

YACY-ARA FRONER

Federal University of Minas Gerais, Brazil | yacyarafroner@gmail.com

Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management.

Abstract

In recent years, countless collections have been destroyed by acts of vandalism, war crimes, negligence, and accidents. Their loss can be seen from the perspective of the potential loss of their studies, but above all by understanding their impact in relation to the emptying of the voices of native communities, destruction of the memory of religious, racial, political, cultural, and territorial properties of certain groups or societies, and the disappearance of production systems, both in relation to everyday and symbolic objects. In Brazil, the impact of fires on public museums amplifies these issues. In 2020, the Federal Government sanctioned the Resolution No. 2, providing for the technical and administrative procedures for the preparation, implementation, and evaluation of risk management plans for museums, within the scope of units managed by the Brazilian Institute of Museums - Ibram. This contribution intends to discuss the conceptual and technical issues regarding risk and conservation assessment, as well as the guidelines on the protection of collections in museums and connect it with the demands generated by the Ibram's instructions. It is part of the research "Protocols for the sustainable management of collections in museums: technical-scientific skills for the definition of standards, recommendations, and public safeguard policies" financed by the National Agency of Research (CNPq).

Keywords

Standards; Risk management; Conservation assessment; Preventive conservation.

Introduction: Why protect?

The object exists as a material culture to be preserved when it is assigned a historical, artistic, and cultural value. Thus, the notion of object permeates two possibilities of meanings in the network of symbolic exchanges: the value is given according to the light it brings to scientific knowledge; and it is inherent to its aesthetic and cultural condition, causing the parameters to oscillate between these poles. Despite the discursive force of the object – configured in the artistic production or the artifacts –, in recent years, numerous museum collections have been destroyed by acts of vandalism, war crimes, negligence, and accidents. The loss of these collections can be analysed from the perspective of the loss of potential studies generated by the objects, but above all through the understanding of the impact of these losses in relation to the emptying of voices of communities, groups or remaining indigenous communities; by the erasing of religious, racial, political, cultural, and territorial traces from particular societies; and from the disappearance of the memory of the ways of producing artifacts, both in relation to objects of daily use, as in relation to symbolic objects. Such losses are aggravated when we understand the impact of the destruction of collections from extinct communities, whose only memory remains alive in the cultural vestiges remaining in the museum's collections.

In fact, both material culture and the history of the arts continually refer to objects that would have no meaning without this essential data: the reference to the concrete object and to the aesthetic value that contributes to define its specificity, both interconnected by the various discursive analyses. A society's way of seeing is not a single way of seeing, but several ways of seeing, determined by a continuous and circular relationship between erudite knowledge and popular knowledge. The different social levels influence each other, albeit in a different way, establishing a characteristic behaviour closely linked to their history, time, and place. Walter Benjamin states: "the chronicler who narrates the events, without distinguishing between the great and the small, takes into account the truth that nothing that once happened can be considered

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

lost to history" (1985, p. 223). Thus, every product of human action becomes a fundamental document for the rescue of the past: the artistic and the artifact stand out not only as an object inserted in the cultural system, but as a product elaborated by human consciousness, and thus, the record of a mentality, an era, an ideology, and a technic; the power of the object consists in determining, through a voluntary act, a portion of the visible world. From these reflections, it is possible to perceive the transformation of the senses in relation to objects. However, it is not possible to locate the parameters that determine which are the objects that deserve a place in the approaches of preservation and of the memory organization system, based on museological spaces: the exception; the rare; the document; the work of art; the handicrafts; the sacred; the profane; the everyday; the unusual? We increasingly perceive those objects can shed light and amplify voices, revisit issues, and propose new perspectives, break customary paradigms, and review models of analysis, approximation, access, and appropriation. Since the 1992 New Zealand Charter, indigenous communities have claimed their role as agents for the preservation of their own culture, heirs to their objects, owners of their own memory and entities capable of discussing the meanings of their own material and immaterial culture. The Treaty of Waitangi (1840) is the historical basis for the confirmation of indigenous society as the maintainer and guardian of its own culture, confirmed in its text:

This interest extends beyond current legal ownership wherever such heritage exists. Particular knowledge of heritage values is entrusted to chosen guardians. The conservation of places of indigenous cultural heritage value therefore is conditional on decisions made in the indigenous community and should proceed only in this context. Indigenous conservation precepts are fluid and take account of the continuity of life and the needs of the present as well as the responsibilities of guardianship and association with those who have gone before. In particular, protocols of access, authority and ritual are

handled at a local level. General principles of ethics and social respect affirm that such protocols should be observed (ICOMOS, 1992, p. 1).

