THE MATTER OF FUTURE HERITAGE

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Doctoral Program
Department of Architecture
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CPCL SERIES PHD

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI ARCHITETTURA
DIPARTIMENTO DI ECCELLENZA MIUR
(L. 232 DEL 1/12/2016)

CPCL SERIES PHD

Vol. 1 2020
ISBN 9789463662741

Doctoral Program
Department of Architecture
University of Bologna

* Cover: Photo by **Vicotr Malyushev** on Unspalsh

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PUBLISHED BY

TU Delft Open
Faculty of Architecture and the Built Environment, Delft University of Technology
CPCL Journal
Architecture Department, University of Bologna

GRAPHIC DESIGN

Stefano Ascari

ISBN : 9789463662741

The Editors are pleased to pay tribute to those who have participated in the review process.

In particular we gratefully acknowledge the assistance of the scientific committee who selected the abstract for the Conference The Matter of Future Heritage:

Ernesto Antonini, Andrea Boeri, Flaviano Celaschi, Elena Maria Formia, Jacopo Gaspari, Giovanni Leoni, Danila Longo, Elena Mucelli, Valentina Orioli, Jörg Schröder, Simona Tondelli

We furthermore acknowledge the reviewers of the manuscripts for this publication:

Cesar Pena, Gamze Dane, Eleonora Grilli, Deniz Ikiz Kaya, Ane Izulain, Nadia Pintossi, Mafalda Correa Nunes, Francesca Dal Cin, Federica Scaffidi, Nanja Nagorny, Karim van Knipperberg, Stefano Politi.

(20**20**)
vol.**1**

SECTION .03

HERITAGE RESILIENCE AND RISK

SECTION .04

THE ASSETS OF FUTURE HERITAGE

Cultural Heritage Gets Political

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In 2018, for the first time, the University of Bologna's Board of PhD in Architecture and Design Culture assigned second-year PhD students the task of developing and managing an international conference and publishing its works. The organisers of the first edition of this initiative – Giacomo Corda, Pamela Lama, Viviana Lorenzo, Sara Maldina, Lia Marchi, Martina Massari and Giulia Custodi – have chosen to leverage the solid relationship between the Department of Architecture and the Municipality of Bologna to publish a call having to do with the *European Year of Cultural Heritage 2018*, in which the Municipality was involved. The theme chosen for the call, *The Matter of Future Heritage*, set itself the ambitious goal of questioning the future of a field of research – Cultural Heritage (CH) – that is constantly being

redefined. A work that was made particularly complex in Europe by the development of the H2020 programme, where the topic entered, surprisingly, not as a protagonist but rather as an articulation of other subjects that in the vision of the programme seemed evidently more urgent and, one might say, dominant. The resulting tensions have been considerable and with both negative and positive implications, all the more evident if we refer to the issues that are closest to us – I am referring to the doctorate that I represent here – namely the city and the landscape.

The most obvious negative aspect is CH's subordination to a financial logic during the H2020 programme's design phase, seeing heritage as a cost – in a logic of patronage or public investment – instead of as a possible trigger for beneficial economic processes, both for the financial economy and above all for the social economy. The prevailing desire to make CH actions attractive to the business world has also, on the one hand, attributed to the development of CH-related technologies a predominantly non-instrumental role but rather of guiding cultural programmes, and on the other hand, has too often converted cultural policies on the city and the territory to marketing. A return to the market that, at the end of the programme does not seem to be winning and seems to have led the European Union to a reorientation of the topic, as we shall now discuss.

However, it cannot be denied that there has also been a process of redefinition of the CH field, not determined by a central direction but instead a result of the projects implemented and supported by the H2020 programme, and that, while there is inevitably still no articulated final conclusion, has led to the spread of practices and experiments that are also highly innovative.

This text, which started as an autonomous effort but based on the seminar discussion of 2018, well reflects and testifies to the state of fibrillation of the Cultural Heritage "field" (après Bourdieu) today on the threshold of the new Horizon 2021-2027 programme. In this programme, the topic seems to be able to play a more definite role from the outset judging from an evolution that started with the aforementioned

European Year of Cultural Heritage, taken up again with initiatives such as the *Horizons for Heritage Research - Towards a Cluster on Cultural Heritage* held in Brussels in March 2019, and finally to define, for the first time, the presence of a cluster entitled *Culture, creativity and inclusive society* where CH seems able to play a lead role. The addition of culture to a series focused equally on creativity and social inclusion was significant. Without getting into an analysis of how this initiative is developing, it must be said that the works that follow clearly convey how the link between the three terms characterising the future cluster is, today, a "matter of future heritage".

Indeed, only the essay by Kun Li places and exemplifies the question of CH in the key of an action that is frankly and traditionally conservative, referring, it must be said, to a nation that, after a period of violent economic development, still has a strict need for basic conservative policies.

All in all, fewer focused their proposed methodology – in all essays the methodology is presented along with concrete cases – on digital techniques, techniques that dominated the CH field in the H2020 programme. Again, however – referring to the essays by Federica Maietti with Elena Dorato and Valeria Croce with Isabel Martinez-Espejo Zaragoza – the authors' efforts seem to be aimed at undoing the centrality given to digital skills and innovations understood as a field of research for its own sake – one of the critical issues highlighted by the development of the H2020 programme – to reconfigure digital as a tool for addressing topics that are not necessarily technological, accessibility and disaster management in the case of the authors just mentioned.

The number of authors involved increases slightly for the second term of the future cluster *Culture, creativity and inclusive society*. Giulia Favaretto, who also has some background in the more traditional discipline of Italian restoration, shifts her attention to the ordinary rather than the monumental, to the actions of re-meaning rather than Brandian conservation, supporting the proposed methodology with cases where the action of remembrance or even change of memorial is entrusted to artistic practices unrelated to the history of the

architectural object they apply to. The essay by Emanuele Sommariva, urban planner by training, is not methodologically dissimilar, presenting an experiment in the field of territorial branding thanks to which, operating on a large scale, the field of CH is defined in terms of a fabric of intangible identity values aimed at representing a cultural landscape whose purpose is stimulation of new project visions in a strategic key more than conservation. To counter the confluence of the traditional disciplines of architecture and creative industries in the field of CH – certainly more fertile than others in a time of decline – the essay by Elena Vai moves from communication to interpret the urban event not as an ephemeral happening but as a tool to clarify city identities and trigger urban innovations.

What is most striking, however, is the numerical consistency of the essays focused on the third element that defines the triad of the new cluster shaped by the H 2021-2027 programme, namely "inclusive society". In fact, if we force the definition a little, as hopefully will also happen in the development of the programme, and think in terms of the political role of culture, we see how all the essays not yet mentioned, starting with specific disciplines, manage to intertwine not so much in the key of an interdisciplinary approach as in the perspective of using differentiated skills – which need not refer to codified disciplinary areas – to address and offer solutions on complex issues of a political nature. This is the case in the essay by Gianni Lobosco, where the topic of climate change is more closely related to the subject of policies and cultural tools offered to policymakers than to necessary technological strategies, and similarly in the essay by Saverio Massaro that raises the issue of the circular reuse of urban waste bringing it into the context of the common good and therefore into the field of CH. Other authors – Alissa Diesch and Pooya Zargaran – explicitly state that CH's field of action is political, and based on this assumption consolidated cultural positions of various disciplines retake the stage in the other essays, the need for politically motivated action – apparently imposed by the entry of CH onto the scene – leading to juxtapositions and fusions of great interest. By way of example: the use of

the term "patina" applied to the city in the essay by Riccarda Cappeller, the reinterpretation of a quality architecture in a communal key in the essay by Giorgia Di Cintio, adapting reuse as implemented by Chiara Mariotti and Saveria O.M. Boulanger, and finishing with the situationist imprint of the essay by Valentina Gianfrate, Amir Djalali and Francesco Volta who, moving from the unexpected role assumed by a work of sculpture in the Bolognese student movements of the late 1970s and the events that followed, weaves together conservation policies, the social and political role of public art, the complexity of the processes of recognition and innovation of the creative results deriving from the transformation of the city.

