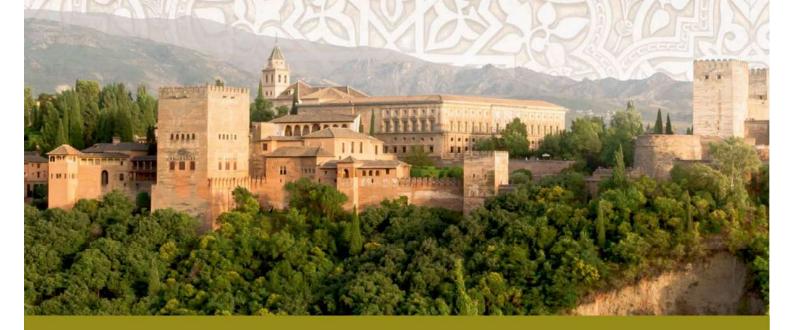
Proceedings of the 6th International Conference on Heritage and Sustainable Development 10th Anniversary Edition

VOLUME 1

**Edited by** 

Rogério Amoêda Sérgio Lira Cristina Pinheiro Juan M. Santiago Zaragoza Julio Calvo Serrano Fabián García Carrillo









In Memoriam
Professor Gregory Ashworth
(1941-2016)

10<sup>th</sup> Anniversary Edition

10<sup>th</sup> Anniversary Edition

Proceedings of the 6<sup>th</sup> International Conference on Heritage and Sustainable Development Volume 1

> Granada, Spain 12-15 June

> > Edited by

Rogério Amoêda Sérgio Lira Cristina Pinheiro Juan M. Santiago Zaragoza Julio Calvo Serrano Fabián García Carrillo





# Proceedings of the 6<sup>th</sup> International Conference on Heritage and Sustainable Development

Edited by Rogério Amoêda, Sérgio Lira, Cristina Pinheiro, Juan M. Santiago Zaragoza, Julio Calvo Serrano & Fabián García Carrillo

Cover photo: Alhambra, Granada

© 2018 The Editors and the Authors

All rights reserved. No part of this book may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without prior written permission from the Publisher.

#### e-ISBN 978-84-338-6261-7

Published by

Editorial Universidad de Granada Campus Universitario de Cartuja Colegio Máximo, s/n Granada, Spain https://editorial.ugr.es

Green Lines Institute for Sustainable Development Av. Alcaides de Faria, 377 S.12 4750-106 Barcelos, Portugal mail@greenlines-institute.org http://www.greenlines-institute.org

1st edition, June 2018

Legal Notice

The Editors and the Publisher are not responsible for the use which might be made of the following information.

#### Foreword

Heritage 2018 - 6<sup>th</sup> International Conference on Heritage and Sustainable Development celebrates the 10<sup>th</sup> anniversary of Heritage Conferences. As the previous editions HERITAGE 2018 aimed at maintaining a state of the art event regarding the relationships between forms and kinds of heritage and the framework of sustainable development concepts, namely the framework of the 2030 Agenda for Sustainable Development.

However, the four dimensions of sustainable development (environment, economics, society and culture) are, as in the past, the pillars of this event defining an approach on how to deal with the specific subject of heritage sustainability. Furthermore, beyond the traditional aspects of heritage preservation and safeguarding the relevance and significance of the sustainable development concept was to be discussed and scrutinised by some of the most eminent worldwide experts.

For a long time now, heritage is no longer considered as a mere memory or a cultural reference, or even a place or an object. As the previous editions of "Heritage" (2008, 2010, 2012, 2014 and 2016) have proven, heritage is moving towards broader and wider scenarios, where it often becomes the driven forces for commerce, business, leisure and politics. The Proceedings of the previous editions of this conference are the "living" proof of this trend.

As stated by some the Sustainable Development Goals of the 2030 Agenda, the role of cultural and social issues keeps enlarging the statement where environment and economics had initial the main role. The environmentalist approach (conceiving the world as an ecological system) enhanced the idea of a globalised world, where different geographic dimensions of actions, both local and global, emerged as the main relationships between producers, consumers and cultural specificities of peoples, philosophies and religions. In such a global context heritage became one of the key aspects for the enlargement of sustainable development concepts. Heritage is often seen through its cultural definition and no further discussion seams to be appropriate. However, sustainable development brings heritage concepts to another dimension, as it establishes profound relationships with economics, environment, and social aspects.

Nowadays, heritage preservation and safeguarding is constantly facing new and complex problems. Degradation of Heritage sites is not any more just a result of materials ageing or environmental actions. Factors such as global and local pollution, climate change, poverty, religion, tourism, commodification, ideologies and war (among others) are now in the cutting edge for the emerging of new approaches, concerns and visions about heritage. Recent events in the Middle-East and other parts of the World are saddling proving the rightness of these assertions and deserve our attention.

Thus, HERITAGE 2018 - 6th International Conference on Heritage and Sustainable Development proposed a global view on how heritage is being contextualised in relation with the four dimensions of sustainable development. What is being done in terms of research, future directions, methodologies, working tools and other significant aspects of both theoretical and fieldwork approaches were the aims of this International Conference. Furthermore, heritage governance, and education were brought into discussion as key factors for enlightenment of future global strategies for heritage preservation and safeguarding.

A special chapter on Preservation of Muslim heritage was included in this edition because of its singular and utmost significance and because the Venue of this edition was the city of Granada, one of the most extraordinary places to understand and feel the merging of cultures, arts and traditions. When religious and cultural issues are raising significant misunderstandings Heritage 2018 aimed at contributing to a valid, peaceful and fruitful discussion under the broad umbrella of sustainable development goals.

Authors submitting papers to Heritage 2018 were encouraged to address one of the topics of the Conference by providing evidence on past experience and ongoing research work. As a result, Heritage 2018 welcomed a significant number of papers and presentations addressing field work and case studies but also theoretical approaches on a diversity of thematic. As in the previous editions Early Stage Researchers were welcome to share the results of their research projects, namely post-graduation projects and doctoral projects, among others.

The Organising Committee also expresses its gratitude to all Members of the Scientific Committee who reviewed the papers and made suggestions that improved the quality of individual work and the over-all quality of the event.

The editors would like to express their gratefulness to all the partners and sponsors of this edition of Heritage who joined the effort to make a significant Conference. Our special word or recognition to the University of Granada that joined efforts with Green Lines Institute to make this event. Also to the Municipality of Granada, to the Bureau of Tourism of Granada and to the Council of the Alhambra and Generalife our recognition for their participation.