Therefore, the objects should not be seen as a manifest product outside of social life, insensible to their existence and ignorant of their values, but as a manifestation integrated into the complex network of social relations. From the moment that man acts on matter, the discourse between this matter and humanity is already present. The work of art and the object become possible and live through an integrated relationship with society; otherwise, their discourses do not exist. Berenson (1972, p. 230) argues that no history can be written without values postulated, consciously manifest or unconsciously assumed. Objects acquire value through the hands of knowledge, but knowledge is not a product frozen or existing outside a network of intercommunications. The concepts are constantly reviewed and updating, as well as the perception of objects.

Currently, the studies related to memory claim the mobility of perception and revisitation of the assigned meanings. In the introduction to *História, memória e Esquecimento*, Paul Ricoeur (2007) asks: "What is memory made of? Who does memory belong to? What is its function and use?" (p. 23). These questions establish the fundamental principles that determine the demand for the preservation of material culture today. The empire of the senses over objects has been built by colonialist logic anchored in a single worldview and, from the moment that the structures of domination shift to singular structures, objects acquire polyphonic and political meanings, multiple hidden voices behind a single denominator. The material preservation of the collections guarantees all forgotten, omitted, and ignored actors the possibility of establishing new dialogues, connections, and appropriations, generating another memory relationship with the exposed or hidden collections in the museums' technical reserves.

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

Ensuring the protection of these collections is essential, especially if we consider disposal policies generated inconsequently, based on the premise that digitization guarantees preservation; the lack of museum plans aimed at preventing damages subsidized by technical-scientific management protocols and the lack of public policies, both in relation to support for research and the guiding principles that support the legal system for the protection of cultural heritage, the public notices of promotion aimed at protective measures or the training of museum professionals trained to work in the field of documentation, diagnosis and preventive conservation.

The text that we present seeks to articulate the epistemological, methodological, and conceptual bases that support the project “Protocols for sustainable management of museum collections: technical-scientific competences for the definition of standards, recommendations, and public safeguard policies”, developed by the Research Group ARCHE and linked to the Graduate Program in Arts and the Graduate Program in Built Environment and Sustainable Heritage at Federal University of Minas Gerais (UFMG). Throughout our experience, we hope to demonstrate the demand for dialogue in a two-way street on the plural meaning of memory exposed in material culture and the technical-scientific demand for its protection.

1. Memory, forgetting, and destruction of collections

In recent years, both in Brazil and elsewhere in the world, we have witnessed numerous losses of important collections, irreplaceable in terms of their intrinsic value and research potential, because of crimes, neglect, and natural disasters.

In 2010, the fire at the Butantã Institute (Instituto Butantã) destroyed one of the largest living collections of tropical snakes in the world, estimated at eighty thousand specimens, in addition to thousands of spiders and scorpions. In 2013, the fire at the Latin America Memorial (Memorial da América Latina) destroyed the interiors of the

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

Simón Bolívar auditorium, an integral part of the complex, in addition to completely damaging the tapestry by artist Tomie Ohtake that covered one of its walls. In 2015, the fire at the Museum of the Portuguese Language (Museu da Língua Portuguesa) mainly affected the museum's tower, installed in the Light Station (Estação da Luz) building, consuming its entire collection, mostly digital. Analyzing the accidents that occurred in buildings with large museum functions in Brazil, in the last four decades, it is observed on average the occurrence of about one large fire per year. In São Paulo, statistics for the period 1999-2008 indicate an average of nine accidents in museums per year (Pedersoli Jr., 2019, p. 9). However, no loss was as irreparable in relation to the national memory as the fire that consumed the entire exhibition and all the technical reserves of the main building of the National Museum (Museu Nacional):

