ELENA CORRADINI https://orcid.org/0000-0003-0602-8592

University of Modena and Reggio Emilia

Italian University Museums challenges and perspectives

Abstract

The recent history of Italian University Museums starts with the first Network created by 12 Italian Universities, coordinated by the University of Modena and Reggio Emilia, for a project, approved and financed in the year 2013 by the Ministry of the University and Research, The Network realized a bilingual web portal to increase the interest for science through the knowledge of museums collections and to promote a critical, interdisciplinary, and transdisciplinary dialogue (https://of.unimore.it/retemusei/www.retemuseiuniversitari. unimore.it/site/home.html).

This Network, increased in 2014 with the inclusion of two Universities, between 2015 and 2018 realized a new project concerning educational paths for lifelong guidance to the scientific method and culture published in the second section of the Network web portal.

In 2019 the Network, with other Universities, for a total of 29, created a quarterly web magazine *University Heritage*. *Cultural Heritage on the web* (https://universityheritage.eu/). Another relevant initiative for Italian University Museums is the first census promoted and carried out by CRUI – Conference Italian University Rectors – between 2017 and 2019. This census revealed that 40 Universities have museums for a total of 182, number certainly set to increase.

Now for the Italian University Museums, like for all Italian museums, there is a challenge: to become part of an articulated network coordinated by the Ministry of Culture, the National Museum System.

Keywords: Italian University Museums Network, bilingual web portal, scientific education, census, National Museum System, University Heritage

Słowa kluczowe: Italian University Museums Network, dwujęzyczny portal internetowy, edukacja naukowa, spis powszechny, National Museum System, University Heritage

The Network of Italian University Museums

The first Network of Italian University Museums¹ of 12 Italian Universities (Bari, Cagliari, Chieti-Pescara, Ferrara, Florence, Modena and Reggio Emilia, Parma, Perugia, Rome "La Sapienza," Salento, Siena, Tuscia), with the Regional Museum of Natural Sciences of Turin, coordinated by the University of Modena and Reggio Emilia, realized a project, approved and financed in the year 2013 by the Ministry of the University and Research within the law 6/2000 for the diffusion of the scientific culture.

64 University Museums, 38 collections, 9 Botanical Gardens located in the Universities involved in the project throughout all national territory, from north to south, have decided to realize a bilingual web portal² to increase the interest for science through the knowledge of their collections and to promote a critical, interdisciplinary, and transdisciplinary dialogue.³

The Network has decided to devote its attention to four themes considered relevant for the interest they can create in large audiences, correlating to the Museums themselves: regional landscapes and environments of the different Universities, stories of the Universities and of some teachers that are important for their researches, and the history of scientific instrumentation evolution, fundamental for the progress of the researches themselves. The Museums of the Network chose a total of 28.000 objects/specimens considered the most significant of their collections to pass down possible narrative paths relating to the four chosen themes.

These objects refer to numerous disciplinary areas, Anatomy, Anthropology / Ethnography, Archaeology, Art, Botany, Chemistry, Physics, Petrology, Mathematics, Medical Sciences, Mineralogy, Palaeontology, Planetology, Zoology, one of the key aspects of the heritage preserved in the University Museums, and can be considered as a complex representation of the history of academic knowledge in various fields starting from the eighteenth century.

¹ E. Corradini, *Pomui. The web portal of Italian University Museums* [in:] *Proceedings of the 10th Conference of the International Committee of ICOM for University Museums and Collections (UMAC), University Museums and Collections as Recorders of Cultural and Natural Communities Worldwide, Shanghai, China, 7–12 November 2010*, eds. N. Nyst, P. Stanbury, C. Weber, "University Museums and Collections Journal" 2011, No. 4, pp. 77–84, https://edoc.hu-berlin.de/handle/18452/386; web portal of the University Museums, http://www.pomui.unimore.it/site/home.html [accessed: 9.12.2022]; C. Plaza, *Museums in Universities: Predicaments and Potentialities*, "Museum International" 2022, Vol. 74, Issue 1–2, pp. 74–85.

² *Vide* webportal of the Network of the Italian University Museums, https://of.unimore.it/retemusei/www.retemuseiuniversitari.unimore.it/site/home.html [accessed: 9.12.2022].

³ E. Corradini, The new communication technologies for sharing and participatory Italian University Museums [in:] Proceedings of the 11th Conference of the International Committee of ICOM for University Museums and Collections (UMAC), University collections and University history and identity, Lisbon, 21–25 September 2011, eds. N. Nyst, P. Stanbury, C. Weber, "University Museums and Collections Journal" 2012, No. 5, pp. 133–146, https://edoc.hu-berlin.de/handle/18452/387 [accessed: 9.12.2020]; E. Corradini, L. Campanella, The Multimedia technologies and the new realities for knowledge networking and valorisation of scientific cultural Heritage: The role of the Italian University Museums Network [in:] Proceedings of the International Conference on Sustainable Cultural Heritage Management, ed. L. Marchegiani, Roma 2013, pp. 283–297.

Thanks to the effective collaboration with the Central Institute for Cataloguing and Documentation (ICCD) of the Ministry of Culture the project provided for the activation, at each of 12 Universities and at the Regional Museum of Natural Sciences of Turin, of a cataloguing centre directly connected with the ICCD for cataloguing of museum objects / specimens through the use of the catalogue cards managed by the ICCD itself within SIGECweb, the Information System of the Catalogue on the web⁴, for the realization of the General Catalogue of Cultural Heritage.⁵

The project allowed to use in a systematic way, and to experiment, the layouts of the cards realized for the different specimens of the naturalistic heritage, botany, zoology, mineralogy, petrology and planetology and a particular card for anatomy and another for casts and copies: a concise user manual has been produced, in collaboration with ICCD, for the use of these cards.⁶

The 12 Universities and the Regional Museum of Turin have created 80 bilingual itineraries to illustrate the four general themes in the first bilingual section of the Network web portal realized for the project (https://of.unimore.it/retemusei/www.retemuseiuniversitari.unimore.it/site/home.html): 25 are dedicated to the stories, 9 to the stories of the Universities, 19 to the landscapes, 18 to the environments, 9 to the history of scientific instruments.