The Editors

Rogério Amoêda Sérgio Lira Cristina Pinheiro Juan M. Santiago Zaragoza Julio Calvo Serrano Fabián García Carrillo

# Organising Committee

# **Green Lines Institute for Sustainable Development**

Rogério Amoêda

Sérgio Lira

Cristina Pinheiro

# University of Granada

Juan Manuel Santiago Zaragoza

Julio Calvo Serrano

Fabián García Carrillo

#### Scientific Committee

Alessio Cardaci

University of Bergamo, Italy

Alison McCleery

Edinburgh Napier University, United Kingdom

Alistair McCleery

Edinburgh Napier University, United Kingdom

Ana Maria Cruz Valdivieso

University of Granada, Spain

Ángela Barrios Padura

University of Seville, Spain

Annette B. Fromm

**USA** 

Antonella Versaci

University of Enna KORE, Italy

Antonio Miguel Nogués-Pedregal

University Miguel Hernández, Spain

Arwel Jones

Arwel Jones Associates, United Kingdom

Ataa Alsalloum

University of Damascus, Syria

Brian Osborne

Queen's University, Canada

Cláudia Ramos

University Fernando Pessoa, Portugal

Cristina Pinheiro

Green Lines Institute, Portugal

Darko Babic

University of Zagreb, Croatia

David Hidalgo García

University of Granada, Spain

Debbie Whelan

University of Lincoln, United Kingdom

Eliseu Carbonell

Catalan Institute for Cultural Heritage Research, Spain

Elizabeth Aitken Rose

University of Auckland, New Zealand

Elizabeth Carnegie

University of Sheffield, United Kingdom

Enrico Quagliarini

Polytechnic University of Marche, Italy

Esther Giani

University of Venice, Italy

Ewa Stachura

University of Applied Sciences in Raciborz, Poland

Fabián García Carillo

University of Granada, Spain

Francesca Geremia

Roma Tre University, Italy

Francisco Javier Lafuente Bolívar

University of Granada, Spain

Francisco Reimão Queiroga

University Fernando Pessoa, Portugal

Gemma Domènech Casadevall

Catalan Institute of Research on Cultural Heritage, Spain

Humberto Varum

University of Porto, Portugal

Hwee-San Tan

University of London, United Kingdom

Isotta Cortesi

University of Naples Federico II, Italy

John Carman

University of Birmingham, United Kingdom

John E. Tunbridge

Carlton University, Canada

José Saporiti Machado

National Laboratory of Civil Engineering, Portugal

Josep Lluis I Ginovart

Universitat Rovira i Virgili, Spain

Juan Garcia-Esparza

Universitat Jaume I, Spain

Juan Manuel Santiago Zaragoza

University of Granada, Spain

Julio Calvo Serrano

University of Granada, Spain

Karla Nunes Pena

Curtin University, Australia

Lourdes Gutiérrez-Carrillo University of Granada, Spain

Maria Paz Sáez-Pérez University of Granada, Spain

Marko Koščak

University of Maribor, Slovenia

Mary Kenny

Eastern Connecticut State University, USA

Matthew Winsor Rofe

The University of South Australia, Australia

Michael Ripmeester

Brock University, Canada

Nunzia Borrelli

University of Milano-Bicocca, Italy

Pamela Sezgin

University of North Georgia, USA

Paulo Lourenço

University of Minho, Portugal

**Peter Davis** 

Newcastle University, United Kingdom

Pilar Mercader Moyano

University of Seville, Spain

Remah Gharib

Hamad Bin Khalifa University, Qatar

Ricardo Mateus

University of Minho, Portugal

Rogério Amoêda

University Lusíada, Portugal

Roy Jones

Curtin University, Australia

Sabine Marschall

University of KwaZulu-Natal, South Africa

Sally Helen Stone

Manchester School of Architecture, United Kingdom

Sérgio Lira

CLEPUL-Porto / Green Lines Institute, Portugal

Tony O'Rourke

London Institute of Banking & Finance and Coopera-

tives, United Kingdom

Voltaire Garcês Cang

RINRI Institute of Ethics, Japan

Xosé A. Armesto-López

University of Barcelona, Spain

Zeynep Aktüre

Izmir Institute of Technology, Turkey

# Partners





# AYUNTAMIENTO DE GRANADA







Foreword

# Contents

Organizing Committee	vii
Scientific Committee	ix
Partners	xi
Contents	xiii
VOLUME 1	
Chapter 1 - Heritage and governance for sustainability	
Impact of politics on heritage conservation - a case study of Pakistan A. Aqdus	3
Management models for public cultural heritage: a comparison between the Italian and Russian approaches  C. Boniotti, A. Sedova, V. N. Pracchi & G. Ciaramella	13
Environmental governance possibilities: a case from Canada's mining sector  B. Bradshaw	23
What sustaining heritage really does  J. Carman	29
Tourism sustainability indicators for governing urban destinations J. C. Fernández de Córdova & A. Torres-Delgado	35
Finding a sustainable solution to Chinese street shops redevelopment V. K. Go	45
Architecture of emptiness: green walls and indigenous at <i>favelas</i> , Brazil D. P. Guimaraens	51

v

Building typology, energy efficiency and historical preservation: a literature review M. Lei & A. P. Roders	63
Controversies in heritage governance: the dynamics of multilevel stakeholders G. Manal, F. Jihad & T. Jacques	71
Management system of the Amazon cultural landscape and the challenge for sustainable development J. A. Marta & K. N. Penna	81
Transformation of cities in the urban context of heritage care in the Czech Republic I. Merunková & V. Merunka	89
Wasted heritage. Between policies for urban heritage and land consumption P. Pellegrini & E. Micelli	99
Protocol of integrated sustainable interventions for historic small smart cities: the mitigation of disaster risk	111
V. Pica & M. Cerasoli	
Proposal of geothermal energy to a single family house in Montefrío (Granada)  F. Rodriguez Fajardo, D. Hidalgo García & J. Arco Díaz	123
Beyond historic urban cores: moving from Conservation planning to heritage policies in Italy R. Wacogne	133
Chapter 2 - Heritage and society	
Asmara. History and contemporary effects  D. Abraha & B. Teame, L. Callea & N. Cattaneo	141
Documents of the municipal public policy for protection of cultural heritage: the consequences of non-use and new proposal for simplifying the information understanding	153
R. M. A. Baracho & K. J. Dutra	
Designing for the built heritage: the Art as a trigger of urban regeneration process. From the inside to the outside	161
M. Borsotti & S. Pistidda	
Syrian heritage and memory: present, past and future  Z. Elcheikh	173
The role of material cultures in the production of Chinese-Indonesian identities. Case study: Chinese Indonesian in Lasem, Indonesia  A. Februandari	179
Re_conditioning: a sustainable life project  A. Gaiani	187
Wikipromotion?: The use of Wikipedia to spread the World Cultural Heritage in Spain	193

Exploring value-creating processes within the Post Industrial periphery. The case of Poblenou in Barcelona	203
M. Guirnaldos Díaz	
What runs under your skin - the monastic link to co-housing K. Lens	213
Building for working class after Spanish Civil War. Single-family houses versus isolated buildings blocks, the experience of Sabadell  L. Marín-i-Sellarés	225
Between social cohesion and social distinction: intangible cultural heritage and sustainable social development  M. Meissner	235
From the problem of squatting to a new living model M. Molinari	245
The World Monuments Watch as conduit for community activism S. D. Ortiz	257
Digital tools and participatory design methodologies applied to heritage sustainability C. Rico Ramírez, F. Chacón Chacón & S. Uribe-Pérez	265
Attracting private capital to heritage resources: tools, strategies, and incentives D. D. Rypkema & B. Grosicki	275
The role of social relations in urban preservation movement M. Siagian	283
Towards a historic urban landscape approach: community engagement through local population's perception on heritage A. T. Silva, T. C. Ferreira & L. Pinto	295
Infill projects and sustainable land use in heritage zones: how to reconcile competing interest sets E. Stachura	307
Snippets from the north: architects in Durban and their response to identity, common culture and resistance in the 1930s  D. Whelan	321
Conserving the significance of a changing modern transport service: the effect of Crossrail on Isambard Kingdom Brunel's Great Western Railway  T. R. G. Wilson	333
Exploring a design strategy of socially sustainable development for traditional village protection F. Xu & X. J. Tao	345
The vernacular features of the built heritage of Zile (Tokat/Turkey)  C. Yücel & A. Erkara	359