On the night of September 2nd, 2018, one of the greatest tragedies in the fields of science and culture befell Brazil: the burning of the National Museum, a federal patrimony and research centre linked to the Federal University of Rio de Janeiro (UFRJ). The disaster affected not only Brazilian scholars and the public, but was a tragedy felt around the globe in view of the importance and significance of its collections to humanity worldwide. Priceless objects lost to the fire include: the Throne of the Kingdom of Dahomey offered to King João VI by King Adandozan in 1811; linguistic recordings of Brazilian indigenous communities now extinct; the oldest human remains found in Brazil, named “Luzia”; remnants of the *Maxakalisaurus topai*, a sauropod dinosaur found in Minas Gerais; ethnographic collections composed of cultural artefacts from all continents; and international archaeological collections, including Pompeian frescoes and the Egyptian collection of Pedro II, as well as the national archaeological collection. The entomological collection alone, consisting of about five million insects, including specimens collected by the naturalist Fritz Müller, a populariser of Charles Darwin’s ideas, was a horrific loss to scientific communities

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

internationally. In short, more than two hundred years of research in several significant areas of science were impacted by the fire (Froner & Rodrigues-Carvalho, 2019, p. 9).

These tragedies expose the lack of protocols prior to the losses that could minimize the losses; the lack of document management, capable of clearly informing the population and public bodies about lost or damaged goods; or the lack of fire control, combat and evacuation projects that could mitigate the damage.

In 2011, the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) carried out a survey commissioned by United Nations Educational, Scientific and Cultural Organization (UNESCO) indicating that 60% of the collections in storage are at risk, whether due to inadequate management and documentation, building, furniture, or packaging, and that this situation exists in all countries, regardless of its level of development. Also indicating that, on average, only 10% of museum collections are displayed and accessible to the public, while 90% are stored. Most of the losses occur exactly in the guard areas, meaning the destruction or degradation of most of the objects belonging to the museum collections. This situation becomes more reckless when institutions are unable to inform society which cultural goods have been lost or damaged, simply because of a lack of a minimum policy of cataloguing, inventory, documentation, or database generation. Because of the lack of this documentation, a loss of value by dissociation results and communities represented there will never know which objects related to their own culture have been lost (ICCROM/UNESCO, 2011).

In 2019, the 34th General Assembly of the International Council of Museums (ICOM), in Kyoto, Japan, passed the resolution *Measures to safeguard and enhance collections in storage throughout the world*. This document is not the only one, but it demonstrates the urgency of technical-scientific actions in relation to the protection of collections. The principle that generated this document stems from a long maturing of the area.

However, it does not establish specific determinations, but as a structuring of principles supported by general concepts about meaning. The document calls on ICOM members, institutions, governments, and museum professionals to:

- Take all measures to reduce risks for collections in storage throughout the world. This includes allocating funds and making use of all available tools and methodologies at their disposal, ensuring museums' mission for research, education, and enjoyment by present and future generations;
- Recognize the importance of culture in its various forms in time and space, and the need to adopt appropriate methods to preserve natural and cultural testimonies, in their diversity, in national and international development policies, in the interest of communities, peoples and countries;
- Reaffirm that different kinds of institutions of memory have a fundamental value as custodians of heritage, and that their role involves preserving the material characteristics and documentation of their collections for further study, exhibition, and access;
- Consider 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;
- Further affirm 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;
- Commit to strengthen the role of Conservation Science and Heritage Science in the production of specialized knowledge for the preservation and conservation of collections in favour of the protection of cultural and natural heritage, considering their role and related social responsibilities; and

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

- Rethink the management of cultural heritage, and in particular the policies, practices and exhibiting criteria of collections stored in deposits (ICOM, 2019).

