indispensable that each object in a Technical Collection Storage must be identified by an individual register; (International Conference on Museum Storage, 1976)

- This identification must be compatible with the object's own documentation or registration thus avoiding decoupling of the information;

- A map or a location document of the collections and objects in the room is fundamental to find, access and remove objects for exhibition, loan, or study;

- The most modern methods of containerization and of compacted storage may enable the optimum use to be made to most institutions where limited space is available. It is recognized that modern industrial practices and resources may offer many solutions to the various problems facing museums. Communication and consultation between institutions and industry must be increased to take advantage of the opportunities and solutions offered, however, preserving the expertise of museum professionals who know the demands and specificities of the collections; (International Conference on Museum Storage, 1976)

Facilities and physical organization standards

- Systems of physical organization are those related to packaging and furniture suited to the collections;

- The quality of these systems encompasses criteria such as their chemical and physical properties; dimensional, structural and weight adequacy; biological control; climate control; security; and access and handling for the professional in charge of the area;

- In the planning of storage facilities, special attention should be given to the relationship of exhibition, research, curatorial, receiving, shipping, handling and conservation functions. Every effort should be made to minimize the unnecessary movement of specimens and objects. (International Conference on Museum Storage, 1976).

Monitoring standards

- Monitoring is understood as the various methods of measuring the environmental conditions of a Technical Collection Storage area;

- It involves scientific studies and analysis of levels of light, temperature, relative humidity, contaminants and biological attacks;

- The *Conservation Assessment: a proposed model for evaluating museum environmental management needs* (GCI); the *Draft manual on collection risk management* (ICCROM-UNESCO), and other appraisal tools are essential for assessing, planning, implementing, and fundraising;

- The use of monitoring equipment demands personal training to organize and interpret data; its calibration and maintenance; and its operational capacity and economic sustainability, especially regarding the energy efficiency of such equipment;

Climate Control standards

- Climate Control involves scientific studies, analysis, monitoring, and control of the levels of light, temperature, relative humidity and contaminants, essential for the preservation of the aesthetic, configuration and material structure of the object, determinants for its cultural, artistic and scientific understanding; (International Conference on Museum Storage, 1976)

- The climate control standards of a Technical Collection Storage area should consider the climatic differences of the regions. The climate of a place is affected by its latitude, terrain and altitude, as well as by nearby bodies of water, temperature and precipitation. The most common classification uses tropical forest, monsoon, tropical savannah, subtropical humid climate, continental humid, oceanic, Mediterranean climate, desert, steppe, subarctic climate, tundra and polar cap, and should be thought regarding its singularities;

- Care should be taken to regard the physical conditions which are maintained in exhibition, research, and storage areas are as nearly identical as possible; (International Conference on Museum Storage, 1976)

- Temperature and relative humidity control of a storage area can use the building's own ventilation control, buffers, simple or complex mechanical equipment. However, it is necessary to consider human comfort, operational capacity and economic sustainability, especially regarding the energy efficiency of such equipment;

- The control of light aims to protect cultural heritage against the decay produced by ultraviolet and visual light. The lighting of a Technical Collection Storage must contemplate light patterns related to the sensitivity of each material;

- The presence of contaminants in storage areas can occur in several ways, including the natural breakdown of chemicals into certain compounds, particulate pollutants and accidental human contamination. Adequate protection involves specialized knowledge, monitoring and control measures;

- The architectural project and the maintenance of the building are fundamental for the Climate Control;

Security standards

- The storage area of the collections should provide safe conditions against theft, robbery, and vandalism through access control, secure doors and windows, by observing the principles of the Convention on the means of prohibiting and preventing the illicit import, export and transfer of ownership of cultural

property (Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property, 1970);

- All museums and custody institutions should develop contingency plans to protect their collections against the danger of damage or destruction by fire, flood, earthquake and other natural disasters, as well as social disasters such as wars, social riots, terrorist attacks and conflicts of another nature; (International Conference on Museum Storage, 1976)

- Items under the museum's care should be graded according to their relative importance. Clear and recognizable priority should be allocated for the rescue of these in the event of a disaster occurring or threatening; (International Conference on Museum Storage, 1976)

d. Issues for collections custodians

- It is crucial for the future of museums and other institutions as custodians of a substantial part of human's natural and cultural heritage that steps should be taken to improve storage practices and facilities; (International Conference on Museum Storage, 1976)