# **Chapter 3 - Heritage and environment**

Revisiting the Alhambra architecture: Biophilic Design approach A. al-Rhodesly, K. al-Hagla & T. Farghaly & M. el-Gamal	373
The perception of heritage values and their analysis by using GIS tools in vernacular heritage landscapes	387
P. Altaba Tena & J. A. García-Esparza  Historical heritage conservation versus energy efficiency. Traditional technological knowledge as design answer?  S. Baiani & M. Pascucci	397
Wildfires in Portugal and the loss of rural heritage - Álvaro village case study M. L. Belgas, J. Mascarenhas & F. G. Branco	407
Climate responsive strategies for industrial heritage: case study the "Reales Atarazanas de Sevilla" M. V. Castilla, B. Sánchez-Montañés & L. González-Boado	419
Inclusivity in cultural heritage sites; Topkapi Palace E. Çekmecelioğlu & A. Sungur	427
Bicycle networks as a new ground project. The case study of Montesilvano A. A. Clemente	439
Remembering San Juan: a post-disaster understanding of historic preservation N. K. N. Correa	449
Social Pacts as a tool to protect the cultural landscape in the Amazon C. M. Figueiredo & K. N. Penna	459
Muslim heritage and environment: the case of the watchtowers of the nasrid kingdom of Granada (thirteenth to fifteenth century)  L. J. García-Pulido & J. Ruiz-Jaramillo	471
Enhancing the resilience of the urban system. A study for the city of Parma (I) A. Gravante, P. Rota & M. Zazzi	481
A "smart" low-impact system for guaranteeing sustainable visitors' access B. Gregorini, G. Bernardini, A. Gianangeli, E. Quagliarini & M. D'Orazio	493
A framework of sustainable architecture in housing design for heritage and environment Y. Kuan & V. Menno	505
Tocal Function Centre: new use for an old shed E. Martin	519
Mountain heritage in danger. The shelters of Sierra Nevada, Granada, Spain F. Martín de la Torre, J. M. Santiago Zaragoza & F. García-Carrillo	535
Building a new natural environment/building a new identity. The case study of the natural and rural landscape of the Banditaccia necropolis at Cerveteri, starting from the ICOMOS's evaluation P. Porretta	545

Nature Based Solutions to adapt cities to climate change R. Rey Mellado, F. Moreno Vargas, T. Franchini Alonso & C. Pozo Sánchez	555
Rehabilitation of industrial heritage as sustainable strategy: keys for the case study of "La Trinidad" Glass Factory  B. Sánchez-Montañés, B. Rey-Álvarez, M. V. Castilla & L. González-Boado	563
Built environment of Curonian Spit as UNESCO world heritage site: recent changes and perspective D. Traškinaitė	571
The Sustainable Garden of Pirámides de Güímar  D. Valcárcel Ortiz	579
The urban dimensions of historic sizes with heritage protection in the Czech Republic J. Zdráhalová, J. Jehlík & V. Rýpar	587
Chapter 4 - Heritage and economics	
Cinque Terre: terraced landscape preservation and tourism sustainability S. Acacia, M. Casanova, E. Macchioni, F. Pompejano, C. Repetti & F. Segantin	603
Heritage-led urban regeneration as a catalyst for sustainable urban development A. Elseragy, A. Elnokaly & M. Abul-Ela	613
Reviewing the definition of museum. The not for profit statement in Catalonian museums A. Laporte, J. Bobes & X. Ulled Bertran	627
Beyond tourism: contributions of heritage to the local economy D. D. Rypkema & B. Grosicki	635
The role of a music archive in the sustainable development of rural communities based in the Eastern Cape, South Africa  L. Watkins	645
Authenticity as the first condition of the value of artworks and heritage. Modern forensic sciences methods in the authentication process of artworks  D. Wilk	653
Chapter 5 - Heritage and culture	
Bullfight of the sea: fishing gears and artefacts in Algarve (Portugal) between the 30s and 60s N. Batista & M. M. Gonçalves	665
Community crafts and culture: empowering indigenous communities K. Brown & J. A. Brown, T. Muñoz Brenes & A. Soto Chaves	677
Death of the intangible: a case study of heritage loss in Japan V. Cang & Y. Kitamura	689
Requalification for tourism: the ancient palmenti around Etna as attractors F. Cantone	697

Burning the ships: the edge of maritime heritage  E. Carbonell	707
Cultural heritage and territorial development: a comparative analysis between Italy and Morocco I. Caruso, T. Vitolo & A. Bertini	719
Historic Sites as a system for the preservation of architectural heritage: the case of Granada A. Castellón Valderrama	731
Goiás State University as locus for heritage preservation: genesis of a memory center P. R. Chagas, M. A. Cunha Torres, A. C. Filgueiras & F. R. Gouveia	741
Historical re-evaluation in central European capital cities H. Clancy	749
Future heritage. Starting again from culture A. A. Clemente	759
Ancient bridges of Sicily: punctual signs of a past that disappears T. Firrone, C. Bustinto & A. Zappa	767
Water, wells, wheels and wealth M. M. Gonçalves, M. T. Pérez-Cano & S. Rosendahl	779
Ecocriticism: declination of a complex memory C. Grandi	791
Buildings tell the truth: Fener-Balat as a case of vernacular in the midst of Istanbul Ş. Ö. Gür & S. Y. Erdinç	797
Old factory - new Cultural Centre: Historical Bomonti Beer Factory in Istanbul G. K. Heinz	805
Colonization villages: urban trace and arquitectural typology. The case of Peñuelas  A. I. Jiménez-Sánchez, F. J. Lafuente-Bolívar, G. Fernández-Adarve & J. M. Santiago-Zaragoza	815
Changing representations of heritage in Kings Park, Perth, Western Australia R. Jones	825
Spatial identity and cultural heritage hidden in mundane street objects M. Juvancic	831
Preservation and keeping alive of intangible cultural heritage project N. Kiliç & Í Erdoğan	839
Historical Database of Istanbul  E. Kudde & Í. Ílze	843
Pop-up heritage: conservation of temporary architecture - a case study of Bamboo Theatres in Hong Kong T. Y. Man	849
From rejection to consecration. Italian key culture elements in Montreal sustainable solutions  A. Masson-Labouté	861