In Brazil, this resolution was preceded by the event “International Seminar: Heritage on fire: who's next? Fire risk management for cultural heritage”, jointly promoted by ICOM Brazil, IBRAM and ICCROM, which resulted in the “Rio de Janeiro Declaration on Reducing the Risk of Fire in Cultural Heritage” (IBRAM, ICOM, & ICCROM, 2020).

Despite the advances, both in relation to the discussions pointed out in the Recommendation on the *Protection and promotion of museums and collections, their diversity, and their role in society* (UNESCO, 2015b) and in relation to the resolution adopted by ICOM in 2019, there is a demand in the museum system emergency for the development, application, and continuous adoption of safeguard actions, supported by technical-scientific skills. The lack of an interdisciplinary field focused on Heritage Science in Brazilian research agencies - notably CAPES and CNPQ - produces an epistemological gap, in addition to the lack of subsidies aimed at research related to this area of knowledge.

In the UK, in 2010, the National Heritage Science Strategy (NHSS) (NHSF, 2010) report was produced to address research on science and heritage. The survey found that the sector was fragmented and undervalued and recommended that the heritage sector should come together in developing a comprehensive national strategy for heritage science (Froner, 2017 & 2018). The expression Heritage Science became more frequently used from 2006, when the Science and Technology Committee of the British Parliament proposed its use to name a broader scientific field, configuring an expansion of Conservation Science (UK's House of Lords, 2005).

The historical understanding of the expanded transdisciplinary field of knowledge of Heritage Science and its advances is essential for the generation of actions that allow the preservation of collections and mechanisms for accessing, interpreting, and using the memories of objects (Froner, 2016).

2. Protocols for the sustainable management of museum collections: technical-scientific skills for the definition of standards, recommendations, and public safeguard policies

In carrying out this investigation, we propose a review of the concepts protocol and standard, their historical retrospectives based on the etymology of the words and the attributions of the concept, as used by the different authors that deal with the themes correlated to the areas that make up this research. Initially, the concept of protocol used is associated with the imputations defined in the Portuguese dictionary: "a document that incorporates an official statement of a rule or rules", as well as "a document that specifies nationally or internationally agreed principles". Thus, the regulations that govern acquisition and disposal policies, access to research and the specific conduct of the sectors in relation to collections can be considered management protocols. In turn, the concept of standard, recurrent in English and Portuguese, is used as "standard, type, model", more specific to the modelling parameters, such as temperature, relative humidity, lighting, vibration, noise, pollutant index and particulates, specific to the field of preventive conservation, and in relation to computer systems, typical of Information Science. It should be noted that the latter term has been continuously absorbed in the field of Preventive Conservation and Conservation Science, merging both terminologies. According to Rebeca Alcantara (2002):

In recent times, a standard has come to mean "a document embodying an official statement of a rule or rules" as well as "a document specifying nationally or internationally agreed principles for manufactured goods, procedures, etc." Thus, a museum's rules for allowing access to its collections could be considered a standard (p. 5).

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

During the 1960s, the first articles appeared that used the word standard in relation to preventive conservation measures. One of the first was the article Standards of Exposure to Light (Feller, 1963), related to the use of the "Blue Wool Scale", samples of blue fabric that measured the impact of light incident on objects. His research contributed to the appropriation of ISO 105, applied to the textile industry, as a test method to measure colour fastness.

The International Organization for Standardization (ISO) currently defines standards as documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics, to ensure that materials, products, processes, and services are fit for their purpose (Alcantara, 2002, p. 6).

Focused mainly on industry, in the field of preventive conservation, ISO is used to prove the quality of exams and procedures in studies of the materiality of cultural assets. Due to the considerable volume of documents collected, the systematization proposed in this investigation sought to establish interrelationships between the sources and the generation of synthetic parameters in relation to the protocols of conservative management of collections in museums. Thus, the methodology that subsidizes this investigation is linked to the study of the development of standards, norms, recommendations, and protocols for the conservative management of collections in museums from documents already established in the area, seeking to identify the common principles and practical guidelines arising from this study, aiming primarily to support public policies in Brazil, but also to present a conceptual product of reference for the international community.