- The development of museum storage facilities should be carried out as part of an overall plan in which each institution defines its goals regarding its resources and its cultural and social responsibilities before the community, to achieve the most efficient use of all its resources; (International Conference on Museum Storage, 1976)

- Technical Collection Storage must be a key component in a continuously evolving planning process; (International Conference on Museum Storage, 1976)

- Museums and custodian institutions should develop proper training schemes for all their staff to ensure that they are aware of conservation and security requirements and so that they become personally involved in all circumstances; International Conference on Museum Storage, 1976)

- The technical-scientific staff of the institutions should be trained to produce assessment reports on the conservation of storage areas; projects for adequate facilities for storing collections; physical organization projects; monitoring; risk diagnosis; building management, as well as be prepared to discuss with experts in Preventive Conservation matters concerning the Technical Collection Storage function; In order to achieve the highest standards of storage, museum and institution administrators and curatorial staffs are encouraged to always seek for the advice of trained conservators and other specialists; (International Conference on Museum Storage, 1976)

- The recognition of Conservation Science as a scientific area and the conservative as a technical-scientific profession is fundamental for the improvement of the institutional capability..

4 Some considerations

The issues raised earlier in this text remain present: if this recommendation in the context of international action has merit, how can we discuss it in an expanded way, without the privilege of partial visions specific to certain countries or areas? If we consider the meaningful social, scientific, educational, and cultural role of stored collections, how can we include concepts such as resilience and sustainability in relation to the protection of these collections? How to promote the inclusion of indigenous peoples and ethnic communities in danger in the recognition of their identity preserved in these collections? How to give access to those who most need the recovery of their intrinsic cultural value?

Bibliography

Bülow, Anna E. 2010. "Collection management using preservation risk assessment." *Journal of the Institute of Conservation*, 33: 65-78. Accessed June 21, 2018. https://doi.org/10.1080/19455220903509960

Collection Trust. 2014. *Spectrum 4.0: padrão para gestão de coleções de museus do Reino Unido*. São Paulo: Secretaria de Estado de Cultura; Associação de Amigos do Museu do Café; Pinacoteca do Estado de São Paulo.

Dardes, Kathleen and Sarah Staniforth. 2015. "Preventive Conservation: Sustainable Stewardship of Collections." *The GCI Newsletter*. Accessed July 17, 2018. http://www.getty.edu/conservation/publications_resources/newsletters/30_2/preventive_conservation.html

Dardes, Kathleen, Erica C. Avrami, Marta De la Torre, Samuel Y. Harris, Michael Henry, and Wendy Claire Jessup. 1999. *The Conservation Assessment: A Proposed Model for Evaluating Museum Environmental Management Needs. Los Angeles*, CA: Getty Conservation Institute. Accessed July 17, 2018. http://hdl.handle.net/10020/gci_pubs/evaluating_museum_environmental_mngmnt_english

Froner, Yacy-Ara. 2016. *Intellectual Co-operation Institutions for Cultural Heritage Protection: History, Science, Training, and Policies* (CAPES, ICCROM Postdoctoral Fellow Report). Rome.

Froner, Yacy-Ara. 2017. "International policies for sustainable development from cultural empowerment" *Journal of Cultural Heritage Management and Sustainable Development*, Vol. 7 Issue: 2: 208-223. Accessed July 17, 2018. https://doi.org/10.1108/JCHMSD-10-2016-0056

ICCROM. 2011. *XXVII General Assembly of ICCROM*. Rome: ICCROM Archives. (original)

ICCROM. 2016 "International Re-Org Seminar Reconnecting with Collections in Storage". Brussels, 28-29 September. Accessed July 17, 2018. https://www.iccrom.org/news/international-re-org-seminar-reconnecting-collections-storage-0

ICOM-CC. 2018. *Reconnecting with Collections in Storage Recommendation.* Accessed June 21, 2018. http://www.icom-cc.org/54/document/draft-recommendation-on-collections-in-storage/?id=1537#.W4r-JhjOog4

ICOM. 1976. *Final Report of International Conference on Museum Storage*. Washington D.C.: ICOM, Smithsonian Institution. Accessed June 21, 2018. http://www.icom-cc.org/54/document/1977-washington-1st-confrence-icom rserves/?action=Site_Downloads_Downloadfile&id=1534

ICOM. 2013. *ICOM Code of Ethics for Museums*. Paris: ICOM. Accessed June 21, 2018. http://icom.museum/fileadmin/user_upload/pdf/Codes/code_ethics2013_eng.pdf

"International Conference on Risk Management in Museums". 2012. Accessed June 21, 2018. http://icom.museum/news/news/article/international-conference-on-risk-management-in-museums-in-turkey/

Lambert, Simon. 2011. "RE-ORG: A methodology for reorganizing museum storage developed by ICCROM and UNESCO." *CeROArt*. Acessed July 17, 2018. http://journals.openedition.org/ceroart/2112

Miller, David Hunter. 1928. *The Drafting of the Covenant*. New York: G.P. Putnum's Sons.