The management of municipal property castles: an impossible challenge? Analysis of the Castalla Castle Heritage Site (Castalla, Spain)  J. A. Mira Rico	867
River recovery: strategies to improve the heritage in order to plan a sustainable city. The case study of Rio Darro in Granada F. P. Mondelli	877
Ecology of mind and ability to maintain - relevance of inter-dependence of education, cognitive psychology and inherited wisdom  S. D. Paich	887
Patrimonialisation processes in the mining landscape of the Montes de Triano and Galdames (Bizkaia, Spain): methodological proposal  M. C. Porcal-Gonzalo & O. Ormaetxea-Arenaza	899
Politics and memory: nationalism revisited C. Ramos & S. Lira	909
Characterization of the lime mortars of Rui Barbosa House Museum in Rio de Janeiro - Brazil R. C. C. Ribeiro, D. P. S. Dalto & L. C. R. Moura	919
Re-enactment and living history events as a tool for community projects: the role of museums A. Rojas Rabaneda	929
The urban evolution of the surroundings of the Palacio de los Enríquez de Baza (Granada) F. J. Salas-Martínez & J. M. Santiago-Zaragoza	935
Health and cultural heritage: tracing the perceptions of the role of architectural heritage in health and wellbeing	945
H. H. J. Sektani, A. P. Roders, M. Mohammadi & M. Khayat	
Preservation and keeping alive of intangible cultural heritage project  J. M. Silva	951
Comprehensive approach to preventive care of cultural heritage objects (a case of cuneiform collection)	961
P. Štefcová, O. Kohout, L. Polák, J. Valach & P. Zemánek	
Conservation and valorization strategies for the recovery of Vulcania shopping centre in Catania A. Versaci, L. R. Fauzìa, G. Ferrini & A. Cardaci	969
Heritage exhibition and preservation based on cultural identity cultivating: a case study of Ecomuseum on Mosuo Minority, Lugu Lake, Yunnan, China Q. Wei	981
Arctic shipwrecks as heritage icons and ships as symbols of cultural identity S. Wickler	989
Furniture and other household objects as integrative elements of the indigenous house in East Mexico L. F. Zapata Montalvo	1001
Index of Authors	1013

1153

#### **VOLUME 2**

#### **Chapter 6 - Heritage and education for the future**

M. Abdel-Wahab, S. McGibbon & Y. Liang

Emirates: Dubai as a case study

A. O. AlShaibah

Education to cultural heritage survey and representation for preservation: the case study of Jodhpur the "blue city", India	1025
E. Borin, F. Maietti & L. Rossato	
Built heritage and development cooperation. Study, preservation and rehabilitation of built heritage in medinas of northern Morocco	1035
J. Calvo Serrano, C. Malagón Luesma, F. García Carrillo & C. Luque Campaña	
'Astitva' - a case study on preserving heritage and culture V. Deshpande & R. Gokhale	1047
The importance of education in heritage valorisation: the case of Aspiring Geopark Estrela M. Fernandes, E. de Castro, F. Loureiro, F. Patrocínio, H. Gomes & G. Firmino	1053
Innovative training for development cooperation projects. Technical improvements in construction techniques from vernacular architecture	1061
R. A. Jiménez-Expósito, A. Barrios-Padura, M. Molina-Huelva & G. Stasi	
Methodological strategies used in the conservation and restoration of wall paintings subject T. López-Martínez, A. I. Calero-Castillo, A. García-Bueno & V. J. Medina-Flórez	1071
Cultural heritage as an educational base for the traditional pillars of sustainable development K. N. Penna	1081
World Cultural Heritage from the perspective of young people - preliminary results of a qualitative study	1091
V. Röll & C. Meyer	
A catalogue of interest elements of a colonized settlement in the province of Granada S. Téllez García, F. J. Lafuente Bolívar, G. Fernández Adarve & J. M. Santiago Zaragoza	1103
Towards a new future: the San Francisco Legacy Business Program as a model for intangible heritage preservation	1113
B. R. Turner & D. Aggarwal	
Chapter 7 - Preservation of historic buildings and structures	
The uniqueness of Erbil Citadel Buffer Zone as compared to the general theory of Buffer Zones A. Abbas	1125
Digital surveying for historic buildings repair and maintenance: two demonstration projects from Scotland's built heritage	1139

Digital heritage: preservation of architectural heritage in preserving heritage in the United Arab

Conserve not conserve: vulnerabilities and opportunities in sustainable conservation of Tong Laus in Hong Kong C. H. Angus	1159
Contemporary conservation methods reflections on human behavior "applications in adaptive reuse of heritage spaces"  A. M. A. E. Azim & N. M. A. E. Moneim	1167
Influence of several metabolites excreted by microorganisms on building stone deterioration R. Bailón-Moreno, V. M. Torres-Agudo, M. Bolívar-Feriche, F. C. Bolívar-Galiano & C. Abad-Ruiz	1177
The need for innovation in historical building restoration projects  B. Balaban-Okten & M. S. Okten	1189
Cohousing as a model of sustainable rehabilitation and active preservation for small historical centers in Italy	1199
A. Bellicoso, A. Tosone, P. De Beradinis & R. Morganti	
Chromatic alterations by microalgae at National Mall fountains in Washington D. C. (USA) F. C. Bolívar-Galiano, C. Abad-Ruiz, A. Yebra, J. Romero-Noguera & P. Sánchez-Castillo	1211
The geography of the military and its urban heritage: a case study in the city of Rio de Janeiro (RJ, Brazil)	1219
D. S. Cardoso & M. S. Vieira	
The comparision of mechanical characteristic and estimation for restoring force of different SASHI-GAMOI joint in traditional wooden residents	1227
X. Chen & N. Takiyama	
Surveying and assessment of dry stone constructions by means of photogrammetry as a tool for conservation	1237
A. Costa-Jover, S. Coll-Pla, C. Mallafrè Balsells, A. Saballs & D. Moreno Garcia	
Validation of a new non-destructive test to assess the mechanical quality of new pieces of glass smalti from Murano (Italy) used in the <i>trencadis</i> cladding M. Cuesta, J. L. L. Zamora, J. Roset & M. Vicente	1247
The adaptive reuse of Palazzo Ardinghelli in L'Aquila D. Di Donato, R. Morganti, A. Tosone & M. Abita	1257
Spaces for socialising in contemporary Catalonia. Architectural heritage between disappearance and survival  G. Domènech Casadevall	1267
Historic earth roofing in Ibiza. A research of its performance in the rain E. Escudero Lafont, S. García Morales & S. Roig Planells	1273
The reuse of cultural heritage as an opportunity for urban regeneration K. Fabbricatti, M. R. Pinto & P. Miano	1285
The relationship between conservation and protection in seismic risk sensitive areas C. C. Falasca & A. Gigante	1297
The Albaycin in Granada: studies and research for the restoration guidelines F. J. Gallego Roca, F. Geremia, G. Marino, M. Palma Crespo, R. Sposini, M. Zampilli & C. Zanin	1307