Risk management and conservation assessment establishes a specific focus in the research, since it is related to issues determined by the field of preventive conservation, although integrated with other areas, demanding an interdisciplinary association from them based on an understanding of their exclusive competences. By

proposing a clear definition of the terms, we seek to contribute to the establishment of normative documents internal to museums that cover international guidelines, regardless of the diversity of museum typologies, since the generic instructional principles can be seen as structuring, capable of adapting to the different realities in an inclusive way. In the same way, we propose, the survey of the normative instruments becomes fundamental for the establishment of the route of the area.

2.1. General guidelines

When discussing the technical-scientific parameters for the generation of protocols and standards aimed at the conservative management of collections in museums, through the compilation and analysis of basic documents structured since the Madrid meeting (1934), we mapped structuring concepts of the area based on its origin and through the understanding of its evolution. As an objective of this investigation, we seek to systematize the normative instruments related to the management of collections safeguarding, in order to understand the transformations of parameters, concepts, models and tools developed in the area:

- a) *Museographie, Architecture and Management of Art Museums*, 1934
- b) *Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property*, 1970
- c) *1st International Conference on Museum Storage*, 1976
- d) Unesco publications, *Museum Collection Storage* (1979) e *Collection Storage* (1995)
- e) *Standards in Preventive Conservation: Meanings and Applications*, 2002, ICCROM
- f) *Declaration on the Collections Preservation Environment*, 2013
- g) *UNESCO Recommendation concerning the Protection and Promotion of Museums and Collections, their Diversity, and their Role in Society*, 2015.

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

Regarding the last normative instrument, the working document 38 C/25, of the 38th Session of the General Conference of UNESCO (2015a), called *Proposal for a non-binding standard-setting instrument on the protection and promotion of various aspects of the role of museums and collections*, recognizes the importance of establishing regulations.

The Article 2.23 of the ICOM *Code of Ethics* states: “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 storage, on display or in transit.” (ICOM Brasil, 2009, p. 23) (Y. A. Froner, Trans.). Thus, the protection of museum collections is ethically determined by this guidance document. Within the scope of ICOM, several documents are fundamental in the construction of guidelines:

- *ICOM Guidelines for Loans* (ICOM Secretariat, 1974)
- *Labelling and Marking Objects* (CIDOC Fact Sheet 2, 1993)
- *Guidelines for Disaster Preparedness in Museums* (ICMS, 1993)
- *Registration Step by Step: When an Object Enters the Museum* (CIDOC Fact Sheet 1, 1993)
- *International Guidelines for Museum Object Information: the CIDOC Information Categories* (CIDOC, 1995)
- *International Core Data Standards for Ethnology/Ethnography* (CIDOC, 1996)
- *The CIDOC Conceptual Reference Model* (CIDOC, 2001; 2011)
- *University Museums and Collections – Importance, Responsibility, Maintenance, Disposal and Closure* (UMAC, 2007)
- *Lightweight Information Describing Objects* (CIDOC, 2010)
- *Recommendations for Identity Photography* (CIDOC, 2010)
- *Statement of Principles of Museum Documentation* (CIDOC, 2012)
- *Environmental Guidelines: ICOM-CC and IIC Declaration* (ICOM-CC, 2014)
- *Best Practice in Museum Education and Cultural Programmes* (ICOM-CECA, 2017)
- *Education Toolkit, Methods and Technique from Museum and Heritage*

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

Education (ICOM-CECA/LCM, 2017)

- *Natural History Museums Conference Planning Guide* (NATHIST, 2018)
Guidelines on Deaccessioning of the International Council of Museums (ETHCOM, 2019).