The close connection between heritage-related action and political action that emerges from the volume, particularly relevant since the text is mainly the work of starting researchers, shifts the topic of culture from a marginal accessory back to an essential component of the primary political action of local governments. After all, if we reverse its past perspective, Cultural Heritage is nothing more than the physical and testimonial persistence of the policies implemented over time. In the processes that drive and govern their constant transformation, the city, regions and landscapes are, in a circular fashion, producers and products of cultures, actions of confirmation or contrast of consolidated, recognised, institutionalised values, but also unexpected, random, disturbing materialisations. Cultural Heritage is generated in the non-unique process of a multiform appearance of cultures and is consolidated by subjecting itself to subsequent acts of recognition or disregard, conservation or cancellation. Culture, if seen as a constant action of production of common values and assets in the modification of the man-made space by each of its actors, is not just another policy, much less a set of ancillary actions to be supported according to budget availability, but rather a primary political act connected with the generative process of organised space. Working to monitor cultural transformations as they happen, be it the restoration of a valuable building or the construction of a peripheral road, shifts the focus of actions onto

Cultural Heritage, away from the mere economic restoration of excellence – which is always and in any case deserving of unmatched support – and instead to the construction of a widespread Cultural Heritage, the result of public and private actions that are constantly being updated and that may offer more solid foundations of sustainability, greater potential for common well-being and opportunities for new creative entrepreneurship.

URBAN HERITAGE ACCESSIBILITY AND CONSERVATION THROUGH 3D MODELS AND DIGITAL TOOLS

Technological tools; Fruition; Accessibility; Performances; Environmental Sustainability; Comfort

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One of the main challenges to be tackled today within the multidisciplinary field of Cultural Heritage is to increase the fruition, preservation and enjoyment of heritage assets. New technologies and digital cultural heritage should play an important innovative role, as well as ICT tools and digital devices represent a great opportunity to understand, access, enhance and preserve cultural heritage. This contribution understands the overall research approach toward the enhancement of the accessibility of digital cultural heritage as the ability to access cultural contents and resources by as many people as possible, using ICT functionalities and applications (web sites, data-bases, digital libraries, virtual applications, etc.) while overcoming cultural, environmental and management barriers, fostering an easier and widespread fruition. Despite the constant evolution and increasing use of digital media, there is still a lack of platforms able to collect and aggregate space-related data with information on the use and accessibility of heritage monuments, buildings and entire sites at the urban scale. Moreover, heritage conservation, accessibility and fruition are still strongly associated with buildings as, for instance, museums and

monuments, yet struggling to overcome the ordinary dichotomy "object - cultural heritage asset" understanding entire urban historical areas as valuable per se, and enlarging both vision and possibilities to the urban dimension as a whole. Innovative strategies in heritage documentation could be reached through the implementation of effective data collection processes, and the development of semantically enriched 3D models; experimentation of new uses, connections and reuses of digital data applied to cultural heritage should also address a wide range of users (tourists, policy-makers, scholars, ICT-inexperienced users). In this perspective, outcomes from the project funded by the European Union "INCEPTION - Inclusive Cultural Heritage in Europe through 3D semantic modelling" (2015-2019), and coordinated by the Department of Architecture of the University of Ferrara, are presented.

Introduction

Today, one of the main challenges to be tackled within the multidisciplinary field of Cultural Heritage is to increase the fruition, preservation and enjoyment of heritage assets. In this perspective, new technologies and digital cultural heritage should play an important innovative role, as well as Information and Communications Technology (ICT) tools and digital devices represent a great opportunity to interpret, access, enhance and preserve cultural heritage. This contribution understands the overall research approach towards the enhancement of the accessibility of digital cultural heritage as the ability to access cultural contents and resources by as many people as possible, using ICT functionalities and applications (web sites, data-bases, digital libraries, virtual applications, etc.) while overcoming cultural, environmental and management barriers, fostering an easier and widespread fruition.[1]

The recent Declaration "Cooperation on advancing digitization of cultural heritage" signed by European Union Member

1 Federica Maietti, Roberto Di Giulio, Marco Medici, Federico Ferrari, Anna Elisabetta Ziri, Beatrice Turillazzi, and Peter Bonsma, "Documentation, processing and representation of Architectural Heritage through 3D semantic modelling", in Impact of Industry 4.0 in Architecture and Cultural Heritage (IGI Global – in press).

States during the Digital Day 2019, confirmed the European commitment in fostering digital technologies to record, document and preserve Europe's cultural heritage and its accessibility to all citizens. The above-mentioned Declaration states that "The Union needs to collaborate to advance 3D digitization of our cultural heritage. European research institutes and start-ups have developed world-leading expertise and are pioneering technologies in these fields, and can contribute to advancing the digital transformation of the cultural heritage institutions. The Union also needs to ensure that its digitized cultural content and related applications are available, where appropriate, on European platforms, in line with our values".

Moreover, as stated at the opening high-level Horizon 2020 conference *Innovation and Cultural Heritage* held in Brussels in 2018, cultural heritage represents a limitless source of innovation in which traditions could meet with new, cutting-edge technologies. One of the key questions raised by the Directorate-General for Research and Innovation Europe in a Changing World (Inclusive, innovative and reflective societies) was how to best use the opportunities provided by digitalisation within the cultural heritage valorisation process. Digitalisation can be an effective instrument for the democratisation of cultural heritage as it opens new forms of access, and new and innovative technologies are a great opportunity to understand, access, enhance and preserve cultural heritage. "Combining innovation with heritage points to the fact that cultural heritage has an inspiring and creative role in present European societies and communities. Research and innovation are needed to better protect cultural heritage from natural or man-made destruction. […] Innovation in the context of cultural heritage has manifold meanings […] technological, social, policy, entrepreneurial, economic or methodological".[2]

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2 Tanja Vahtikari for the European Commission. "Innovation & Cultural Heritage. Conference Report" - 20th March 2018, Royal Museum of Arts and History, Brussels. (Luxembourg: European Union Publication Offices, 2018), 4.

The digital revolution and its challenges

Today it is possible to digitally integrate different information in order to access cultural assets in many different ways and for many different purposes. Beyond the application of ICT for management, research, diagnosis, conservation and restoration, training and enhancement, new technologies allow the communication and dissemination of cultural heritage that become increasingly accessible producing new knowledge and experience. Through digital technologies, broad categories of users have access to Europe's tangible and intangible cultural assets, and it is mainly the availability of databases collecting different information that enables the widest possible accessibility and interoperability at a multidisciplinary level. New applications also permit to access heritage sites and objects either from the site itself, or remotely from museums, classrooms, laboratories, and even from one's home or office. Users can dispose of a constantly growing set of interactive possibilities to access a variety of information on different places and artefacts; to exchange the derived knowledge among each other; and to enrich and feed this knowledge with their findings and complementary insights by means of interactive platforms and social media. In this perspective, we can affirm that the development of data capturing technologies and graphic features has maximized the improvement of digital contents for different applications.

As part of 3D integrated survey applied to cultural heritage, digital documentation is gradually emerging as an effective support,[3] giving many different information in addition to shape, morphology, and dimensional data. Innovative strategies in heritage documentation can be reached through the

3 Federica Maietti, Roberto Di Giulio, Marcello Balzani, Emanuele Piaia, Marco Medici, and Federico Ferrari, "Digital Memory and Integrated Data Capturing: Innovations for an Inclusive Cultural Heritage in Europe through 3D Semantic Modelling", in *Mixed Reality and Gamification for Cultural Heritage* (Springer International Publishing, Ioannides, Magnenat-Thalmann, Papagiannakis (Eds.), 2017), 225-244.

implementation of effective data collection processes, and the development of semantically enriched 3D models. The increasing development of 3D laser scanner technologies allows to create high definition databases grounded on even more detailed three-dimensional morphometric data. Such "digital archives" represent an extremely valuable research tool in the cultural heritage field as the so-called "geometric memory" is essential for knowledge, protection and sustainable conservation of cultural heritage, although there are still some limits to the exploitation of 3D models obtained by laser scanner survey. The growing number of unexploited and "un-interpreted" 3D models highlights the remarkable need for innovative methods that could benefit from the informative value provided by new survey and representation systems, as well as from data management tools.[4]

Technologies are constantly evolving and new digital media are increasingly used for accessing and understanding cultural heritage.