The reality of the <i>Cortijo del Fraile</i> . A possible intervention L. M. García Ruiz, E. Puertas García & M. P. Sáez Pérez	1319
Veteran trees in Melbourne's urban landscape under threat: the case of St Kilda Road Boulevard R. J. Green	1329
Port heritage in city-port transformations: opportunities or constraints?  A. L. Grindlay, I. Bestué-Cardiel, M. I. Rodríguez-Rojas & E. Molero-Melgarejo	1339
Application of environment friendly halogen-free flame retardant in the rehabilitation of historic wooden buildings N. Guo, W. Ji, E. HW. Chan & E. H. K. Yung	1351
An evaluation of the use of reality technologies in conservation of cultural heritage A. U. Hamurcu & A. Hamurcu	1355
Structural characteristics of traditional thatched <i>Chumon-Zukuri</i> houses in the old mountain village of Maesawa, Japan K. Kawashima, X. Chen & N. Takiyama	1363
Portuguese state-subsidized housing projects. A general overview of a recent heritage G. Lameira & L. Rocha	1373
Postwar recomposition: Warsaw	1385
J. M. López Jiménez, J. C. Gómez Vargas & F. Moreno Vargas	
3D imaging to improve damage restorations: the case of the Papal Basilica and Sacred Convent of Saint Francis in Assisi, Italy	1395
S. Marsella & F. Garzia	
Using Spectral Analysis of Surface Waves to characterize construction materials in built Cultural Heritage: the Church of Saint Justo & Pastor	1407
F. Martínez Soto, E. Puertas; R. Gallego & F.J. Suarez	
Italian encounters around the notion of the sustainable restoration (2015 - 2017)  R. Martino	1417
Patios and Vilas of Lisbon, an empirical and rational construction V. P. Matos	1427
BIM - based decision - making process for resilience assessment in adaptive reuse M. Morandotti & C. Cecchini	1439
Recycling of Roman bricks from Romula M. Negru, P. Badica, D. Batalu, F. Mihuţ & I. Poll	1451
The history of Gediz Houses, survey work, and restoration projects A. Özodabas, D. Onsekíz	1463
The baraccato anti-seismic constructive system: enhancement and preservation of the existing heritage in southern Italy	1473
E. Pagano, G. Salerno & M. Zampilli	
Design and inclusiveness in restoring cultural built heritage: 15 <sup>th</sup> Century Hospital in Velez-Malaga B. Pérez Doncel, A. Galán González & H. Elkadi	1483

The 19 <sup>th</sup> Century iron architecture of industrial buildings. A formal and constructive comparison between two case studies  R. Putzolu & M. Bosch	1491
Consolidation of the facade stones of the Church of N. S. da Candelária - Rio de Janeiro, Brazil R. C. Ribeiro	1503
Guarding the border: watchtowers of the Nasrid Kingdom of Granada. Characterization and vulnerability assessment  J. Ruiz-Jaramillo & L. J. García-Pulido	1511
San Juan de Dios Church's dome. Constructive and structural analysis of a baroque vault in Granada (Spain)  J. Suarez, R. Bravo & J. A. González	1519
Encarnación Church's dome in Montefrío. Constructive and structural analysis of a neoclassical dome in Granada (Spain)  J. Suarez, R. Bravo & J. A. González	1533
<i>"Saints Justo y Pastor"</i> church's dome. Constructive and structural analysis of a renaissance dome in Granada (Spain)  J. Suarez, R. Bravo & J. A. González	1545
Structural characteristics of remodeled traditional thatched houses in the old post town of Ouchi-Juku N. Takiyama, X. Chen, A. Hirosue & K. Kawashima	1557
Material characteristics of masonry wall of cultural heritage buildings in Bagan archaeological zone, Myanmar	1565
N. Takiyama, X. Chen, A. Yamaguchi, W. Y. Aung, S. H. Zaw, S. Kim, M. Miyamoto & M. Koshihara	
Seismic damage and vibration properties of cultural heritage buildings in Bagan archaeological zone, Myanmar	1575
N. Takiyama, S. Kim, H. Sato & A. Martinez	
Evaluating the appropriateness of new development introduced inside ensembles of modern heritage to their heritage qualities  A. G. A. Tawab	1583
The interventions of Alejandro Ferrant in the Roman amphitheatre of Tarragona  J. M. Toldrà Domingo, P. Solà-Morales, J. M. Macias Solé, J. M. Puche Fontanilles & I. Fernández Pino	1597
Surveying a monument: the Eski Imaret Camii in Istanbul G. Uner, M. Esmer & U. Almac	1607
Changes in vernacular houses varied by user needs: case studies of Karacakaya, Ustundal, and Dirlik in Trabzon  E. B. Var & H. Kobayashi	1619
Two instruments to preserve the Heritage: historical-constructive study and reuse M. C. Vílchez Lara	1631
Local community and authorities' role on architectural preservation: a study of rock-hewn churches preservation in Eastern Tigray, Ethiopia  E. T. Weldegiorgis & T. Ozawa	1641

# **Chapter 8 - Heritage and cultural tourism**

Hermopolis and intellectual tourism - itineraries of the mind M. Abdel-Nasser	1655
Reading the urban historical sedimentation throughout the eyes of a novelist. A digital tool to raise tourists awareness of cultural heritage  L. Bollini	1661
Contributions of creative tourism to sustainable development: the CREATOUR research and incubation project	1671
S. M. Cabeça, A. R. Gonçalves, J. F. Marques & M. Tavares	
The Montado Great Route Sustainable tourism: threats and opportunities C. Carriço, T. Batista, P. Mendes & J. M. Mascarenhas	1681
Cultural Tourism vs. Binge Drinking - lack of management and conflicts in the inner city of Budapest	1689
A. Csizmady, G. Olt, M. K. Smith & I. Sziva	
Cultural heritage and strengthening of local image: Golubac in Iron Gates Region, Serbia A. Djukic, B. Antonic, T. Radic & J. Jokovic	1701
Exploring the cultural tourism potential of the company town' heritage in Friuli Venezia Giulia Region (NE Italy)	1713
A. Frangipane & M. V. Santi	
Accessibility of the Tourist Information Office in Pavia: a contemporary ramp for a medieval building  A. Greco, V. Giacometti & G. Pietra	1723
	. =
Urban sustainability through economic activities: Cathedral area in Granada F. Hita-Suárez, F. Salmerón-Escobar & J. M. Santiago-Zaragoza	1731
Efforts concerning the safeguarding of the forest-related biocultural heritage in Europe E. Johann	1741
Inter-relationship between Heritage & Cultural Tourism: experiences from Slovenia & Ireland M. Koščak & T. O'Rourke	1753
Towards a new computational approach to conserving the spatial authenticity of historic towns within a heritage tourism framework P. Liao, M. Rofe, C. Brisbin & N. Gu	1769
The vernacular architecture as a potential element for the development of cultural tourism A. P. Machado, C. Baptista, F. S. Salvador & L. M. Figueira	1781
Staging monuments. How the cultural tourism could affects the conservation strategies C. Mariotti & A. Zampini	1791
Conditioning factors of the social impacts on local communities within cultural destinations J. M. Martín Martín, J. A. Salinas Fernández & J. A. Rodríguez Martín	1803
Brasília and the Orla Project (from 1992 to 2017) an insight from the point of view of the cultural landscape and the cultural tourism: The Concha Acústica Cultural Pole  A. E. Medeiros & O. L. Ferreira	1819