In each itinerary, the objects / specimens are documented, with accurate descriptions, in the sector dedicated to the exploration of the collections, by the catalogue cards inserted in the SIGECweb. Moreover they are contextualized in each Museum and in the territory, and their online use want to be an incentive to trace new ways of visit and knowledge.

This narrative approach to information is essential to increase the attractiveness of museums and their collections, describing the ways in which an object / specimen is connected to the others, to places, to people, to theories and scientific discoveries.

This digital storytelling is fundamental to broaden and diversify cultural communication, involving both the emotional and sensory spheres.⁷

This Italian University Museums Network, increased in 2014 with the inclusion of two Universities (Genova and Pavia) and the Reggio Emilia Civic Museums, coordinated

⁴ The Information System of the Catalogue on the web, http://www.iccd.beniculturali.it/it/sigec-web [accessed: 9.12.2022].

⁵ General Catalogue of Cultural Heritage, https://catalogo.beniculturali.it/ [accessed: 9.12.2022].

⁶ E. Corradini, La catalogazione e nuove tecnologie informatiche per l'accessibilità al patrimonio naturalistico [in:] Memorie del XX Congresso ANMS – Associazione Nazionale Musei Scientifici, I musei delle scienze e la biodiversità, Ferrara, 17–19 November 2010, "Museologia Scientifica Memorie" 2013, No. 9, pp. 33–39, http://www.anms.it/riviste/dettaglio rivista/18 [accessed: 9.12.2022].

⁷ E. Corradini, L. Campanella, A national project for the Italian University Museums Network [in:] Proceedings of the 13th Conference of the International Committee of ICOM for University Museums and Collections (UMAC), Evaluating change The University Museum, Rio de Janeiro, 10–17 August 2013, eds. N. Nyst, P. Stanbury, C. Weber, "University Museums and Collections Journal" 2014, No. 7, pp. 20–29, http://umac.icom.museum/wp-content/uploads/2017/08/UMACJ-7.pdf [accessed: 9.12.2022]; E. Corradini, L. Campanella, Digital technologies for the first Network of the Italian University Museums, Annual Conference CIDOC – Comité International pour la Documentation, Access and Understanding, Networking in the Digital Era, Dresda, 6–11 September 2014, pp. 42–49, http://cidoc.mini.icom.museum/wp-content/uploads/sites/6/2018/12/D-1_Corradini_Campanella_Paper.pdf [accessed: 9.12.2022].

by University of Modena and Reggio Emilia, realized a new project concerning educational paths for lifelong guidance to the scientific method and culture. This second project approved and founded in 2015, in the framework of the same law 6/2000 for the dissemination of scientific culture, has experimented new educational programs that combine school education generalist approach with University education highly specialized, experimental and technically advanced, to promote scientific culture in the IV, V high school classes through a better use of scientific laboratories and multimedia tools. The classes have been involved with initiatives to encourage communication with the world of research and production, in order to raise wide-spread awareness of the importance of science and technology for everyday life and for sustainable development of society.

For the project, 47 museums, 39 collections and 12 botanical gardens of the Network have organised educational paths of formal and non-formal education, in accordance with the National Plan for Cultural Heritage Education of the Ministry of Cultural Heritage and Tourism, now Ministry of Culture, to transmit, the complexity of the scientific approach.⁸

In the second section of the Network web portal 56 experiential educational paths have been realized and published (https://of.unimore.it/retemusei/www.retemuseiuniversita-ri.unimore.it/site/home.html), dedicated to 3 main themes: the first, to biodiversity and agro-biodiversity with 9 paths; the second, to colour, with 20 paths, 9 in nature, 7 in art, 4 in physics; the third, to time, with 27 paths, 9 in human evolution, 10 in geology and fossils, 6 in time measurement and 2 about evolution of Antarctica.

Each educational path is characterized by the use of real objects or specimens in the various proposed activities, on which it is possible to build experiences of direct scientific observation, but also other cultural practices of readings and in-depth analysis that allow the approach to the experimental method (formulation of hypotheses, verification and processing of results).

Each theme is introduced by a conceptual map created to summarize the process development of the path from which other maps, dedicated to the respective sub-theme, are then obtained; for each educational path, a general and a specific bibliography and images in depth analysis are available for both students and teachers, for whom the use of information technology is fundamental, allowing the use of a variety of multimedia supports.

A sector of each path is dedicated to the results of the path evaluation, essential for a verification of both the specific organization of the same, and the project in general: for the evaluation, specific questionnaires were carried out with specific questions for each path that were given online to both teachers and students. Moreover a final report on the progress of the path has been included, accompanied by images, works made by the students (texts, images, videos, websites) to facilitate their dissemination.⁹

⁸ National Plan for Heritage Education, Ministry of Culture, Directorate General for Education and Research, https://dger.beniculturali.it/educazione/piano-nazionale-per-leducazi-one-al-patrimonio/[accessed: 9.12.2022].

⁹ E. Corradini, Educational itineraries of the Italian University Museums Network for the lifelong guidance to the scientific culture and method [in:] Actas del Congreso Internacional Museos Universitarios, tradición y future, Madrid 3–5 December 2014, ed. I. García Fernández, Madrid, Universidad Complutense, 2015, pp. 489–494; E. Corradini, The common and interdisciplinary itineraries of the Italian University Museum Network: A challenge for sharing scientific education [in:] Proceedings of the 13th ICOM-UMAC & 45th annual ICOM-CECA Conference, squaring the circle? Research,

In 2015, when the second project of the University Museums Network, dedicated to the orientation to method and scientific culture, had already started, a law (n. 107) on "good school" or cooperative education was published in Italy. Its paragraphs from 33 to 43 had provided, in order to increase the job opportunities and orientation skills of students, alternating school-work paths for a total duration, in the last three years of the study career, of at least 400 hours in the technical institutes and at least 200 hours in the Lyceum. The main goal of this law is to stimulate not only companies, but also educational institutions to enrich the educational offer, basing on their history, the connection with the territory, their excellences and the professional skills, also in agreement with the Universities, aimed at deepening knowledge, skills and competences required for access to University study courses or for insertion into the world of work.