However, there is still a lack of platforms able to collect and aggregate space-related data with information on the use and accessibility of heritage monuments, buildings and entire sites or areas at the urban scale. It is a fact that, still today, heritage conservation, accessibility and fruition is still strongly associated with buildings as, for instance, museums and monuments, yet struggling to overcome the single artefact approach, and enlarging both vision and possibilities to the urban dimension as a whole. This could be the case of valuable and/or heritage listed historic city centres, archaeological sites, and all those complex and heterogeneous spatial systems supporting all kinds of relationships and connectivity at different levels. Within such framework, the concepts of heritage accessibility, fruition, sustainability should be re-interpreted in order to overcome

4 Marcello Balzani and Federica Maietti, "Architectural Space in a Protocol for an Integrated 3D Survey aimed at the Documentation, Representation and Conservation of Cultural Heritage", *Diségno* 1(2017): 113-122.

the ordinary dichotomy "object - cultural heritage asset", understanding entire urban historical areas as valuable per se. A system of buildings and spaces to be enhanced and promoted also through new technological tools and sharing platforms. Such an approach, applied to the urban scale, could represent an innovative step forward in both the Italian disciplinary debate, and the experimentation of new uses, connections and uses of digital data applied to cultural heritage, addressing a wide range of users such as tourists, policy-makers, scholars, and ICT-inexperienced ones.

Innovative Tools: the INCEPTION Project

Innovatively moving towards this direction, the Department of Architecture of the University of Ferrara, leading a consortium of fourteen partners from ten European countries, was funded by the Horizon 2020 Societal Challenge Work Program for the EU project INCEPTION (*Inclusive Cultural Heritage in Europe through 3D semantic modeling*, funded under the call *Reflective Societies: Cultural Heritage and European Identities, Advanced 3D modeling for accessing and understanding European cultural assets*). INCEPTION aims at developing new research paths in the field of heritage 3D data acquisition and modeling, while optimizing a 3D data acquisition protocol able to guide the process of digitisation of cultural heritage and innovation strategies to the three-dimensional modeling.[5] Overall, the project aims at representing and disseminating cultural heritage through ICT processes, analysing semantic information in a wider and more extensive use of digital models, up to market research and business strategies tackling the economic value of cultural heritage, a sector particularly struggling because of the current financial crisis.

5 Inception website https://www.inception-project.eu/en (accessed April 14 2019)

The main objective of the INCEPTION project is focused on innovation in 3D modeling of cultural heritage through an inclusive approach for 3D reconstruction of heritage sites and on the possibility of creating an inclusive understanding of European cultural identity and diversity, stimulating and facilitating collaboration between disciplines, technologies and sectors. The project, which ended on May 31 2019, has been developed through five main steps. The first requirement was related to the construction of a common framework and knowledge management: such stage allowed to deepen the cultural dimension of the project, facing first of all the significances of Cultural Heritage to be represented and interpreted through digital models. The advancement into the integrated 3D data capturing methodology led to the development of an integrated and optimized Data Acquisition Protocol. The semantic modeling for Cultural Heritage buildings led to the development of a procedure of parametric modeling of Cultural Heritage, approaching the H-BIM. Additional steps concerned the development of the INCEPTION platform and the deployment and valorisation through different on-site and off-site applications for a wide range of users. This first step, related to the development of a common framework, was based on stakeholder feedbacks: the whole project was developed thanks to a strong synergy among the Consortium Partners and the Stakeholder Panel, an assembly of different European institutions involved with the aim of directing research toward those strategies needed by "end users" and institutions to increase knowledge, enhancement and dissemination through digital models.[6] In this way, the project was targeted towards scholars, technicians, citizens and governments' needs,

6 Federica Maietti, Emanuele Piaia, Giuseppe Mincolelli, Roberto Di Giulio, Silvia Imbesi, Michele Marchi and Silvia Brunoro, "Accessing and understanding Cultural Heritage through users experience within the INCEPTION project", in *Digital Heritage. Progress in Cultural Heritage: Documentation, Preservation, and Protection. Euro-Mediterranean Conference* (Springer, Cham, 2018), 356-365.

through the identification of key requirements that contribute to meet Europe's societal objectives related to Cultural Heritage.[7]

The integrated 3D data capturing has been faced both as a methodological procedure and an optimized workflow by developing the INCEPTION data acquisition protocol.[8] Another action focuses on the identification of the Cultural Heritage buildings semantic ontology and data structure for information catalogue. Integration of semantic attributes with hierarchically and mutually aggregated 3D digital geometric models is set up for managing heritage information.[9] The fourth action is the development of the INCEPTION Semantic Web Platform. The interoperable Semantic Web H-BIM Platform allows achieving the widest accessibility and interoperability, the use of three-dimensional models by researchers from different disciplines and non-expert users,[10] minimizing the difficulties of interaction with these kind of data, now accessible only by experts through the use of different software. The "browsing and query interface" is defined allowing contributions by researchers and experts that do not deal with 3D data, and enabling a wide and easy access to the data by citizens, non-expert users and public at large. The need to develop an integrated survey procedure according to a holistic approach to cultural heritage, arises from the INCEPTION

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7 Roberto Di Giulio, Federica Maietti, Emanuele Piaia, "3D documentation and semantic aware representation of Cultural Heritage: the INCEPTION project", in *EUROGRAPHICS Workshop on Graphics and Cultural Heritage* (2016), 195-198.

8 Federica Maietti, Federico Ferrari, Marco Medici, and Marcello Balzani, "Integrated Laser Scanner Survey and Modelling for Accessing and Understanding European Cultural Assets", in *Proceedings of the International Conference "SBE Malta 2016. Europe and the Mediterranean: Towards a Sustainable Built Environment"*, ed. Ruben Paul Borg, Paul Gauci and Cyril Spiteri Staines (Malta: Gutenberg Press, 2016), 317-324.

9 Marinos Ioannides, Nadia Magnenat-Thalmann, Eleanor Fink, Ronchi Zarnic, Alex Yaning Yen, Ewald Quak, (eds.), "Digital Heritage. Progress in Cultural Heritage. Documentation, Preservation, and Protection", *Proceedings of the 5th International Conference, EuroMed,* (Berlin Heidelberg, Springer, 2014).

10 Emmanuel Maravelakis, Antonios Konstantaras, Athina Kritsotaki, Dimitris Angelakis, and Michalis Xinogalos, "Analysing user needs for a unified 3D metadata recording and exploitation of cultural heritage monuments system", in *International Symposium on Visual Computing* (Berlin Heidelberg, Springer, 2013), 138-147.

application' context. The project indeed deals with heritage "spaces" (complex architectures *and* sites), working at building-scale in order to be able to manage the issue of layering different information related to different features, according the aim of the documentation and survey procedure.

The INCEPTION protocol

The 3D survey of heritage architectural space needs a common protocol for data capturing and related enhancement of functionalities, capabilities and cost-effectiveness of technologies and documentation instruments.[11] INCEPTION considers the uniqueness of each site, including different indicators within the digital documentation procedure, such as time and costs, data accuracy and reliability, additional data and semantic properties to be recorded for heritage applications, adaptability to different sites with different historical phases. The identification of the multi-function and multi-scale role of the model allows the exploitation of uneasy and complex resources (obtained by the collection of geometric shape, and not just of the architectural and urban context) at different levels, over time and by different actors.