Aiming at a sustainable tourism management: infield study of the indoor environmental conditions of two heritage libraries	1831
L. D. Pereira, A. R. Gaspar, J. J. Costa & F. B. Lamas	
Achilles and the Tortoise: a paradox between authenticity and cultural tourism V. Pracchi	1841
Landscape values for tourists in traditional Silesian health resorts. Szczawno-Zdrój, Jedlina-Zdrój and Sokołowsko M. H. Skomorowska	1851
A Study of villa design approaches related to Hindu philosophy in space since the late 90s in Bali S. P. S. Soegondo, T. Ozawa & H. Ping	1859
Cultural heritage, tourism and the sustainable development of the local communities: the case of the manor houses in Romania C. Vegheş	1871
Tourist imaginaries of Mexico: particularities of the Architectural Heritage visited by tourist cruise ships in the City of Ensenada, Baja California, Mexico  L. S. Zamudio Vega	1883
Chapter 9 - Muslim heritage	
Preserving and valorizing the settlement system of Southern Morocco A. Bertini, C. Cuturi, I. Caruso & T. Vitolo	1895
Changes in the Alhambra Palaces algal biodeterioration after 25 years F. C. Bolívar-Galiano, C. Abad-Ruiz, E. Hidalgo-Hernández, R. Bailón-Moreno, V. M. Torres-Agudo, M. Bolívar-Feriche & P. Sánchez-Castillo	1907
Augmenting the art of the Alhambra: a digital perspective for al-Andalus heritage sustainability E. La Duca	1915
The graphic survey as a basis for the intervention on historical heritage. The case of a dwelling in the medina of Chefchaouene	1923
C. Luque Campaña, J. Calvo Serrano, C. Malagón Luesma & F. García Carrillo	
Almohad <i>sebka</i> as a reference element in the Gothic-Mudejar architecture of Seville: analysis through digital models  J. F. Molina Rozalem & A. Atanasio Guisado	1933
	1045
Masjid Jamek: Kuala Lumpur's important Muslim heritage; a case study on the challenges and sustainability in the development of its surroundings H. J. Ng & R. A. Rashid	1945
	1055
The detached farmstead towers from 12 <sup>th</sup> Century Sierra de Segura (Jaén, Spain): contributions to the territorial settlement of the al-Andalus period. Results of the R&D&I project #ProyectoSegura S. Quesada-García & G. Romero-Vergara	1955
Reconsidering Islamic art and Muslim heritage: migration, cultural exchange and the dominance of	1967
the Arab-centric aesthetic  L. F. Ryan	1707

The Islamic heritage in the Palace of the Infantado of Guadalajara A. M. Trallero Sanz	1983
Chapter 10 - Sacred spaces and religious heritage	
Tracks on landscape D. Besana	2001
Sleeping beauties. Ancient princesses in developing municipalities D. Besana & A. Chiesa	2011
Little gems carved in the city: the new life of the abandoned sacred spaces  D. Besana & S. Matranga	2021
An intangible cultural heritage turned to tangible. Music, literature, moral and faith. The case of the Spanish <i>Chant of the Sibyl</i> M. Á. Ferrer-Forés	2031
The reuse of former ecclesiastical buildings as university S. Lucenti	2045
Pathology and memories of the pantheons within the Jesus cemetery of Murcia J. Marín & M. P. Sáez	2057
Historical climate assessment of a baroque Portuguese church towards the design of an appropriate heating system embracing heritage conservation  L. D. Pereira, A. R. Gaspar, J. J. Costa & F. B. Lamas	2067
The sacred in religious architecture trough history L. M. L Sêrro	2079
Interpretation of sacred sites: methodological challenges in balancing materiality and spirituality A. Thouki	2093
A forgotten religious heritage in the north of Apulia C. Verazzo & M. Bitondi	2103
Index of Authors	2113

# Reviewing the definition of museum. The not for profit statement in Catalonian museums<sup>1</sup>

A. Laporte, J. Bobes & X. Ulled Bertran

Observatory of Audiences of the Cultural Heritage of Catalonia, Catalonia, Spain

ABSTRACT: According to ICOM, a museum is a non-profit, permanent institution in the service of society and its development. The non-profit aim of the museum is an aspect currently under debate. Thus, new private for-profit players have been setting up and managing new museums, which certainly calls into question the non-profit aim of museums in the 21<sup>st</sup> century. One of the projects of the OPPCC (Observatory of Audiences of the Cultural Heritage of Catalonia) consists of counting visitors to museums and heritage centres. In the 2016 survey, a question on the ownership of these institutions was included. Even though private ownership also includes non-profit entities, in recent years privately owned museums have been set up that also consider heritage from a commercial perspective and as a source of revenues. The aim of this paper is to present empirical evidence on indicators that clearly distinguish the performance of privately owned museums from publicly owned ones.

#### 1 REVISION ON THE DEFINITION OF MUSEUM

The definition of museum proposed by ICOM is the following:

A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment.<sup>2</sup>

The need to adapt this definition to the increasingly more diverse and changing society of the 21<sup>st</sup> century has led ICOM to initiate a reflection process on it, suggesting that any definition can limit more than foster the expression of diversity of the different social and regional contexts where it is used as reference<sup>3</sup>.

One of the controversial concepts is the 'not-for-profit' nature of museums. An aspect of the declaration by museums as to the absence of profit-making has to do with the confidence in the museum and how this is guaranteed to citizens by this absence<sup>4</sup>. What about museums that need to hold profit-making activities to stay afloat? Are they in an inferior category to that of non-profit museums? Is it possible or advisable to decide the maximum level admissible for self-financing? Is self-financing and profit-seeking comparable?

Some studies question the connection between confidence and the absence of profit-seeking. For one thing, how many people know if the museum they are visiting seeks profit or not? According to the National Awareness, Attitude and Usage Study of Visitor-Serving Organizations (NAAU) carried out each year among adults in USA, less than half the visitors to a museum know if they are visiting a museum that is a non-profit organization: 47% of the adult population in the case of history museums, 44% in the case of art museums and 38% in the case of science museums. Thus, from society's point of view this doesn't appear to be a relevant attribute for creating an image of confidence for museums.

The 'not-for-profit' concept is considered irrelevant by some museums, whilst for others it is essential given that their survival is based on their commercial activity, without necessarily neglecting the core functions developed by a museum<sup>5</sup>.

This dichotomy becomes clear when analysing the definitions of museum by the British Museums Association, which is made up of the majority of museum institutions in the country, and the Association of Independent Museums, which is also British and is formed by museums managed by private and non-profit organizations.

Museums enable people to explore collections for inspiration, learning and enjoyment. They are institutions that collect, safeguard and make accessible artefacts and specimens, which they hold in trust for society. Museums Association<sup>6</sup>.

Independent museums are long-standing, successful social enterprises, run on a business-like basis and playing valuable roles in their communities, contributing to a sense of place and making up an important part of the tourism economy. Association of Independent Museums<sup>7</sup>.

The first definition makes no mention whatsoever to the form of management, as in profitseeking or not, focusing on aspects related to its nature as a place that holds collections that are the heritage of society. This lack of reference may be because the members of the association belong to a wide range of museum centres, whose only connection to each other is the collections they hold. In a way, this definition is similar to that of ICOM's definition, which is now being called into question.

However, the second definition includes concepts that are relatively uncommon regarding museums: social enterprise, run on a business-like basis and the tourism economy. In this case, the fact that the association's member museums are run by private charitable organisations must be taken into consideration. They receive no direct public finds, meaning that they seek alternative forms of financing to ensure survival.

We therefore find ourselves before the review of a very diverse reality, which leads us to contemplate the not-for-profit objective of museums as one of their distinctive and defining elements.