The museums of the Network, in consideration of the significant experience they acquired in education and their ability to work in synergy, decided to organize school work alternation paths concerning the general themes and sub-themes of the first and second project, preparing multimedia materials and making them available on third section of the Network web portal.¹⁰

These paths, to further develop good practices already acquired, were referred to the four themes of the first project, 2 to the stories, 5 to the history of scientific instrumentation,

museum, public: A common engagement towards effective communication, eds. M. Haggag, N. Gesché-Koning, Alexandria 2015, pp. 105-111, http://umac.icom.museum/wp-content/uploads/2017/08/ UMAC-CECA Alexandria. pdf [accessed: 9.12.2022]; E. Corradini, L. Campanella, The Italian University Museums Network for the guidance of the scientific culture [in:] Proceedings of the 46th annual ICOM-CECA Conference, museum education and accessibility: Bridging the gaps, Washington, D.C., USA, 17-21 September 2015, ed. G. Monaco, Washington 2016, pp. 91-97; E. Corradini, La Rete dei Musei Universitari: diffusione e contestualizzazione del patrimonio culturale degli atenei, orientamento al metodo e alla cultura scientifica [in:] Atti del Convegno, Valorizzare il patrimonio culturale delle Università. Focus su arte e architetture, Genova 20-21 November 2014, eds. L. Magnani, L. Stagno, Genova 2016, pp. 131-142; E. Corradini, Percorsi formativi della Rete dei Musei Universitari Italiani per l'orientamento permanente al metodo e alla cultura scientifica [in:] Memorie del XXIV Congresso dell'Associazione Nazionale Musei Scientifici, Contact Zone: i ruoli dei musei scientifici nella società contemporanea, Livorno 11-13 November 2014, eds. A. Borzatti de Loewenstern, A. Rosellia, E. Falchetti, "Museologia Scientifica Memorie" 2017, No. 16, pp. 43-47, http://www.anms.it/ riviste/dettaglio rivista/30 [accessed: 9.12.2022]; E. Corradini, I nuovi percorsi educativi della Rete Italiana dei Musei Universitari [in:] Atti del XXVI Congresso ANMS Associazione Nazionale Musei Scientifici I musei al tempo della crisi. Problemi, soluzioni, opportunità, Trieste 16-18 November 2016, eds. S. Martellos, M. Celi, "Museologia Scientifica Memorie" 2019, No. 8, pp. 39-44, http://hdl.handle.net/11380/1184451 [accessed: 9.12.2022]; E. Corradini, The Italian University Museums Network to educate to the scientific method and culture [in:] Conference proceedings 4th International Virtual Conference on Educational Research and Innovation, Madrid 2020, pp. 430–433, http://hdl.handle. net/11380/1224199; E. Corradini, Educating to the scientific method and culture in the Italian University Museums, "Universal Journal of Educational Research" 2020, No. 8 (10), pp. 4891-4896, http://hdl. handle.net/11380/1224009 [accessed: 9.12.2022]; E. Corradini, Percorsi educativi dedicati alla Fisica nel portale della Rete dei Musei Universitari Italiani, "Atti del XXXIX Convegno annuale degli Storici della Fisica e dell'Astronomia" 2020, pp. 439-446, http://hdl.handle.net/11380/1224008 [accessed: 9.12.2022].

¹⁰ *Vide* https://of.unimore.it/retemusei/www.retemuseiuniversitari.unimore.it/site/home/alternan-za.html [accessed: 10.12.2022].

2 to the landscapes, 1 to the environment, and others to themes of the second project, 6 to biodiversity and agro-biodiversity, 5 to the colour, 3 to the time: moreover 2 paths have been added, one dedicated to the documentation and conservation of cultural heritage and another to the discovery of the human body. All the paths have been published in the third section of the Network web portal (https://of.unimore.it/retemusei/www.retemuseiuniversitari.unimore.it/site/home.html).

The school work alternation paths, which provided a further opportunity to renew the educational and interaction strategies between the various museums of the Network, were organized to implement flexible learning methods, as required by the Operational Guide for school-work alternation, ¹² and to connect classroom training with museum experience.

Through school work alternation paths, the museums of the Network had the opportunity to strengthen their awareness of being places of learning by planning laboratory experiences that can be connected to different scientific areas represented by numerous collections that they preserve.

Museums have organized their paths to stimulate students to observe, share and rework the museum experience through accurate documentation, all on digital support in order to contribute also to the development of their digital skills, as also foreseen by the school-work alternation: for each path, each museum has developed different digital indepth materials to be used before and after the visit, all made available on the web portal of the Network.

For each path the possibility of in-depth analysis was offered through a conceptual map, and specific bibliography, educational materials, including a rich set of online images. Attention has been paid to the evaluation of each paths made by students by using the questionnaire published on the Guide for school work alternation, transferring it in digital format to ease the distribution to students and the elaboration of results.

The National Museum System

University Museums, like all Italian museums, are facing a stimulating challenge, which is at the same time the opportunity of becoming part of an articulated network coordinated by the Ministry of Culture, the National Museum System. This System was activated in 2018 by the Ministry of Cultural Heritage and Activities and Tourism, now the Ministry of Culture, with a decree (no. 113/2018) that provided for the "Adoption of the minimum

¹¹ E. Corradini, Attività di alternanza scuola-lavoro dei Musei Universitari della Rete Italiana con l'impiego delle tecnologie digitali [in:] Atti del XXIV Congresso dell'Associazione Nazionale Musei Scientifici, Il museo e i suoi contatti, Genova, 25–27 October 2017, eds. G. Doria, E. Falchetti, "Museologia Scientifica Memorie" 2019, No. 19, pp. 19–24, http://www.anms.it/riviste/dettaglio_rivista/35 [accessed: 9.12.2022].