The INCEPTION protocol is conceived as a procedure or a set of steps to be followed during the digital documentation. The first aim was to bridge the gap within the data acquisition state of the art: a wide range of devices and technologies for 3D data capturing is available, as well as more and more accurate and fast devices, but bigger data means time-consuming processes and, very often, there is a lack of technological integration between different kinds of devices. Therefore, INCEPTION proposes a common protocol for 3D data capturing and device enhancement

11 Robert Zlot, Michael Bosse, Kelly Greenop, Zbigniew Jarzab, Emily Juckes, and Jonathan Roberts, "Efficiently capturing large, complex cultural heritage sites with a handheld mobile 3D laser mapping system", *Journal of Cultural Heritage* 15 (2014): 670–678.

for a more efficient processing, helping preparing the overall survey project by asking the fundamental question "why to document the heritage site by means of laser scanning devices, and what use will one make of such data?". It includes four different evaluation categories which, however, are intended to be flexible and upgradable according to technological progress and different applications. The first one is for very simple buildings or for the creation of low-detailed BIM model for digital reconstruction aimed at VR, AR and visualization purposes. The second one is suitable for documentation purposes, where the metric and morphological values are equivalent in terms of impact on the survey that needs to be preliminary scheduled and designed, and different instruments integration is foreseen. The third category includes preservation purposes; these surveys support restoration projects in need of extremely accurate metric data. The documentation phase is developed organizing the information into Metadata and Paradata. The fourth category is to be used for very complex buildings where the capturing process need to be documented and traced in order to get the maximum control on data or when monitoring process developed in a non-continuous time span take place. This category includes surveys where different teams of technicians work together, simultaneously or in sequence, with different capturing instruments and different accuracies.

All these categories were set up in order to manage digital modes compliant with the INCEPTION Platform. The Platform is a space for interchanging information and fostering the dialogue among professionals, students, scholars, curators, non-expert users, and so forth. The combination of innovative methodologies and protocols, processes, methods and devices allows enhancing the understanding of European Cultural Heritage by means of 3D models bringing new knowledge, collaboration

across disciplines, time and cost saving in the development and use of 3D digital models.[12]

Future urban research development and implementations

INCEPTION supports Heritage information, ranging from data acquisition, analysis, data management, 3D documentation, new forms of interaction, according to the interdisciplinary approach and to a specific methodology (holistic documentation, optimized data acquisition, data analysis, classification, and interpretation). The above-described technologies and new methodologies and tools in the field of cultural heritage greatly broaden and enrich the spectrum of possible experimentations and implementations, especially at the urban scale. In fact, urban heritage accessibility and conservation through 3D models and digital tools is a research avenue that starts from the main INCEPTION outcomes, moving towards a wider use of the applied methodology and developed IT framework.

Clearly, addressing the urban scale also introduces a series of new challenges and variables. If considering, for instance, an entire village, neighbourhood or historic city centre as a heritage asset per se – a site to be enhanced for either touristic/research/ad hoc-conservation purposes – the strong heterogeneity of both its components and uses arises a variety of additional issues. The richness and vitality of a lived urban area made by both buildings/monuments with specific characteristics and functionalities, *and* a series of non-built different spaces among them, make the urban realm a highly layered system that needs to be addressed and investigated through several disciplinary

12 Marinos Ioannides, Eleanor Fink, Antonia Moropoulou, Monika Hagedorn-Saupe, Antonella Fresa, Gunnar Liestøl, Vlatka Rajcic, and Pierre Grussenmeyer (Eds.), "Digital Heritage. Progress in Cultural Heritage: Documentation, Preservation, and Protection" 6th International Conference, EuroMed (Berlin Heidelberg: Springer, 2016).

points of view, as well as different operational instruments.

Benefits from the application of the protocol and, more generally, of the above-described methodologies to the urban scale could be manifold, targeting many different "end users" at once. For instance, technicians could use the 3D continuous documentation and modeling of a determined city area for monitoring urbanisation abuses, or any other structured, irregular or harmful use of the public domain. Moreover, all acquired information would be of great value in case of the occurrence of any natural or man-made disaster, such as earthquakes, fires, flooding, etc. severely damaging the site, allowing an in-depth knowledge of all urban aspects on which to ground eventual reconstruction/re-qualification debates. Scholars in the broad field of urban studies would also take advantage from these implementations, having access to a rich interactive, yet implementable, database connecting additional information to the urban digital models. Finally, all semantically aggregated data would overall generate a huge amount of information to be spent for educational, awareness raising, and dissemination purposes, targeting either school children and adolescents, citizens and local inhabitants, and tourists.

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CASTELLUCCIO DI NORCIA. SURVEY TECHNOLOGIES AIMED AT PRESERVING THE BUILT HERITAGE

Photogrammetry, UAVs, post-earthquake reconstruction, Castelluccio di Norcia

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The widespread heritage of small historical centers that are scattered over the Italian landscape is at serious risk of disappearance. The exposure to strong earthquakes, as well as the problems related to phenomena of depopulation and economic impoverishment, threaten the prospects of rebirth and revitalization of these small entities.
In the framework of the last destructive seismic events that hit Central Italy in 2016, institutions and population deepened once again the problem of rebirth and repopulation of minor rural areas, in the direction of enhancement of historical and architectural beauties and assessment of resilient systems. Referring to the case study of Castelluccio di Norcia (Umbria), struck by the earthquake of October 30th, 2016, this paper discusses the impact of the natural hazard on buildings and proposes a novel surveying procedure aimed at the assessment of damage levels and at the subsequent decision making on interventions. Purpose of this paper is to show how digital techniques and surveying applications can be helpful and suitable in the management of the aspects related to disaster management and conservation of the built heritage, after the occurrence of natural or man-made hazards.

Introduction

Small historical centers and rural areas constitute a very common element of Italian territory; the so-called *widespread heritage*, in effect, constitutes a huge part of the cultural, artistic and landscape heritage of Italy, representative of the identity of the country.

Witnessing the profound relationship between man and nature, these authentic places full of historical testimonies reflect the political events and dominations that have affected a certain territory and identify the role that local communities have played over time.

However, the beautiful minor historical centers of Italian country are subject to widespread depopulation phenomena and are often located in areas characterized by high seismicity. All the Apennine area has been subjected several times in the past to disastrous earthquakes, which threatened the future of these rural areas.

Once again, the sequence of seismic events that affected Central Italy in 2016 posed the problem of the conservation of the various small local areas of the Apennine ridge: the M_w 6.5 earthquake of October 30th, 2016 caused in particular several damages in the village of Castelluccio di Norcia, Municipality of Norcia, Umbria Region, provoking collapse of almost the 60% of the buildings[1].

Intending to describe appropriately the level of destruction that was caused by the earthquake in the built heritage of the village and to define, at an urban scale, the choices on interventions to be performed on buildings, the research focuses on the definition of 3D study models of the village, created based on survey data. The possibility of applying modern survey techniques providing for the use of drones (i.e. UAVs

1 Gruppo di lavoro INGV sul terremoto in Centro Italia, *Summary report on the October 30th, 2016 earthquake in Central Italy*

Unmanned Aerial Vehicles) in view of the definition of 3D study models, was a key task in the study of this earthquake-damaged areas and appears a fundamental require ment in the perspective of future studies aimed at conservation and preservation of the built heritage.

Stressing the resilience of the built heritage

Purpose of this paper is the assessment and definition of an operational workflow that can be followed in the process of development and reconstruction of villages and minor historical centers.

The senses of loss and disappearance of tangible and intangible heritage of places immediately arises after a catastrophic event. The succession of destructions and reconstructions, in fact, has always represented a critical and dramatic knot in the history of countries: referring to the past, it can be recalled, for example, post-war Italy, in which reconstructions and completions of passages of cities destroyed by bombing have multiplied, with the aim to re-appropriate of a lost piece of identity, as well as the rehabilitation experiences in the territories attacked by the destructive power of floods and landslides[2].

As in the past, even today we wonder about what the future of our historic centers might be, and currently the case faces specifically the destruction caused by seismic events: these considerations are inevitably daily occurrence, if one thinks of the recent earthquakes that affected the Italian territory, which make us consider again the difficulties related to reconstructions in historicized environments.

Thus, if one refers to the resilience of a certain urban system, intended as the measurable ability to maintain continuity through all shocks, while positively adapting and transforming,

2 Guidoboni, *Terremoti e città in una prospettiva di lungo periodo*, 286

it must be noted that studies on resilience of built environments cannot leave out of consideration the importance of conserving and preserving the memory of the places, by stressing their ability to recover and re-invent their identity after a destructive event.