#### 2 DATA ABOUT THE SITUATION OF MUSEUMS IN CATALONIA

This paper provides information about two aspects of the management of museums in Catalonia related to their profit motive: the volume of visitors and financing. The information originates from the OPPCC (Observatory of Audiences of the Cultural Heritage of Catalonia) and from the Regional Government of Catalonia's Museums Registry.

The aim of the OPPCC is to serve museums and heritage centres, as well as the administrations and owners of such heritage, by helping to plan, programme and assess their relationships with their audiences.

To achieve this objective, one of the OPPCC's programmes provides statistics and reports based on quantitative data previously submitted by the heritage centres themselves.

In 2015, the OPPCC created a model for visitor quantification<sup>8</sup> that allows the standardised measurement of data corresponding to visitor traffic at heritage centres in Catalonia. An important component of the model is the glossary of terms (visitor, use, temporary exhibition, etc.) shared by all the heritage centres.

The visitor count model not only applies to museums but to all the region's heritage centres: registered museums, collections<sup>9</sup>, monuments and interpretation centres. In 2016, Catalonia had 790 registered heritage centres.

In the 2016 visitor count, ownership of the centres was requested for the first time and the heritage centres have been divided into 2 categories: public and private.

In reference to museum financing, the data presented is taken from the Regional Government of Catalonia's Museum Registry<sup>10</sup>. This registry is the official catalogue of museums in Catalonia and includes those accredited with the label of 'Museum'. Other heritage centres that have collections but are not accredited are given the administrative qualification of 'Collection'.

#### 3 HERITAGE CENTRES IN CATALONIA ACCORDING TO OWNERSHIP

Of the 337 heritage centres that took part in the visitor count of 2016, 70% are publicly owned and 30% are private. Private ownership covers various situations. They can be diocesan (church museums) or private foundations. In these two cases they are not profit-seeking. However, there are cases, such as that of Gaudí's heritage in Barcelona, which have seen the arrival of private operators in their ownership and management model. This is the case of Casa Batlló<sup>11</sup>, and of the recently inaugurated Casa Vicens, acquired and restored by a bank based in Andorra, as explained on the website<sup>12</sup>.

In the distribution of heritage centres according to region and ownership, the city of Barcelona is the only area where the number of privately owned (55%) heritage centres is higher than the number of publicly owned ones (45%). In the rest of Catalonia, most of the heritage centres are publicly owned, accounting for 75%, with the exceptions of the rest of the Metropolitan Region of Barcelona (83% public centres) and the Terres de Lleida i Aran region (66% public).

These data can be explained by the fact that private operators appear where the size of a sufficiently large market allows an economic return. The city of Barcelona, for population volume (1,608,746 in Barcelona city<sup>13</sup>; 3,213,775 inhabitants in the Metropolitan Area<sup>14</sup>) and volume of tourists<sup>15</sup> (9,861,671 tourists and 21,424,117 overnight stays), is a very attractive market. Private operators consider cultural heritage to be an economic sector worth investing in.

The OPPCC also asked the centres about their contents. In this sense, it is worth noting that those dedicated to art show equal numbers between publicly and privately owned centres. For all other themes, publicly owned centres show vastly higher numbers than those of private ones, with percentages exceeding 90% among those focused on history and archaeology and those of a local multi-disciplinary nature. It is worth mentioning that 40% of the monographic museums are in fact privately owned, most probably due to the activity of private collectors who have traditionally focused on very specific themes.

#### 4 VISITORS TO HERITAGE CENTRES ACCORDING TO OWNERSHIP

In 2016, heritage centres in Catalonia received more than 25.3 million visitors.

In 2016, privately owned heritage centres attracted nearly 60% of the total number of visitors, although they only accounted for 29% of the total number of centres. The publicly owned centres captured 41% of the visitors and accounted for 71% of all centres.

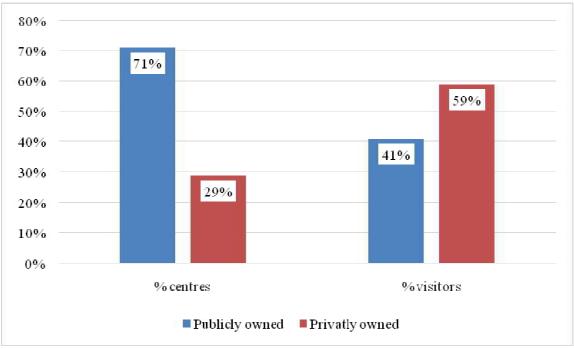


Figure 1. Distribution of heritage centres and visitors in Catalonia according to ownership. 2016.

The following graphs show the average and median – two measurements of central tendency – of visitors to heritage centres in Catalonia in 2016.

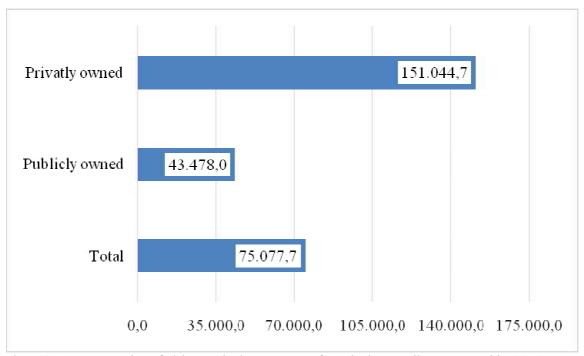


Figure 2. Average number of visitors to heritage centres of Catalonia according to ownership. 2016.

The previous graph shows how privately owned museums have an average of visitors that is three times higher than that of publicly owned heritage centres.

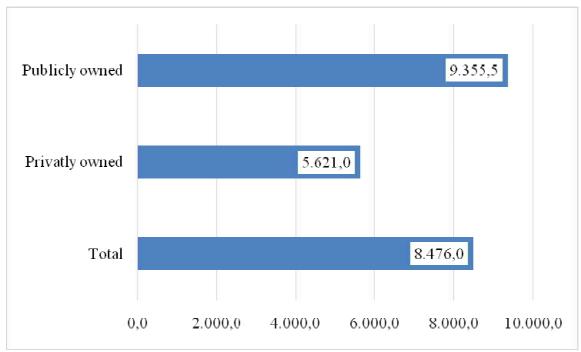


Figure 3. Median number of visitors to heritage centres in Catalonia according to ownership. 2016.

In contrast, this second graph shows that publicly owned heritage centres have a median number of visitors that almost doubles that of privately owned centres. This disparity between the two statistics is an indicator of the extreme imbalance in the distribution of visitor numbers to privately owned centres: a handful of centres receive the majority of visitors, whilst among those publicly owned this imbalance in smaller.

The privately owned heritage centres were open more days of the year than the publicly owned ones. A comparison of their averages reveals that the private centres were open 20 days more a year than the public centres.

In 2016, heritage centres in Catalonia received an average of 291.7 visitors each day. Those privately owned presented the highest ratio of all, with as many as 556.9 visitors each day, followed by publicly owned centres, with 172.8 visitors a day. Therefore, privately owned centres received 3.2 times more visitors a day than publicly owned centres.

#### 5 TYPES OF VISITORS AND OWNERSHIP

Heritage centres in Catalonia received more than 1,900,000 school group visitors in 2016. The publicly owned centres received 62% of all the school group visitors, although they only received 41% of the total number of visitors. Conversely, the private centres received 38% of the school group visitors and 59% of the total number of visitors.