3. Brazilian Institute of Museums and the Resolution No. 2/2020

In 2020, the Federal Government sanctioned the Resolution No. 2, providing for the technical and administrative procedures for the preparation, implementation, and evaluation of risk management plans for museum heritage, within the scope of museum units managed by the Brazilian Institute of Museums – Ibram (IBRAM, 2020). In 2021, the revised version of the Brazilian Museum Heritage Risk Management Program was presented to the community (IBRAM, 2021). The program aims to support Ibram's action strategies and guide Brazilian museums on the planning, prevention, and control of risks to museum heritage, with a view to minimizing their effects, responding to emergency situations, and favouring the qualification of the museum management of museum institutions and sustainability in decision-making aimed at preservation and security.

The new version of the program foresees lines of action around thematic axes (new or renewed) that correspond both to the expectations of the museological field and to the perspectives posed by the institutional scenario. The program thus preserves the set of axes that thematically incorporate the several dimensions of Ibram's performance in risk management in museums: articulation and partnerships (at various levels), research, technical guidelines and recommendations, training and sharing of knowledge and expertise with professionals in the museological field. The five stages of risk control are present in the program: 1. *Identify* - identify the risks that

present themselves in the institution; 2. *Detect* - possible actions/damage that will be caused by the risks; 3. *Block* - measures that must be taken to minimize or avoid the risks; 4. *Respond* - actions taken in case of emergency; and 5. *Recover* - interventions on assets to reverse the damage.

The program remains divided into four axes:

- The first is *governance and articulation*, which brings together the guidelines, strategies, and actions for the integrated implementation of the program in its dialogue with all areas of Ibram (headquarters, museums, and representations), with the museological field (Brazilian museums, and networks of museums and professionals, teaching centers, national and international platforms, councils, and committees), public security institutions and others related to museums;
- The second axis is *risk planning and prevention*, which is responsible for preparing and/or disseminating methodological recommendations and/or normative instruments in order to support museum teams in the elaboration of their internal strategic planning, integrating the concepts of risks, risk management and mitigation measures focused on the main actions of preservation and safety of collections, public and buildings; to provide tools for consulting and orienting Brazilian museums regarding actions and concepts in the area of risk management; promote and disseminate training in the area of planning for museums and promote and/or integrate research on risk mapping to museum heritage;
- The third axis is *risk monitoring and control*, which brings together strategies and actions for monitoring risks to museum assets, with a view to improving the efficiency and sustainability of risk control and treatment. The axis attributions seek to promote and disseminate training on monitoring, control, and treatment of risks, involving topics such as priorities for action, cost-benefit of measures and feasibility of implementation;

The fourth axis is the *response to emergencies*, which brings together strategies and actions for responses to emergency situations in Brazilian museums, considering the containment of losses in the value of museum assets and the recovery of damages. Among the attributions of the axis are: maintaining and improving the Volunteer Bank in operation, with systematized and updated information; promote campaigns to publicize the Volunteer Bank and encourage membership; guide the volunteers registered at the bank in terms of training relevant to acting in emergency situations; disclose to Brazilian museums the technical and financial resources available for actions related to heritage at risk or emergency situations; guide and provide technical support for actions to recover damages and losses caused to museum heritage and maintain and improve the Register of Disappeared Musealized Cultural Assets (CBMD) in operation.

Final considerations

Currently, museum has been incorporated several concepts, such as democratization, inclusion, and decolonization, shaping a different relationship between the questions posed by academic areas, mainly considering the affective relationships awakened by objects. Thus, the methodology for valuing collections, which is crucial for the establishment of protection programs, must also incorporate new issues, such as the voices of extinct communities and the political value imprinted on the objects.

The relationship of knowledge expressed by documents, works of art and artifacts has been privileged in conceptual structures, to the detriment of affective and symbolic relationships of use and perception. This restricted approach poses an operational problem about the validity and meaning of museum objects in terms of memory over time, their capacity for reminiscence and reverberation of identities, in addition to their political use as an instrument of resistance of certain cultures or modes of life. By

understanding the displacement of subjects in relation to objects and the demand to use these objects as instruments for the rescue of ways of doing and expressing themselves in different communities, museum collections begin to tread an inverse path: if in the past these objects were expropriated from the communities of origin through the action of purchase, collection and, eventually, illegal trafficking, in contemporary society producing systems of access by communities to their cultural goods gives back to these communities a sense of belonging and cultural identity.