A wide-ranging issue that arises after every catastrophic event, involving numerous territorial entities, especially in Italy, deals with the will to make the new correspond in a certain way to the old and with the desire to preserve the memory of the past through images, graphic restitutions and references to survey campaigns made in the past.

For this reason, the presence of 3D models showing how a certain area was respectively before and after the destructive event is a crucial aspect that requires to be developed and deeply examined.

Digital models for Cultural Heritage

Nowadays, the continuous development of algorithms that allow the management of 3D models has paved the way for new significant applications in survey. Thanks to the development of Structure from Motion (SfM) and MultiView Stereo (MVS) techniques, born from the combination of classical photogrammetry with Computer Vision sciences[3], researches in the field of Cultural Heritage are evolving and provide innovative approaches for analyses and management of buildings[4],[5],[6].

Besides that, the introduction of UAV systems offers several applications in these fields of study: their main advantages

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3 Bevilacqua, Caroti, Piemonte, Terranova, *Digital technology and Mechatronic Systems for the Architectural 3D Metric Survey*, 161-162

4 De Luca, Verso la caratterizzazione semantica di rappresentazioni digitali di artefatti architettonici: linee programmatiche di ricerca

5 Remondino, Spera, Nocerino, Menna, Nex, State of the art in high density image matching

6 Grussenmeyer, Khalil, From metric image archives to point cloud reconstruction, 295-296

are the low cost of survey instruments, the fully automated or semi-automated mode of operating, the image acquisition and the availability of several software for the data processing[7],[8]. Most of all, the importance in the use of UAV systems lies in their possibility of integration in remotely controlled aircrafts: the design of drones'flights allows to obtain image acquisition from different altitudes. The main consequence of this aspect is the possibility to perform surveys even in areas that, after a catastrophic event, are difficult to access or that present safety issues. Rapid scanning, fast reconnaissance of sites at risk, emergency management after a disaster are now possible thanks to the advancements in drones design. Together with the implementation of SfM&MVS techniques, the development of UAV systems offers a new approach to surveying technologies in post-catastrophe areas, for the management and monitoring of damaged sites affected by hazards[9], since it is nowadays possible to reconstruct reliable and accurate 3D models showing a certain area or building asset. This workflow is generally referred to as "UAV photogrammetry" or "UAV-based photogrammetry", terms that underline how Digital Photogrammetry techniques can be used for the description of cartographic data based on images taken through UAV flights[10,11].

3D study models for Castelluccio di Norcia

In view of implementing novel approaches on survey technologies for post-seismic analyses on minor historical centers and

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7 Croce and Martínez-Espejo Zaragoza, UAV-based 3D Photogrammetry for Post-earthquake studies, 80

8 Nex, Remondino, UAV for 3D mapping applications: a review, in Applied Geomatics (2014), Volume 6, Issue 1, 1-15

9 Achille, Adami, Chiarini, Cremonesi, Fassi, Fregonese, Taffurelli, UAV-based photogrammetry

10 Li, Giannini, Pernot, Véron, Falcidieno, Reusing heterogeneous data for the conceptual design of shapes in virtual environments;

11 Murtiyoso, Grussenmeyer, Deni Suwardhi, Rabbu Awalludin, Multi-Scale and Multi-Sensor 3D Documentation of Heritage Complexes in Urban Areas, 483

Fig. 1

Layout of Castelluccio di Norcia before the earthquake

in general for emergency management strategies, the village of Castelluccio di Norcia represents an emblematic case study. Situated along the Apennine ridge straddling Central Italy, at the altitude of 1452 meters above sea level, it is located in a high position with respect to the surrounding environment. It was born as a military outpost wanted by the Municipality of Norcia, in order to defend the territory from attacks by other municipalities[12]: the village layout developed around the ancient military fortification, the *cassero*, built around 1250, expanding mainly on the South side of the hill [Fig. 1].

The geographic area in which the village of Castelluccio di Norcia is located has been subject by intense seismic activity all over the years, as the superficial expression of seismo-genic sources and fault systems.

The last strongest event that hit the area was the M_W 6,5 seismic event of October 30th, 2016. It came at the end of a seismic sequence that affected the areas between Umbria, Marche, Lazio and Abruzzi Regions in year 2016 and that in its entirety saw the occurrence of earthquakes with moment magnitude greater than 5,0.

In Castelluccio, almost 60% of the buildings of the old bucollapsed and the roads leading to the village were closed.

12 Cordella and Lollini, Castelluccio: il tetto dell'Umbria. (Norcia 1989)

Following the disaster, the Civil Protection and the Fire Brigade, in order to assess the entity and extent of damage, made some flights all over the village, by using remotely controlled aircrafts. The outcomes of these parade laps via UAVs are videos showing complete aerial views of the post-seismic area. Starting from these data, that were not originally produced for specific survey purposes, it was possible to produce digital models to be studied in the analyses of the village texture after the earthquake.

In fact, by referring to past surveys of the area and by considering the presence of another video dated back to many days before the destructive earthquake, it was possible to construct two 3D models allowing to compare in a 3D environment the asset of the village in the pre- and post- catastrophe phases respectively. The workflow that led to the creation of these 3D models is described in detail below:

- The first passage was the download of videos from the website of the Civil Protection and the following extraction of frames. In particular, the frames were extracted with an average value of two seconds per frame: 146 digital images were obtained for the construction of the "pre-earthquake" model and 334 images for the construction of the "post-earthquake" model.
- The frames were inserted in a SfM&MVS software for processing of the digital images, allowing to detect homologous points for the image matching and to define the camera positions.
- After this, points of known coordinates, called Ground Control Points (GCPs), were inserted, in order to put the model in the correct scale [Fig. 2-3]. Referring to the X, Y, Z attributes of the GCPs detected from a technical map dated back to 2004, the models were thus geo-referenced, with a maximum error accepted in the determination of the GCP position of 0.40 meters (graphic error).
- Then, the dense point clouds were reconstructed, polygonal mesh models were created and the texture was subsequently generated. As a result, two 3D models providing for the comparison of pre- and post- seismic assets of Castelluccio di Norcia were acquired [Fig. 4-5].

Fig.2

Location of GCPs in the "pre-earthquake" model

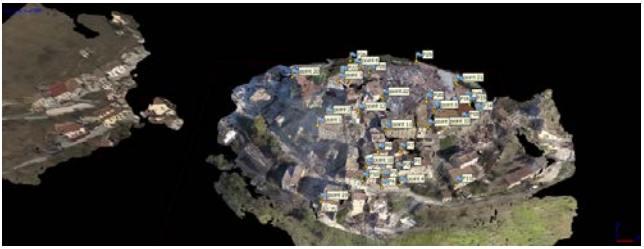

Fig.3

Location of GCPs in the "post-earthquake" model

Fig.4

"Pre-earthquake" 3D model

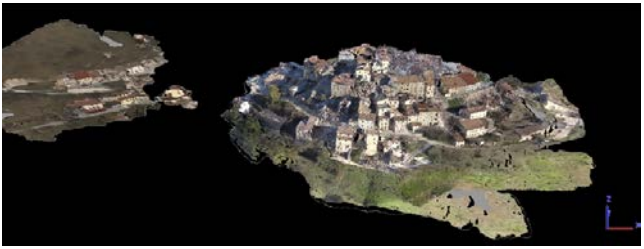

Fig.5

"Post-earthquake" 3D model

- Finally, through the software CloudCompare, the distance between the two meshes was computed: the results of the cloud-to-mesh comparison are shown in [Fig. 6]. For most damaged areas, the distance computation tool gave as a result distances higher than 0.9 meters, corresponding to collapsed buildings [Fig. 7]

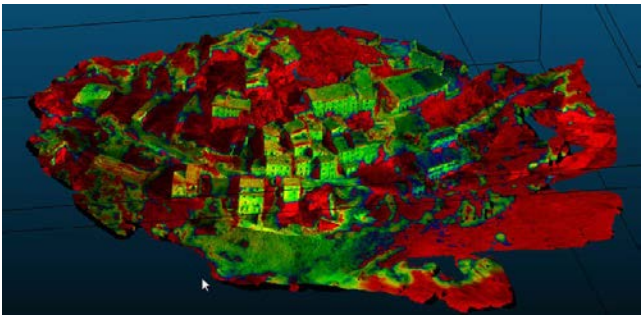

Fig.6

Comparison between the two meshes in the *CloudCompare* interface

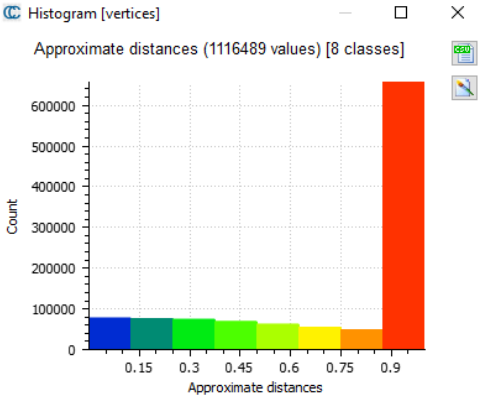

Fig. 7

Approximate distances computed

Damage level assessment and ensuing decision making on interventions

The study of 3D models and the computational tool providing for the comparison between the two meshes allowed to reconstruct a damage degree evaluation map [Fig. 8].