Oprescu, George. 1934. "Problèmes Soulevés par l´accroissement des collections." In *Muséographie: Architecture et Aménagement des Musées D´Art* (Vol.II). Madrid: Societé des Nations, Office Internation des Musées, Institut International de Coopération Intelectual.

Panisset, Ana Martins. 2017. *A documentação como ferramenta de preservação: protocolos para documentação e gestão do Acervo Artístico da UFMG* (PhD Thesis). Belo Horizonte: UFMG.

Pedersoli, José Luiz, Catherine Antomarchi, Stefan Michalski. 2016. *A risk management approach to the preservation of cultural heritage.* Rome: ICCROM.

Poole, Nick. 2011. *Where next for Museum Standards*. London: Collections Trust. Accessed June 21, 2018: http://www.slideshare.net/nickpoole/where-next-for-museum-standards

Poole, Nick. 2013. SPECTRUM & museum documentation standards in Brazil. London: Collections Trust. Accessed June 21, 2018: https://www.slideshare.net/nickpoole/introducing-spectrum-in-brazil

Smithsonian Institution. "Declaration on the Collections Preservation Environment". Washington D.C, March 2013. Accessed June 21, 2018. https://opensi.si.edu/index.php/smithsonian/catalog/book/111

Stix, Alfred. 1934. "Organisation des dépôts, réserves et collections d´études." In *Muséographie: Architecture et Aménagement des Musées D´Art. Madrid: Societé des Nations*, Office Internation des Musées, Institut International de Coopération Intelectual.

Stix, Alfred. 1934. *Rapport General N.8* (original typwritten). Madrid: Societé des Nations, Office Internation des Musées, Institut International de Coopération Intelectual. (BnF)

UNESCO, 1968. *The conservation of cultural property with special reference to tropical conditions* (Series Museums and Monuments, XI). Paris: Unesco.

UNESCO. 1970. *Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property*, In *General Conference at its 16th session*, Paris. Accessed June 21, 2018. http://portal.unesco.org/en/ev.php-URL_ID=13039&URL_DO=DO_TOPIC&URL_SECTION=201.html

UNESCO. 1976. *International Conference on Museum Storage*. Washington, D.C., 1976.(unpublished report).

UNESCO. 1979. *Museum Collection Storage*. Paris. Accessed June 21, 2018. http://unesdoc.unesco.org/images/0004/000423/042316eo.pdf

UNESCO. 1995. *Collection Storage* (Museum International, nº188, vol. XLVII, n.4). Paris. Accessed June 21, 2018. http://unesdoc.unesco.org/images/0010/001030/103041eo.pdf

UNESCO. 2009. *The 2009 UNESCO Framework for Cultural Statistics* (FCS). Paris: Institute for Statistics of the United Nations Educational, Scientific and Cultural Organization (UIS). Accessed June 21, 2018. https://unstats.un.org/unsd/statcom/41st-session/documents/BG-FCS-E.pdf

UNESCO. 2015. "Recommendation concerning the Protection and Promotion of Museums and Collections, their Diversity and their Role in Society". In *General Conference at its 38th sessio*n, Paris. Accessed June 21, 2018. http://portal.unesco.org/en/ev.php-URL_ID=49357&URL_DO=DO_TOPIC&URL_SECTION=201.html

Waller, Robert. 1994. "Conservation risk assessment: A strategy for managing resources for preventive conservation". In Preventive Conservation: Practice, Theory and Research. London: IIC, 12-16. Accessed June 21, 2018. http://www.museum-sos.org/docs/WallerOttawa1994.pdf

Waller, Robert. 2002. "A risk model for collection preservation" In *Preprints of the 13th Triennial Meeting*. Rio de Janeiro: ICOM-CC, 102-107. Accessed June 21, 2018. http://www.museum-sos.org/docs/WallerICOMCC2002.pdf