However, such an operation is not simple and demands an interdisciplinary, collaborative network supported by technical-scientific skills. Before granting access, extensive documentation and conservation work for museum collections is required. In the same way, no conceptual discussion about the social role of the museum today will be able to answer this question without a clear preservation policy, since objects lost due to fires, neglect, crimes, or degradation will totally lose their ability to articulate new voices through the interpretation, access, and reintegration of meanings. Thus, the ouroboros of the question is manifested here: the conceptual principles that discuss the meaning of collections are emptied in the face of the destruction of material culture; in the same way, safeguarding material culture through conservative technical-scientific management is meaningless in the face of the emptying of the conceptual meaning of the collections. Here, the power of Heritage Science fits in to reconcile arts and humanities, science and technical skill in practical actions that safeguard cultural heritage from the forces of physical and spiritual destruction.

In the pragmatic field of risk management and conservation diagnosis programs, the establishment of parameters, methodological models and international guidelines facilitates the generation of regulatory public instruments. What is possible to map from the normative instruments raised in the research? What is the mismatch between academic-scientific discussions and public policies? How and to what extent do objects suffer from the double inertia of the system: the inability to use technical-scientific skills to safeguard the collections and the inability to expand their access,

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

primarily to the communities where these collections come from?

There are no ready-made and conclusive answers, but good questions can support our actions as managers, consultants, and conservators.

Acknowledgements

We thank the Ministry of Science, Technology and Innovation and the National Council for Scientific and Technological Development - CNPq - for approving the project *Protocols for sustainable management of museum collections: technical-scientific competences for the definition of standards, recommendations, and public policies of safeguard* -, coordinated by researcher Yacy-Ara Froner, as well as the Graduate Program in Arts and the Graduate Program in Built Environment and Sustainable Heritage, at the Federal University of Minas Gerais. This program takes part of Research Group ARCHE – Art, Conservation, and History Environment – and LACICOR-UFMG – Laboratory of Conservation Science.

References

Alcantara, R. (2021) *Standards in preventive conservation: Meanings and applications*. https://www.iccrom.org/sites/default/files/ICCROM_04_StandardsPreventiveConseren.pdf.

Benjamin, W. (1985). *Magia e técnica; Arte e política*. Brasiliense.

Berenson, B. (1972). *Estética e história*. Perspectiva.

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

Feller, R. L. (1963). Standards of exposure to light. *Bulletin of the American Group. International Institute for Conservation of Historic and Artistic Works*, 4(1), 10-12. <https://www.jstor.org/stable/i359166>

Froner, Y. A., & Rodrigues-Carvalho, C. (2019). The fire at the National Museum of Brazil in 2018. *ICOM-CC On Board*, 17, July. <http://www.icom-cc.org/54/document/onboard--news-and-reports-from-the-icom-cc-directory-board/?id=1654#.YRLR2tNKiWc>

Froner, Y. A. (2016). *Intellectual co-operation institutions for cultural heritage protection: History, science, training, and policies*. CAPES/ICCROM (Report).

Froner, Y. A. (2017). International policies for sustainable development from cultural empowerment. *Journal of Cultural Heritage Management and Sustainable Development*, 7(2), 208-223.

Froner, Y. A. (2018). Storage collection recommendation from interdisciplinary tools: Documentation, preventive conservation, curatorship, and architectural issues. *CIDOC Annual Conference, Heraklion, Greece, 2018*. http://www.cidoc2018.com/sites/default/files/CIDOC2018_paper_111_0.pdf

IBRAM, ICOM, & ICCROM. (2020). *Declaração do Rio de Janeiro*. <https://www.iccrom.org/sites/default/files/2020-01/declaracaoriojaneiro.pdf>

IBRAM. (2020). *Resolução normativa Nº 2, de 19 de outubro*. <https://www.in.gov.br/web/dou/-/resolucao-normativa-n-2-de-19-de-outubro-de-2020-283747959>

IBRAM. (2021). *Programa de gestão de riscos ao patrimônio musealizado brasileiro*. <https://www.gov.br/museus/pt-br/assuntos/noticias/ibram-divulga-versao-revisada-do-programa-de-gestao-de-riscos-ao-patrimonio-musealizado-brasileiro>

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

ICCROM/UNESCO. (2011). *International storage survey*. ICCROM.

https://www.iccrom.org/wp-content/uploads/RE-ORG-StorageSurveyResults_English.pdf.