Alternating school work activities operational guide for schools, Ministry of Education, University and Research, http://www.istruzione.it/allegati/2015/guidaASLinterattiva.pdf [accessed: 9.12.2020].

uniform levels of quality for museums and places of culture belonging to the public and activation of the National Museum System."¹³

The National Museum System is a network made up of state-owned museums and places of culture, as well as non-state, public and private museums and places, which is constantly evolving because it is made up of those that, being in possession of the Uniform Levels of Quality (LUQ), ask to be accredited for a unified vision of the development of Italian museums regardless of their ownership, size, type and form of management.¹⁴

Accreditation is carried out through a comprehensive self-assessment question-naire that is filled out on a voluntary basis, and is based on the LUQ (Uniform Levels of Quality), which allow museums and places of culture to strengthen mutual knowledge, to carry out a useful exchange of good practices for common development, and to verify their organization, management of legal and economic profiles, collections, and their relations with the territory. The self-assessment questionnaire is an important opportunity to verify the functioning of the museum, its educational and social function, and can be a useful contribution to the improvement of museums, which can verify their strengths and weaknesses and draw up rules and guidelines for a correct management of their collections, for a broad opening to contemporary society and to become multipliers of wellbeing and an opportunity for economic and sustainable development.¹⁵

The most significant reference of the National Museum System is the *Guideline Act* on technical-scientific criteria and standards for the operation and development of museums issued in 1998 by decree (no. 112) of the then Ministry of Cultural Heritage and Activities, now Ministry of Culture. ¹⁶ The Guideline Act identified eight reference areas for the definition of standards of operation, for the first time in Italy achieving a synthesis between the needs of conservation, enjoyment and promotion of the modern museum institution. Each of the eight areas of the Guideline Act, referring to legal status, financial organization, museum structures, personnel, museum security, collection management, museum relations with the public and relations with the territory, contains in detail a premise, a technical rule and a series of documents that justify, deepen and specify the meaning of the area. The Guideline Act was born from the need to define shared rules that would guarantee the conservation and public enjoyment of cultural

¹³ National Museum System, http://musei.beniculturali.it/notizie/notifiche/sistema-museale-nazio-nale-pubblicato-il-decreto [accessed: 9.12.2020].

¹⁴ E. Corradini, *A challenge and an opportunity for University Museums in Italy: To be connected with all museums and cultural places*, "University Museums and Collections Journal" 2019, No. 11 (1), p. 70, http://umac.icom.museum/wp-content/uploads/2019/08/UMACJ_11-1_2019.pdf [accessed: 9.12.2020].

¹⁵ E. Corradini, *The future of the Italian University Museums: the National Museum System* [in:] *Museos y Universidades espacios compartidos*, eds. T. Nava Rodriguez, A. Pasoz Lopez, Somonte-Cenero, Gijón, Asturias 2020, pp. 25–52.

¹⁶ Vide http://musei.beniculturali.it/wp-content/uploads/2016/04/Atto-di-indirizzo-sui-criteri-tecnico-scientifici-e-sugli-standard-di-funzionamento-e-sviluppo-dei-musei-DM-10-maggio-2001. pdf [accessed: 9.12.2022); P. Dragoni, Livelli minimi di qualità [in:] La storia e il museo. Documenti e proposte per la valorizzazione del patrimonio museale, ed. C. Paparello, Foligno 2016 pp. 171–204.

heritage in harmony with international principles and good practices, first and foremost the *Code of Ethics for Museums* of the International Council of Museums (ICOM),¹⁷ a document that introduced and spread internationally the concept of minimum standards, corresponding to all the essential requirements necessary to guarantee the existence and good functioning of a museum, with particular attention to the relationship with the territory and the contribution that museums can offer to the valorisation, knowledge and management of the natural and cultural heritage, the opportunities they offer to other institutions and public services, and the collaboration with the communities from which the collections originate.

Significant reference for all museums is also the *Faro Convention on the Value of Cultural Heritage for Society*, ¹⁸ adopted by the Committee of Ministers of the Council of Europe on 13 October 2005 and opened for signature by member states in Faro (Portugal) on 27 October of the same year. It entered into force on 1 June 2011 and to date has been ratified by 28 member states of the Council of Europe: in Italy by Law no. 133 of 1 October 2020 and in Poland it was signed on 10 May 2021. The Convention emphasizes the significant aspects of cultural heritage in relation to human rights and democracy and aims to promote a broader understanding of it and its relationship to communities and society, to encourage recognition that objects and places are relevant not in themselves but because of the meanings and uses that people attach to them and the values they represent.

Relevant is the *Recommendation concerning the Protection and Promotion of Museums and Collections, their Diversity and their Role in Society*, adopted by the General Conference at its 38th Session in Paris on 17 November 2015, which highlights how the protection and promotion of cultural and natural diversity is among the most important challenges of the 21st century and how museums can be its primary instruments.¹⁹

The LUQ, Uniform Levels of Quality

The first objective of the National Museum System is to initiate a self-assessment process extended to all museums, regardless of their ownership and legal status, in order to verify, through a comprehensive self-assessment questionnaire, that is filled out on a voluntary basis, the presence of the Uniform Levels of Quality (LUQ) required to join the System.²⁰ If some requirements are missing, an adjustment path is available to reach them.

The LUQ are the instruments for the activation of the System and for the achievement of the aims that the System pursues: they are the result of a long interdisciplinary

¹⁷ Code of Ethics, https://icom.museum/en/resources/standards-guidelines/code-of-ethics/ [accessed: 9.12.2022].

¹⁸ Faro Convention, https://www.coe.int/en/web/culture-and-heritage/faro-convention [accessed: 9.12.2022].

¹⁹ Recommendation concerning the Protection and Promotion of Museums and Collections, their Diversity and their Role in Society, https://unesdoc.unesco.org/ark:/48223/pf0000246331 [accessed: 9.12.2022].

²⁰ Uniform Levels of Quality for museums, http://musei.beniculturali.it/wp-content/uploads/2018/04/Allegato_I-Livelli-uniformi-di-qualit%C3%A0-per-i-musei_English.pdf [accessed: 9.12.2022].

work carried out in implementation of art. 114, par. 1 of the Code of Cultural Heritage and Landscape (Legislative Decree no. 42/2004 as amended), valid for museums, monuments and archaeological areas. The LUQ were elaborated jointly by the Ministry, the Regions and the Local Authorities, with the contribution of University professors, public managers and experts in the field of museums and the management and valorisation of cultural heritage.

Compared to the minimum standards set by the 2001 Guideline Act, the LUQ, published in Annex 1 of the ministerial decree establishing the National Museum System (no. 113/2018), have included very articulated and diversified improvement objectives: updating the language, adapting the requirements to the current context (e.g. new professional figures), digital communication, accessibility and greater attention to the relationship with the territory, the public and stakeholders.

They are divided into three macro-areas: organization, collections, communication and relations with the territory, subdivided into different sections and paragraphs reflecting the organization and activity of the museums, as a matrix to verify compliance with the minimum standards and to identify improvement objectives.