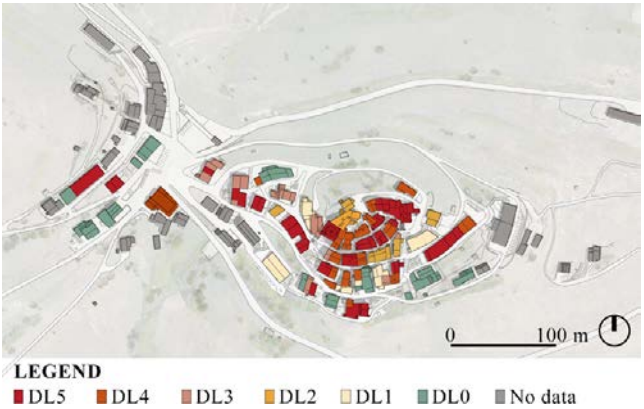

Fig. 8

Damage level assessed through aerial survey

In Figure 8, the buildings of Castelluccio were classified based on the European Macro-seismic Scale EMS98[13], providing for six different Damage Levels (DL): from DL0, meaning absence of damage, to DL5, indicating total collapse.

The buildings that are colored in grey were not clearly visible from the 3D models; since originally the videos were not taken for survey purposes, in fact, in several areas it was not possible to correctly assess the DL.

In cases where the detection of damage was possible, in order to define, at an urban scale, some general guidelines for the reconstruction and renewal of the village, the DL map was related to some general criteria given for the decision making on intervention: as an operational method, it was chosen to carry out small repair interventions for buildings with DL1 or DL2; intensive strengthening for buildings with DL3 and complete replacement in cases of buildings with DL4 or DL5 [Table 1, Fig. 9].

Of course, this has to be intended as a preliminary evaluation, that can be helpful in managing the emergency at an urban scale: even though resulting locally in lower accuracy in comparison with more accurate studies on single buildings, in

13 Grünthal (ed.), *European Macroseismic Scale 1998* (EMS-98). (Luxembourg 1998)

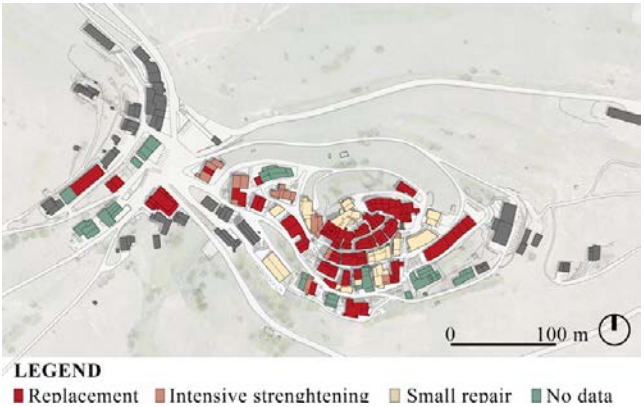

Fig. 9

Decision making on interventions

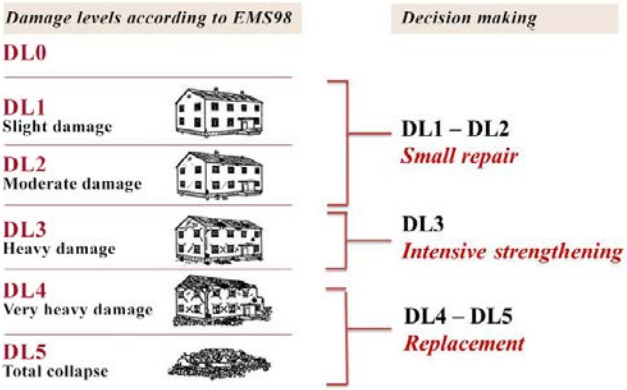

Fig. 10

General criteria for decision making on interventions

fact, the possibility to define general guidelines for intervention, at the scale of the whole village, appears a realistic target and opens the way to further developments and in-depth analysis.

Conclusion

The outcomes of this work result beneficial and useful in view of interventions aiming at preventing and protecting minor historical centers, territorial entities in which the occurrence of sudden changes and the risk of future shocks threaten the buildings and sites of our heritage. For the institutions and the several stake-

holders involved in Disaster Management and Prevention, the performance of surveys and the studies of 3D models are crucial aspects; the development of new surveying techniques and new digital applications are important skills that help the process of evaluation and assessment of the impact of certain events on buildings, aggregates, and wider urban areas.

The combination of UAV-based applications with SfM&MVS techniques is important in several phases of the disaster risk management, from the first emergency phase, in which it is necessary to understand the entity of a certain catastrophic event, up to the phase in which it is suitable to study 3D models of the area, in order to reach decisions on post-catastrophe interventions.

Whatever the decision and the perspectives for recovery and revitalization of a minor historic center are, it is necessary to preserve the identity of a place, and this can only be done by knowing in detail, through survey campaigns, the changes in the configurations of the site of study that the catastrophic event has generated. Based on the digital models obtained through survey techniques, prevention and operation plans can be drafted, in view of a general process of development and enhancement of minor historical villages.

Future developments can be envisaged regarding the definition of broader regulations and guidelines, to be provided in the context of disaster risk management as a basis for resilient strategies in territories affected by natural hazards.

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Transmitting our heritage to the future; versus smart approaches of social engagement in heritage conservation.

Heritage; Survival; Social Engagement

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Heritage is considered all material artifacts, archaeological remain and architectural masterpieces as well as sculptures and paintings, and immaterial attributes of groups or societies like traditions and customs, which have survived in time and transmitted from generations to generations, their associated artistic, historic, collective, cultural and ethnic values.
Ensuring heritage objects to survive, maintain and transmit values to future generations are important parameters and also important challenges, which heritage management practices should focus on and each activity concerning with heritage management which does not respect these parameters fail to meet the necessary exigencies of the heritage protection in present day.
With particular references to the churches or other value-associated architecture converted to hotels or bookshops or other commercial uses through adaptive reuse experiences of recycling, converting, and reusing old and historic buildings for new uses, usually for commercial uses, the article discusses the

application of capitalistic-based approaches of physical heritage management, highlighting its negative impacts as depriving heritage from its essential characteristics, reducing its role as a factor of cohesion in diversified multi-ethnic/cultural communities, and, more importantly, endangering its survival capacity.
Outlining the importance of heritage conservation for the permanency and continuity of the collective memory, identity, and integrity of our societies, as a possible solution, the article recommends the idea of the redefinition and re-interpretation of the social engagement in heritage integrated conservation. The article discusses the feasibility of developing a smart approach of local and community-based engagement of heritage resources preservation capable of fully (and responsibly) exploiting the capacity of social groups and community potentialities for the protection of heritage resources, specifically, where these resources are more delicately present and subjected to conservation, like sacred and cult architectures. It will be stated that engaging local communities with decision making and strategies development, revives the collaborative spirit and commitment of a society in conserving its heritage in the era of globalization, helping heritage resources to be conserved for the future.