ICOM Brasil. (2009). *Código de ética*. [https://icom.org.br/wp-content/themes/colorwaytheme/pdfs/codigo%20de%20etica/codigo de etica lusofo no iii 2009.pdf](https://icom.org.br/wp-content/themes/colorwaytheme/pdfs/codigo%20de%20etica/codigo_de_etica_lusofo_no_iii_2009.pdf)

ICOM. (2019). Measures to safeguard and enhance collections in storage throughout the world. In ICOM Kyoto2019. *Resolutions adopted by ICOM's 34th General Assembly* (Resolution No 4). https://icom.museum/wp-content/uploads/2019/09/Resolutions_2019_EN.pdf

ICOMOS. (1992). *ICOMOS New Zealand charter for the conservation of places of cultural heritage value*. <https://www.gdrc.org/heritage/icomos-nz.html>

NHSF. (2010). *National heritage science strategy*. <https://www.heritagescienceforum.org.uk/what-we-do/national-heritage-science-strategy>.

Pedersoli Jr., J. (2019), *Cultural heritage fire statistics*. ICCROM. https://www.iccrom.org/sites/default/files/Fire%20risk%20management%20seminar_Rio_JLP_17_6_2019.pdf

Ricoueur, P. (2007). *A memória, a história, o esquecimento*. Unicamp.

UK's House of Lords. (2005). *Science and Technology Committee. 9th report of session 2005–06*. <https://publications.parliament.uk/pa/ld200506/ldselect/ldsctech/256/256.pdf>.

UNESCO. (2015a). Proposal for a non-binding standard-setting instrument on the protection and promotion of various aspects of the role of museums and collections. In

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

UNESCO, General Conference, 38th, 2015, 38 C/25.

<https://unesdoc.unesco.org/ark:/48223/pf0000233892>

UNESCO. (2015b). *Recommendation concerning the protection and promotion of museums and collections, their diversity, and their role in society.*

<http://www.unesco.org/new/en/culture/themes/museums/recommendation-on-the-protection-and-promotion-of-museums-and-collections/>

Froner, Y. A. (2023). Heritage Science Networks and public policies: The importance of protocols, standards, and normative tools, and the Brazilian Institute of Museums guidelines regarding collections risk management. In P. M. Homem (Ed.), *Integrated risk management in museums. Past lessons, future ways* (pp. 120-142). Porto: FLUP. <https://doi.org/10.21747/978-989-9082-15-1/inta7>

Notes on the author

Yacy-Ara Froner graduated in History from the Federal University of Ouro Preto (1988), holds a master's in Social History from the University of São Paulo (1994) and a PhD in Economic History, with emphasis on cultural heritage from the University of São Paulo (2001). She is a specialist in restoration by the Centro de Conservação e Restauração-CECOR (1992) and in the conservation of collections by the Getty Conservation Institute-GCI (1995). She is also a specialist in Baroque Art and Culture by the IAC-UFOP (1992). Currently, she is a professor at the School of Fine Arts at UFMG, working with undergraduate courses in Visual Arts and Conservation-Restoration. Permanent professor of the Graduate Program in Arts at the School of Fine Arts of UFMG and of the Graduate Program in Built Environment and Sustainable Heritage at the Faculty of Architecture of UFMG, having served as coordinator between 2018 and 2020. She is a consultant and researcher in the areas of History of Art, History of Collections and Preventive Conservation, a researcher at LACICOR (Laboratory of Conservation Sciences), and she coordinates the ArCHE research group (Environments - Art, Conservation and History). Between 2015 and 2016, she was a senior postdoctoral fellow with research at ICCROM.