The first macro-area, organization, is divided into five sections: the first three are related to legal status, accounting and finance, access to museum buildings, including access for the disabled, organization and use of interior spaces, and security. The fourth section, which deals with museum activities, is divided into two paragraphs: how to access the museum and the policy documents prepared by each institution; the fifth section is devoted to personnel.

This fifth section, dedicated to personnel,²¹ identifies the professional figures with specific functions, indispensable for the proper management of museums. In addition to the Museum Director, there are seven other professional figures, i.e. various Managers: Collections and/or Heritage, Security, Educational Services, Administrative and Finance, Public Relations, Marketing and Fundraising, Communications, Internal and External Human Resources Management, plus security and reception staff.

The second macro-area of the LUQ relates to the management and care of the collections, which are the main task of every museum since they are a constitutive element and "raison d'être" of the institution:

Artefacts are added to the collections with reference to the mission of the museum and on the basis of approaches and methods that are defined by its governing body, in respect of the applicable regulations. Other than in exceptional cases provided for by law, the collections are inalienable.²²

The minimum standards and improvement objectives related to this second area, the management of museum collections, must harmonize the two primary needs of conservation and enjoyment of the cultural heritage. In addition to the care of the integrity of the collections, the museum must guarantee their full physical and intellectual accessibility, ensuring their public enjoyment also through permanent or temporary display and ensuring

²¹ Vide ICOM Italia publications, https://www.icom-italia.org/wp-content/uploads/2018/06/ICOM-Italia.SMN .Quaderno2.novembre.2017.pdf [accessed: 9.12.2022).

²² Uniform Levels of Quality for museums..., p. 15.

their consultation and knowledge. The eight sections of this area concern cultural heritage periodic monitoring, formalized management and control of handling procedures, enhancement, registration, documentation and cataloguing, permanent and temporary exhibition, study and research programmes and activities, and organization of deposits.

The third macro-area of the LUQ, communication and relations with the territory, is divided into two areas concerning relations and communication with the public and with the territory and stakeholders.

The first area specifies that

Communication should both be informal, for example via an information point, and formal via signage that should include the identifying information of each artefact on display, as well as printed or online informational material. The museum must be careful to ensure that this information is always complete and up to date, and is also in English and other languages as necessary.²³

In addition, appropriate space must be reserved for the use of new technologies. Since the internet can be considered as the first approach between users/visitors and museums, the importance is emphasized of providing online information – through social networks, applications – on access to the museum, its services, collections and additional activities, and that this information is kept complete and up-to-date. Visitors should be offered multimedia tools that provide information integrated with traditional information systems, using text messages, images, audio and video through apps that can be downloaded on the latest generation of tablets and mobile phones, and, more generally, that are edutainment, i.e. providing information on a wide range of activities that activate knowledge in a fun and relaxing way.

The second area of this third macro-area, related to relations with the region and stakeholders.

is subdivided into three general lines of orientation: 1) consolidating the regional vocation of the museum not only formally in planning documents, but also by using visitor aids to contextualise the artefacts in their regional setting; 2) involving local and regional bodies in the activities of the museums and in enhancing their appreciation, for example by jointly planning and producing exhibitions, sharing locations for the storage of artefacts, preparing and promoting tourism and cultural itineraries, and introducing forms of shared pricing; 3) promoting the region by disseminating, at each institution, printed or multimedia information about other museums in the area.²⁴

Particular importance must be given to transparency, since museums are providers of a public service. Hence the need to develop a Quality Service Charter that refers to the specific mission of the museum.

This second area highlights that

it is necessary and opportune to develop a culture of networked relations between museums, places of culture, monuments, and different expressions of the local region, as well as to create an

²³ *Ibidem*, p. 19.

²⁴ Ibidem.

inter-museum system of cultural activities and services, to build reciprocally advantageous alliances between different institutions operating in the same local region.²⁵

In this area there are three sections that correspond to three general lines of orientation: in the first one, tasks and roles in the regional context, the minimum standard is, in the planning documents, the indication of the tasks and functions that the institution performs with reference to the regional context. The second section concerns the location of the collections / museum / archaeological site in the regional context and its minimum standard is the presence of elements that relate the collections to their historical, cultural and environmental context and the third the involvement of regional organisations or institutions after an analysis, as a minimum standard, of the regional context and the individual or collective actors.

Moreover

The categories of interlocutors that have been identified are: voluntary associations, cultural associations, organisations of various kinds that represent the local communities and economic operators, the universities and cultural institutions operating in the region, and private owners of cultural assets.²⁶

Activation of the National Museum System

In order to activate the National Museum System at the Museums Directorate of the Ministry of Culture, the Commission for the activation of the National Museum System was established (art. 3 M. D. 113/2018), chaired by the Director General for Museums. The competences of the Commission are: the equalization of the quality levels of the regional systems to the national ones (art. 4, par. 2, M. D. 113/18); validation of the accreditation following the preliminary investigation of the Accreditation Body (art. 6, par. 3, M. D. 113/2018); formulation of proposals for the development and promotion of the National Museum System and for the updating of the Uniform Quality Levels of museums (art. 3, par. 1, Ministerial Decree 113/2018); accreditation in transitional phase.

The members of the Commission are: Director General for Museums (who chairs it), President of the Technical-Scientific Committee for Museums and the Economy of Culture; four representatives designated by the Minister; six representatives designated by the Unified State-Regions Conference; two representatives designated by the Italian Committee of ICOM. Representatives designated by the Organizations and Trade Associations that have agreements with the General Directorate for Museums may be invited to participate in the work of the Commission (art. 3, par. 2, M. D. 113/2018).

The connection and accreditation of the museums that will reach the minimum quality levels set by LUQ take place through the IT platform made available by Agid, the

²⁵ Ibidem.

²⁶ *Ibidem*, pp. 24–25.

Agency for Digital Italy, and accessible from the website of the Directorate General for Museums, which can also be used for subsequent and periodic verification.

For museums and places of culture belonging to the State (art. 6, par. 4, M. D. 113/2018), accreditation takes place through the verification, by the General Directorate for Museums of the Ministry of Culture, of the degree to which the museums comply with the minimum standards set by LUQ.