Heritage values change over time; they are influenced and shaped by social, cultural, and economic factors; within the context of the market driven contemporary society, a considerable progress has been made in measuring the economic value of heritage in quantitative terms, specifically regarding the built heritage; heritage resources are now valued with the economic values, highly attached to their embodied and intrinsic values; they are considered as capital and/or assets, and as an important part of the economic development programs[1] and it is believed that investing in these resources can generate social and economic benefits.

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1 *Cultural Heritage and Development: A Framework for Action in the Middle East and North Africa* (Washington: THE WORLD BANK, 2001), 34.

In the present context, the current strategies of heritage conservation management and planning should change to protect this *multivalent* character of the heritage resources and to guaranty the transmission of their values to the future generations; unlike ordinary value-based conservation approaches which have formed and influenced the heritage management strategies, effective approaches of heritage management should be formulated from deliberate, systematic and transparent analysis and assessment of all different type of heritage values.[2]

Surprisingly, only recently has the conservation field begun to involve factors as economics, cultural change, public policy, and social issues in formulating conservation strategies; over time, continuous philosophical evolution and new realizations regarding the histories and meanings of objects and places, have turned the heritage conservation to a very sophisticated and complex field; from conservation professionals point of view, due to the particular characteristics of the heritage resources, there are some challenges regarding the usability of the heritage resources in economic development.

Heritage professionals believe that integration of economic values to the cultural values of heritage resources and converting heritage objects as resources for the economic developments has made these resources vulnerable. For them this vulnerability is more tangible in the case of built heritage resources; they believe that the risks of misunderstandings of the concept of participating heritage resources in contemporary society's economic development may result is the loss of the authenticity of heritage resources and depriving them from their intrinsic and original values.

Heritage professionals criticize that due to the economic value of the heritage resources, an important part of the policies and strategies regarding the use of them in economic development

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2 Stephen Bond and Derek Worthing, *Managing Built Heritage: The Role of Cultural Values and Significance* (West Sussex: Wiley Blackwell, 2008), 85.

programs are targeted in exploiting maximum possible profit from these resources; as examples of this capitalistic perspective, they refer to converted urban architectural heritage, and sacred buildings like churches previously considered to be untouchable[3] by investors and developers through adaptive reuse[4] experiences. From heritage professionals point of view, as these buildings hold and present many different values, representational and/or symbolic, this capitalistic approach by itself is not able to address these complex values and to satisfy some very essential demands of these heritage resources. They believe that applying changes to a historic building for generating new uses is in contrast with historic preservation principles and guidelines, thus, they recommend conserving and maintaining historic buildings as much as possible.

It should be noted that although guarantying heritage permanency and its value transmission to future generations, in the present complex multicultural society, is a very important task to do, however, isolating these resources and excluding them from current developing context with the excuse of protecting them seems equally unable to guaranty their permanency, either; in this regard, *Viollet-le-Duc*, for example, believed that "the best way to preserve a building is to find a use for it";[5] however we should adapt strategies to exploit the full capacities of these

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3 In Netherlands is one of the pioneering countries in recycling old churches and converting old churches to book stores, luxury residences, or even hotels in this country is a common design trend.

4 There are many questions and serious considerations for heritage professionals that challenge the idea of the adaptability of the heritage resources to the needs of the contemporary society:

-what are the risks of adapting historic sacred buildings to new uses?

-to what extent can a historic building be adapted to a new use?

-to what extent can adaptive reuse be considered as a conservation strategy for heritage buildings?

-Adapting historic buildings to new uses reduces the level of accessibility and communicability of these buildings in present society by redefining them to some targeted and customized audience.

5 Jukka Jokilehto, *A History of Architectural Conservation* (London and New York : Routledge, 2011) ,154.

resources, not just their monetary and economic values where they are addressed as merely retail, commercial and economically generative.

Despite conservationists pessimistic vision of economic use of heritage, in the present market driven context, we cannot ignore the heritage economic value and exclude heritage resources from the economic development of the contemporary society, but we can turn this potential of the heritage resources into a generative resource for protecting the heritage itself; many of the heritage organizations cannot afford the necessary maintenance costs taking heritage resources undesirably to further deterioration, but if we can reintroduce and reinsert them into the society and participating them in its economic development, we can handle the necessary maintenance costs for their management and hence directly contribute to protect these resources. In this situation, implementing measurable and applicable economic principles to cultural heritage provides actually a basis for its long-term planning, management, and protection and a very valid and solid alternative for its preservation.

This necessitates rethinking, redefinition and re-evaluation of the theoretical knowledge of heritage conservation as well as the reorganization of the heritage management field by convincing heritage sector professionals to give the community the authority and power to operate in heritage conservation field.

Versus an innovative community-centered, culture-sensitive participatory approach

Reviving the social groups' participation in heritage management by applying an innovative community centered approach which involves all the community members, and in all stages even from the very initial steps, in the protection of the heritage resources could be a valid strategy of preserving and transmitting our heritage to the future and at the same participating them in the present day context's development.

Although the idea of local participation as a valid conservation strategy in the integrated conservation process[6]was officially advised 40 years ago in the Amsterdam charter, however, participation of the social groups in heritage conservation is in fact traceable from the 10th century on; since the birth of the pre-medieval communities, there has been always a constant and reciprocal connection between the communities and surrounding architectures,[7] where major part of the community interactions in the society happened; the members of these communities related themselves and their social origins to the physical context where they lived and consequently through a socio-physical interaction between them and the surrounding physical ambient, urban groups, local authorities and local inhabitants, all in an independent and quasi self-administered way, managed to conserve the existing physical context by any means possible for many years. This was a civil duty for the community and for each member of this community; maintaining living place in reasonable conditions by providing the minimum necessary conditions for returning them to normal use was the essential characterizing factor of the community involvement in the heritage preservation and the reason for preserving them from physical decay. This so-called civil duty remained for a long

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6 Luna khirfan, *World Heritage, Urban Design and Tourism: Three Cities in the Middle East* (London and New York: Routledge, 2014), 104.

7 Paolo Rossi, The Architecture of the City (New York:Oppositions Books, 1984), 34.

time and helped major parts of historic constructions to survive thorough time; it began to decline only when certain specialized institutions and organizations were established to take the responsibility of directing the interventions and projects regarding the preservation of heritage.

By the establishment of the professional organizations the task of identifying heritage resources, maintaining, and implementing necessary interventions for their protection were entrusted to heritage professionals and, as the result, over time, local communities found little responsibility for taking care of their own assets; they became less interested of taking care of these buildings as they let responsible organizations to do this.

In the present day context, innovative social engagement approaches are needed if we want to reinterpret and re-involve these socio-physical initiatives in heritage conservation.

The first step is to get the community[8] and its groups motivated by convincing them that the existing built heritage as a shared resource and an important part of the their communal/individual cultural identity, belongs to them and, they can actually and in a very tangible sense, benefit from this resource, just as they did in the past, provided that they perform the necessary tasks to preserve it. The importance of citizen participation, in the present day context, is the special focus point of the European Year of Cultural Heritage 2018; in this regard, in fact, The European Capitals of Culture (ECoC) initiative and connected programmes are intended to foster the participation of citizens living in the city and its surroundings, as well as those from elsewhere.

8 Frank Proschan, "Community Involvement in Valuing and Safeguarding Intangible Cultural Heritage," in *Community involvement in heritage*, ed. Koen Van Balen and Aziliz Vandesande (Antwerp: Garant, 2015), 7-15.

If the decisive authority is entrusted to the local community,[9] this make citizens feel they are realizing their future.

In many European cities, within each community physical context, there are many historic buildings which are already bound by severe and restrictive sets of laws and legislative instruments, formulated by authorities and competent organizations, against not-programmed interventions, but there are also many others, less studied maybe, in very run down conditions which can be perfect candidates to be reinserted into the community life once again; local administrations can identify these eligible buildings or even the citizens can propose them to administrative sector; in any case a meaningful interaction between the administrative bodies at different levels and civil society is created in order to protect heritage and exploit the best possible use of it. For example, in Netherlands, Bond Heemschut is an organization composed of many active local heritage organizations and volunteers who protect lees studied monuments from demolition, and not allocating them to developers who are not interested in their local historical value, all through active communication with local authorities.[10] The challenge in this context, however, is to identify the form of participation best suited for each case and every heritage building should be treated in a particular circumstance.