In percentage terms, school groups accounted for 10% of the visitors received by heritage centres in Catalonia during 2016. The public centres received the greatest relative proportion of school group visitors, accounting for 12%, whilst the private centres received 8%.

The OPPCC also asked about the uses carried out by the visitors whilst at the heritage centre, whether the visit was made to one or more exhibits and whether it involved attendance to cultural activities or the use of a museum service (library, consultation, etc.). Each visitor can make one or more uses of the heritage centre during their visit.

As seen previously, the publicly owned centres are used more by schools than those privately owned. In contrast, the situation is different regarding the activities conceived for families. In fact, of the 345,000 family uses registered by heritage centres in Catalonia, the figure for those privately owned (26%) was patently higher than publicly owned centres (10%).

#### 6 RATES, FREE ADMISSION AND OWNERSHIP OF HERITAGE CENTRES

With regard to admission payments, of the 25.3 million visitors received by heritage centres in Catalonia, 47% paid the full admission price – of which 75% were paid at privately owned centres –, 22% paid discounted admission prices and 31% accessed the centres free of charge.

Two thirds of the visitors who entered free of charge accessed publicly owned heritage centres. This represents 5,320,000 people. All the same, it must be noted that more than 2.5 million visitors accessed privately owned centres free of charge.

In 2016, free admissions represented 33%<sup>16</sup>. Public centres had the highest level of free admissions, reaching 52%, nearly three times higher than the free admissions figure for private centres (19%).

#### 7 FINANCING OF MUSEUMS ACCORDING TO OWNERSHIP

According to Museum Registry data, in 2015, there were 114 registered museums in Catalonia.

Of these 114 museums, economic data for 2015 is available for 104 of them, of which 88 are publicly owned (state, autonomous region, local, etc.) and 16 are privately owned (church and foundations with private funding).

The 104 registered museums for which information is available, obtained an income of €137,748,467.69 in 2015.

The following graph shows that whilst privately owned museums represent 15% of the total, they generate 42% of the total income of museums in Catalonia. In other words, whilst publicly owned museums registered an average of €907,000, privately owned museums registered an average of €3,624,000 in 2015.

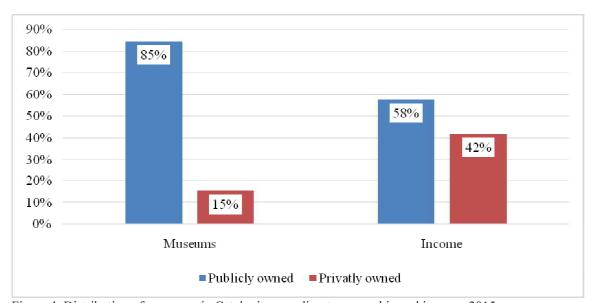


Figure 4. Distribution of museums in Catalonia according to ownership and income. 2015.

Lastly, the following graph shows the financing structure of museums in Catalonia according to their ownership.

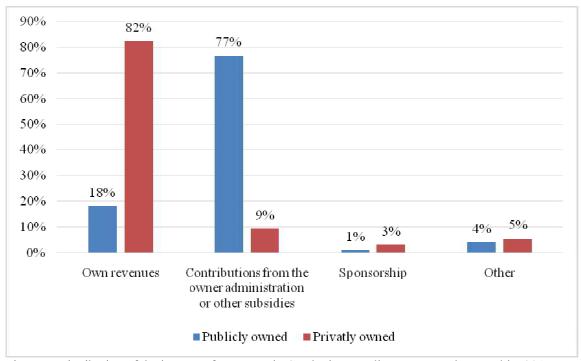


Figure 5. Distribution of the income of museums in Catalonia according to type and ownership. 2015.

The data is resounding with regard to the financing structure. Whilst publicly owned museums are 77% dependent on contributions from the owner administration or other public subsidies, this amount drops to 9% in the case of private museums.

Conversely, own revenues (ticket office, activities, shop, space rental, etc.) amount to 82% of the income for private museums and, in contrast, 18% in the case of publicly owned museums.

#### **8 CONCLUSIONS**

The data presented shows the relevance of public or private ownership in attendance numbers and economic performance.

The general conclusion is that the scenario of museums is changing. Although in Catalonia most museum centres are still publicly owned, there is an increasing presence of private players, some of them non-profit and others created with a business vision, which doesn't necessarily undervalue its cultural and social functions.

The need for economic sustainability has led many non-profit museums to set economic objectives. The economic crisis and the subsequent public budget reductions are possibly one of the causes.

Must we consider the public service vocation of museums, traditionally associated with the absence of profit-making, incompatible with their economic sustainability? An affirmative reply would deny the existence of many museums that, despite setting economic objectives, take into consideration principles of equity, excellence and satisfying the community's needs in the development of their functions.

We are therefore facing a paradigm change that must be considered by museum institutions, both public and private, during the process of redefining the museum of the 21<sup>st</sup> century.

#### **ENDNOTES**

<sup>2</sup> 22<sup>nd</sup> ICOM General Assembly in Vienna (Austria), 24 August 2007.

<sup>&</sup>lt;sup>1</sup> With support from Grup de Recerca en Patrimoni Cultural de Catalunya. Grup de Recerca preconsolidat (GRPRE) (2017 SGR 835) and CERCA Programme / Generalitat de Catalunya.

- <sup>3</sup> Defining the Museum of the 21st Century: Latin American Experiences. 4th Seminar of Experimental Museology, Rio de Janeiro, November 2017.
- <sup>4</sup> Définir le musée du XXIe siècle. ICOFOM International Symposium, Paris, 2017.
- <sup>5</sup> Conference on *Defining the Museum of the 21<sup>st</sup> Century*. University of St Andrews, Scotland, 2017.
- <sup>6</sup> https://www.museumsassociation.org/about/frequently-asked-questions [consulted: 1-3-2018].
- <sup>7</sup> https://www.aim-museums.co.uk/about-independent-museums/ [consulted: 1-3-2018].
- <sup>8</sup> Visitor count model for the museums and heritage centres of Catalonia, OPPCC, 2016.
- <sup>9</sup> The difference between registered museums and collections is administrative and depends on the classification used by the Department of Culture according to Catalan Law 17/1990 of 2 November, on Museums.
- <sup>10</sup>http://cultura.gencat.cat/ca/departament/estructura\_i\_adreces/organismes/dgpc/temes/museus/el\_sistema de museus de catalunya/registre-de-museus-de-catalunya-00001/
- https://www.casabatllo.es/sobre-nosotros/
- 12 https://casavicens.org/es/casa-vicens/quienes-somos/
- 13 https://www.idescat.cat/?lang=en
- 14 http://www.amb.cat/en/web/area-metropolitana/dades-estadistiques/demografia/serie-historica
- 15 http://www.barcelonaturisme.com/uploads/web/estadistiques/2016OTB2.pdf
- <sup>16</sup> This figure is slightly higher than the figure presented in a previous paragraph because in order to draw up this indicator, the 317 centres that presented data on the number of free-admission visitors was taken into account, whereas a smaller number of heritage centres (234) provided data on the number of visitors that had paid the general and discounted admission fees.