State University Museums will be able to follow the same accreditation process to the National Museum System as other State Museums according to art. 6, par. 4 M. D. 113/2018.²⁷

The accreditation of non-state museums and places is automatic if there is a regional accreditation system equivalent to the national one (art. 4, M. D.113/2018); if there is no equated regional accreditation system, an accreditation body must be created (art. 5 M. D. 113/2018).

Accreditation is a process in the making and is constantly being updated: 18 Regions and Autonomous Provinces have joined the National Museum System. To this aim, 8 Regions and 2 Autonomous Provinces have amended their regulations to transpose the indications of the ministerial decree and to standardize the regional quality requirements to the LUQ of Annex 1 of the decree establishing the National Museum System (art. 4, M. D. 113/2018), making the regional requirements comparable to those of the National Museum System: Calabria, Campania, Emilia Romagna, Lazio, Lombardy, Piedmont, Tuscany, Sardinia, Autonomous Province of Trento, Autonomous Province of Bolzano.

For non-state museums in 8 other regions without a recognition system, the establishment of a regional accreditation body has been envisaged (art. 5, M.D. 113/2018): Friuli Venezia Giulia, Liguria, Marche, Puglia, Sicily, Umbria, Veneto, Abruzzo.

Procedures are in the pipeline for the last three regions: Basilicata, Molise and Valle d'Aosta. In addition, the procedures relating for the state museums belonging to the Regional Museum Directorates of the Ministry of Culture are being finalized.

The National Museum System, based more on the connection than on the ownership of museums, fosters collaboration between Central Government, Regions, Municipalities and other local authorities, Universities and the entire educational system to create a shared process aimed at improving the management culture not only of museums, but of the entire Italian cultural heritage, favouring economies of scale. The sharing of skills and professional services with specific reference to staff training can strengthen the enjoyment of cultural heritage, with a widespread diffusion throughout the territory, which is a peculiar characteristic of Italian museums, guarantee quality access for visitors and an improvement in the protection of cultural assets, uniform levels of enjoyment and uniform methods of conservation. Systematizing Italian cultural institutions is essential to consolidate cultural heritage, to promote, through accessible and inclusive activities, cultural development, diversity and

²⁷ Currently, the only accredited University Museums are the University of Pavia Museum System and the Brera Botanical garden of the University of Milan Museum System accredited together with the other non-state museums by the Lombardy Region with D.G.R. 13 October 2020, no. 3650, Annex B.

sustainability, with the participation of communities, and to foster the development of cultural tourism.²⁸

The First Census of Italian University Museums

Between 2017 and 2019, the CRUI - Conference of Italian University Rectors - promoted and carried out the first census of the museums of the 87 Italian Universities. An ad hoc commission drew up a detailed questionnaire providing quantitative data on the organization of the museums but also qualitative data on their history and their main publications. This census revealed that 40 Universities among the 85 State Universities have museums for a total of 182, but this number is sure to increase, especially after the recent conferences on art museums organized in September at the University of Cagliari and the one to be organized in December at the University of Macerata. 17 Universities, which have more than one museum, have created a coordinating body, Pole or System, 10 a Museum Centre. About other 13 Universities: 9 have only one museum, Chieti, Macerata, Napoli Orientale, Napoli Partenope, Roma Tre, Roma Tor Vergata, Scuola Normale Superiore di Pisa, Trieste; others 4 various numbers of museums, such as Urbino 2, Napoli Suor Orsola 3, Messina 5, Genoa 8. Of the different Poles, Systems or Centres, the instruments regulating them were investigated, such as the presence of Statutes or Regulations, the governing bodies and the staff present. For each of the 210 museums surveyed, the most significant elements characterizing them were sought, first of all as regards their specific organization, i.e. the person in charge, the reference department, the number of specifically dedicated staff, the number of objects and the size of the exhibition spaces, the services available to the public. The content, which constitutes the "raison d'être" of the museum, was also investigated, i.e. the subject areas, the 8 keywords of the museum, to which each museum's mission is linked, its history and publications. Of great interest are the results that emerged regarding openings; only 25 are closed, the majority, 141, offer free admission, 46 others charge, 106 many have fixed opening hours, others 67 by appointment.

As far as educational activities are concerned, almost all carry out activities for students, the foundation of their origin, and the majority, 138, employ internal staff, and 76 external staff. Concerning accessibility, a relevant issue to which all museums are devoting much attention, also highlighted in the recent definition of a museum adopted at the ICOM General Assembly in Prague in August 2022, almost all museums have barrier-free access, only a few, 47, have barriers, and more than half, 83, organize social inclusion activities, albeit mostly in a non-continuous manner. As far as museum communication is concerned, almost all of the museums, except 9, have a catalogue, and concerning the digitization, not many, 65, have a digital catalogue. Little attention is also paid to internationalization: only 65 museums have a multilingual catalogue.

The results of this census should be published on a dedicated website set up by CRUI.

²⁸ Vide Museums members of the National Museum System, http://musei.beniculturali.it/wp-content/uploads/2020/01/Elenco-dei-musei-aderenti-al-Sistema-museale-nazionale-aggiornato-a-maggio-2022.pdf [accessed: 9.12.2022].

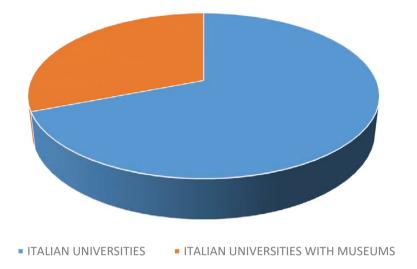


Fig. 1. Italian Universities with museum

Source: own elaboration.

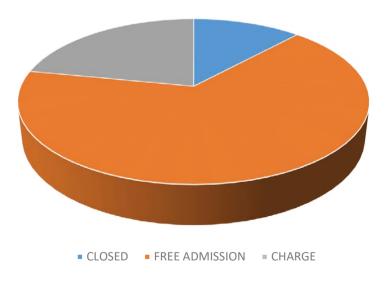


Fig. 2. Openings

Source: own elaboration.

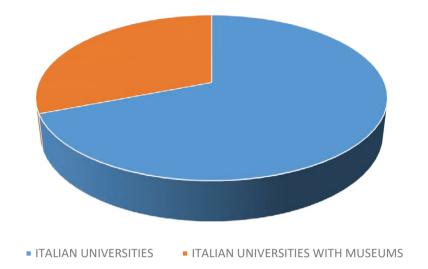


Fig. 3. Opening times Source: own elaboration.

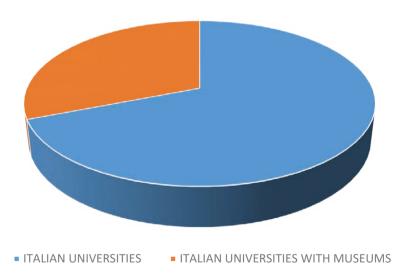


Fig. 4. Staff Source: own elaboration.

The new magazine University Heritage

The Network of Italian University Museums, with the contribution of a few other Universities, for a total of, 27, with 40 delegates, decided to create a web magazine *University Heritage*. *Cultural Heritage on the web*.²⁹ Its target is to discuss topics related to University cultural heritage, but also to open up the way for reflections on the description, conservation, enhancement, and protection of cultural heritage. This latter is broadly intended as a full set of resources inherited from the past, constantly evolving in spite of their actual owners, and considered, in accordance with the *Faro Convention*, as expression of the values, beliefs, knowledge, and tradition of civilizations.

This web magazine intends to stimulate creativity by spreading knowledge about innovative and sustainable methods and technologies applied to the management and communication of cultural heritage. The magazine ensures the utmost respect of biological, geological and landscape diversity and it will serve as a platform for the exchange of research outcomes and experiments focused on heritage, conceived as an instrument of knowledge and integration of the cultural memory of communities. It envisions an interdisciplinary approach to themes such as the good practices of sustainability, accessibility and participation to digital humanities, new digital culture, use of storytelling, and gamification, and to the necessary strategies imposed by the pandemic.

University Heritage not only gathers contributions from all Universities in the world, but intends to create, as its subtitle, Cultural Heritage on the web, a broad network of various professionals, Italian and foreigners, operating in the fields of knowledge, conservation, safeguard, and promotion of cultural heritage: to date, twenty topics have been covered, but these will be expanded with the contributions the magazine has received and will receive for future issues. A separate section concerns the contributions presented at the International Conference of CIDOC, International Committee of Documentation of ICOM, which took place in Geneva in 2020.

Bibliography

Corradini E., Attività di alternanza scuola-lavoro dei Musei Universitari della Rete Italiana con l'impiego delle tecnologie digitali [in:] Atti del XXIV Congresso dell'Associazione Nazionale Musei Scientifici, Il museo e i suoi contatti, Genova, 25–27 October 2017, eds. G. Doria, E. Falchetti, "Museologia Scientifica Memorie" 2019, No. 19, pp. 19–24, http://www.anms.it/riviste/dettaglio rivista/35 [accessed: 9.12.2022].

Corradini E., La catalogazione e nuove tecnologie informatiche per l'accessibilità al patrimonio naturalistico [in:] Memorie del XX Congresso ANMS – Associazione Nazionale Musei Scientifici, I musei delle scienze e la biodiversità, Ferrara, 17–19 November 2010, "Museologia Scientifica Memorie" 2013, No. 9, pp. 33–39, http://www.anms.it/riviste/dettaglio_rivista/18 [accessed: 9.12.2022].

²⁹ Vide https://universityheritage.eu/en/home-english/ [accessed: 9.12.2022].

- Corradini E., A challenge and an opportunity for University Museums in Italy: to be connected with all museums and cultural places, "University Museums and Collections Journal" 2019, No. 11 (1), p. 70, http://umac.icom.museum/wp-content/uploads/2019/08/UMA-CJ_11-1_2019.pdf [accessed: 9.12.2020].
- Corradini E., The common and interdisciplinary itineraries of the Italian University Museum Network: A challenge for sharing scientific education [in:] Proceedings of the 13th ICOM-UMAC & 45th annual ICOM-CECA Conference, squaring the circle? Research, museum, public: A common engagement towards effective communication, eds. M. Haggag, N. Gesché-Koning, Alexandria 2015, pp. 105–111, http://umac.icom.museum/wp-content/uploads/2017/08/UMAC-CECA_Alexandria.pdf [accessed: 9.12.2022].
- Corradini E., Educating to the scientific method and culture in the Italian University Museums, "Universal Journal of Educational Research" 2020, No. 8 (10), pp. 4891–4896, http://hdl. handle.net/11380/1224009 [accessed: 9.12.2022].
- Corradini E., Educational itineraries of the Italian University Museums Network for the lifelong guidance to the scientific culture and method [in:] Actas del Congreso Internacional Museos Universitarios, tradición y future, Madrid 3–5 December 2014, ed. I. García Fernández, Madrid, Universidad Complutense, 2015, pp. 489–494.
- Corradini E., *The future of the Italian University Museums: the National Museum System* [in:] *Museos y Universidades espacios compartidos*, eds. T. Nava Rodriguez, A. Pasoz Lopez, Somonte-Cenero, Gijón, Asturias 2020, pp. 25–52.
- Corradini E., The Italian University Museums Network to educate to the scientific method and culture [in:] Conference proceedings 4th International Virtual Conference on Educational Research and Innovation, Madrid 2020, pp. 430–433.
- Corradini E., The new communication technologies for sharing and participatory Italian University Museums [in:] Proceedings of the 11th Conference of the International Committee of ICOM for University Museums and Collections (UMAC), University collections and University history and identity. Lisbon, 21–25 September 2011, eds. N. Nyst, P. Stanbury, C. Weber, "University Museums and Collections Journal" 2012, No. 5, pp. 133–146, https://edoc.hu-berlin.de/handle/18452/387 [accessed: 9.12.2020].
- Corradini E., I nuovi percorsi educativi della Rete Italiana dei Musei Universitari [in:] Atti del XXVI Congresso ANMS Associazione Nazionale Musei Scientifici I musei al tempo della crisi. Problemi, soluzioni, opportunità, Trieste 16–18 November 2016, eds. S. Martellos, M. Celi, "Museologia Scientifica Memorie" 2019, No. 8, pp. 39–44, http://hdl.handle.net/11380/1184451 [accessed: 9.12.2022].
- Corradini E., *Percorsi educativi dedicati alla Fisica nel portale della Rete dei Musei Universitari Italiani*, "Atti del XXXIX Convegno annuale degli Storici della Fisica e dell'Astronomia" 2020, pp. 439–446, http://hdl.handle.net/11380/1224008 [accessed: 9.12.2022].
- Corradini E., Percorsi formativi della Rete dei Musei Universitari Italiani per l'orientamento permanente al metodo e alla cultura scientifica [in:] Memorie del XXIV Congresso dell'Associazione Nazionale Musei Scientifici, Contact Zone: i ruoli dei musei scientifici nella società contemporanea, Livorno 11–13 November 2014, eds. A. Borzatti de Loewenstern, A. Rosellia, E. Falchetti "Museologia Scientifica Memorie" 2017, No. 16, pp. 43–47, http://www.anms.it/riviste/dettaglio rivista/30 [accessed: 9.12.2022).
- Corradini E., Pomui. The web Portal of Italian University Museums [in:] Proceedings of the 10th Conference of the International Committee of ICOM for University Museums and Collections (UMAC), University Museums and Collections as Recorders of Cultural and Natural Communities Worldwide, Shanghai, China, 7–12 November 2010, eds. N. Nyst, P. Stanbury,

- C. Weber, "University Museums and Collections Journal" 2011, No. 4, pp. 77–84, https://edoc.hu-berlin.de/handle/18452/386 [accessed: 9.12.2022].
- Corradini E., La Rete dei Musei Universitari: diffusione e contestualizzazione del patrimonio culturale degli atenei, orientamento al metodo e alla cultura scientifica [in:] Atti del Convegno, Valorizzare il patrimonio culturale delle Università. Focus su arte e architetture, Genova 20–21 November 2014, eds. L. Magnani, L. Stagno, Genova 2016, pp. 131–142.
- Corradini E., Campanella L., Digital technologies for the first Network of the Italian University Museums, Annual Conference CIDOC Comité International pour la Documentation, Access and Understanding, Networking in the Digital Era, Dresda, 6–11 September 2014, pp. 42–49, http://cidoc.mini.icom.museum/ wp-content/uploads/sites/6/2018/12/D-1_Corradini_Campanella Paper.pdf [accessed: 9.12.2022].
- Corradini E., Campanella L., *The Italian University Museums Network for the guidance of the scientific culture* [in:] *Proceedings of the 46th annual ICOM-CECA Conference, Museum Education and Accessibility: Bridging the Gaps, Washington, D.C., USA, 17–21 September 2015*, ed. G. Monaco, Washington 2016, pp. 91–97.
- Corradini E., Campanella L., The multimedia technologies and the new realities for knowledge networking and valorisation of scientific cultural heritage: The role of the Italian University Museums Network [in:] Proceedings of the International Conference on Sustainable Cultural Heritage Management, ed. L. Marchegiani, Roma 2013, pp. 283–297.
- Corradini E., Campanella L., A national project for the Italian University Museums Network [in:] Proceedings of the 13th Conference of the International Committee of ICOM for University Museums and Collections (UMAC), evaluating change The University Museum, Rio de Janeiro, 10–17 August 2013, eds. N. Nyst, P. Stanbury, C. Weber, "University Museums and Collections Journal" 2014, No. 7, pp. 20–29, http://umac.icom.museum/wp-content/uploads/2017/08/UMACJ-7.pdf [accessed: 9.12.2022].
- Dragoni P., Livelli minimi di qualità [in:] La storia e il museo. Documenti e proposte per la valorizzazione del patrimonio museale, ed. C. Paparello, Foligno 2016, pp. 171–204.
- Plaza C., Museums in Universities: Predicaments and Potentialities, "Museum International" 2022, Vol. 74, Issue 1–2, pp. 74–85.

Sitography

- Act of Guidance, http://musei.beniculturali.it/wp-content/uploads/2016/04/Atto-di-indirizzo-sui-criteri-tecnico-scientifici-e-sugli-standard-di-funzionamento-e-sviluppo-dei-musei-DM-10-maggio-2001.pdf [accessed: 9.12.2022).
- Alternating school work activities operational guide for schools, Ministry of Education, University and Research, http://www.istruzione.it/allegati/2015/guidaASLinterattiva.pdf [accessed: 9.12.2020].
- Code of Ethics, https://icom.museum/en/resources/standards-guidelines/code-of-ethics/ [accessed: 9.12.2022].
- Faro Convention, https://www.coe.int/en/web/culture-and-heritage/faro-convention [accessed: 9.12.2022].
- General Catalogue of Cultural Heritage, https://catalogo.beniculturali.it/ [accessed: 9.12.2022].
- ICOM Italia publications, https://www.icom-italia.org/wp-content/uploads/2018/06/ICOMItalia. SMN .Quaderno2.novembre.2017.pdf [accessed: 9.12.2022].
- Information System of the Catalogue on the web, http://www.iccd.beniculturali.it/it/sigec-web [accessed: 9.12.2022].
- Magazine University Heritage, https://universityheritage.eu/ [accessed: 9.12.2022].

- Museums members of the National Museum System, http://musei.beniculturali.it/wp-content/uploads/2020/01/Elenco-dei-musei-aderenti-al-Sistema-museale-nazionale-aggiornato-a-maggio-2022.pdf [accessed: 9.12.2022].
- National Museum System, http://musei.beniculturali.it/notizie/notifiche/sistema-museale-nazio-nale-pubblicato-il-decreto, National Museum System [accessed: 9.12.2020].
- National Plan for Heritage Education, Ministry of Culture, Directorate General for Education and Research, https://dger.beniculturali.it/educazione/piano-nazionale-per-leducazi-one-al-patrimonio/ [accessed: 9.12.2022].
- Recommendation concerning the Protection and Promotion of Museums and Collections, their Diversity and their Role in Society, https://unesdoc.unesco.org/ark:/48223/pf0000246331 [accessed: 9.12.2022].
- Uniform Levels of Quality for museums, http://musei.beniculturali.it/wp-content/uplo-ads/2018/04/Allegato_I-Livelli-uniformi-di-qualit%C3%A0-per-i-musei_English.pdf [accessed: 9.12.2022].
- Webportal of the Network of the Italian University Museums, https://of.unimore.it/retemusei/www.retemuseiuniversitari.unimore.it/site/home.html [accessed: 9.12.2022].
- Webportal of the University Museums, http://www.pomui.unimore.it/site/home.html [accessed: 9.12.2022].