Heritage professionals should be consulted to recognize which one of these eligible candidates could be reinserted in to the community context; they also can help communities to recognize the values of these buildings, in this regard European Heritage Days is for example an excellent tool for introducing heritage sites to citizens, and to determine the most appropriate future

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9 Stella Jackson and Alania Schmisseur, "SPAB Maintenance Co-operatives: a move towards meaningful community participation?," in *Heritage, Conservation and Communities: Engagement, Participation and Capacity Building*, ed. Gil Chitty (London and New York: Routledge, 2017), 254-267.

10 Karel Loeff, "Creating Ambassadors- the best heritage community in the Netherlands," in *Heritage is Ours*, Citizens Participating in Decision Making, ed. Anna Maija Halme (Helsinki: Forssa Print, 2018), 34-37.

use for the building; this is very important as reusing of heritage buildings with a function compatible with their character can provide a long-term sustainable strategy for their preservation.

It is very important to consider, just from the very first steps that the nature of such a community participatory process is dynamic, strongly influenced by differences in social, cultural and political contexts. Through workshops, meetings and other instructional community interactions, ideas could be generated and proposals, taking into account social and cultural patterns, may be made for eligible buildings. Exhibitions can be organized from prepared proposals using traditional and modern infographics, digital methods, augmented reality, project mapping, etc. Education plays a crucial role in this regard; from local heritage education, to encourage children and young people to see the value of the heritage sites around them, to innovative collective social engagement approaches like crowd-sourcing approaches can be adapted in order to obtain ideas, which due to the exceptional characteristics of heritage buildings may be very unique and personalized, or proposals from the community. The Municipality of Lourdes in Portugal engaged directly the local people for developing the landscape management program by organizing different types of active dialogues: organized public meetings, preparing questionnaire, face-to-face meetings between local people and stakeholders, and meetings with school teachers and even interviewing children's family[11]. By engaging directly the citizens, historic buildings become once again, as they were in the past, a common point between the members of the society, which, regardless of their differences, they all share and want to protect.

As heritage resources are deliberately selected, in this procedure, in regards to their potential of profitability for the

11 *Citizen engagement in the protection of cultural heritage: A policy brief from the Policy Learning Platform on environment and resource efficiency,* (European Union:Interreg Europe Policy Learning Platform on Environment and resource efficiency, 2017), 3.

society development and its economic growth, stakeholders and investors become very likely encouraged and involved in this heritage-insertion process. Public-private types of investment[12] can be formed for taking care of financial aspects as the benefits of this smart approach attracts both investors and local administrations and communities to get more and more encouraged to commence similar projects which consequently turns this approach to an auto-alimenting and auto-sustaining approach.

Similar smart participatory, community-centered, multi-stakeholder, approaches applied to the management of cultural heritage,[13] which all started through local and community based initiatives and not from the academic debates or scientific seminars, are experienced in many European countries like Spain and here in Italy, with a special focus in the southern part of the country.[14] Citizen-centred participatory approaches of cultural heritage conservation also are officially inserted in Horizon 2020 and its joint initiative program called Cultural Heritage and Global Change.

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12 Zeynep Aygen, *International Heritage and Historic Building Conservation: Saving the World's past* (New York: Routledge, 2013), 192.

13 Sergio Barile and Marialuisa Saviano, "From the Management of Cultural Heritage to the Governance of the cultural Heritage System," in *Cultural Heritage and Value Creation: Towards New Pathways, ed. Gaetano Golinelli* (London and New York: Springer, 2012),71-105.

14 Italian experiences are gathered and described in the book entitled "Sud Innovation: patrimonio culturale, innovazione sociale, nuova cittadinanza".

Graphically steps and phases of this participatory, community-centered approach in consecutive order can be seen in the table below:

Phases	**Identification**	**Verification**	**Ideation**	**Verification**	**Realization**
Actors	Local authorities Citizens	Heritage professionals	Citizens Stakeholders Local authorities	Heritage professionals Local authorities	Local authorities Citizens Stakeholders
Instruments	Research Documentation Crowd sourcing Local History	Laws-Legislation Protective measures Risk assessment	Workshops/ Seminars Local Schools Collective brainstorming Crowd sourcing Questionnaire and interviews	Feasibility assessment Risk assessment Legislative assessment	Citizen-investors-authorities joint collaboration

Conclusions

Citizen participation in the protection of cultural heritage helps to increase awareness about the value of cultural heritage as a shared resource; unlike, merely capitalistic based approaches which share remote common interests with the local citizens, community-centered participatory approach helps the community and its members to benefit from rendering this shared resource available for its own development; it gathers different sectors and disciplines like conservationists, investors, authorities and social groups, in a flexible smart way; it also reinforces the urban resilience by helping individuals, communities, institutions, businesses, and systems within the community to survive, adapt, and grow. Finally and more importantly, by addressing historic buildings some generative uses, this approach helps heritage resources to become sustainable and economically independent, as the result, heritage conservation in-charge organizations can handle more easily the pressures of dwindling budgets for heritage protection, manage to address the future economic demands of these buildings, and transmit them more effectively to the future generations.

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Empowering for social housing neighborhoods: the study case of Decima in Rome

Social Housing Neighbourhoods; Inclusive Urban Regeneration; Co-management

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The rehabilitation and the protection of the cultural heritage, are a subject that for years has occupied a relevant position within the reflection on urban phenomena. Even more today, the concern about the immense consumption of resources, together with a prolonged socio-economic crisis, has led to the development of new sensitive approaches to the existing built heritage. However, the difficulty in establishing what can be defined as heritage, especially for what concerns the social housing neighborhoods, has a significant impact on the actions that determine its future life. Not recognizing the patrimonial essence of these districts could, in fact, lead to negative outcomes, as well as adopting obsolete safeguards measures that are not consistent with the evolution of time. The neighborhood Decima INCIS in Rome, built in the '60s by the architect Luigi Moretti, will be the study object of this paper. Its analysis, as well as the study of others Italian social housing neighborhoods, reveals that our society is facing a transformation, causing a change in the parameters to respond to housing demand. The

inhabitants as "anonymous builders" have developed a collective identity, based on their daily life, on the practices of appropriation, on their ways of sociability. They test forms of participative management, constituting associations aimed at the redevelopment of the neighborhood itself.
Therefore we decided to study what are the elements that can lead to establish the legitimacy of the neighborhoods like Decima and their communities to be accepted as heritage. We also try to identify future strategies regarding their regeneration, to define a new, more inclusive and democratic paradigm, recognizing the inhabitants' role and providing them with the tools to have an active part in their future. The study case will show that empowering can be seen as a mean of social innovation for a new sustainable collective management model for cultural heritage.

Introduction

The rehabilitation and the protection of the *cultural heritage*, are a subject that for years has occupied a relevant position within the reflection on urban phenomena. Even more today, the concern about the immense consumption of resources, together with a prolonged socio-economic crisis, has led to the development of new sensitive approaches to the existing built heritage. However, the difficulty in establishing what can be defined as heritage, especially for what concerns the *social housing neighborhoods*, has a significant impact on the actions that determine its future life. Not recognizing the patrimonial essence of these districts could, in fact, lead to negative outcomes, as well as adopting obsolete safeguards measures that are not consistent

with the evolution of time. Although international conventions have enshrined the criteria for heritage recognition, it does not seem obvious the patrimonial status of social housing neighborhoods. Therefore we decided to study what are the elements that can lead to establishing the legitimacy of these neighborhoods to be accepted as heritage, trying to identify appropriate actions and future strategies regarding their regeneration.

The object of the research

The social housing neighborhoods built after World War II in Italy, are the result of a collective construction resulting from history, economic activities, practices, social structures and systems of representation that synchronously define them. Reading these components allows us to understand the complexity of the study object, defining it as a "palimpsest,[1] on whose horizon the inherited city, the present one and the designed one meet each other. Returning to observe these neighborhoods in their daily experience, with a particular sensitivity towards the ideals that have oriented the architects, is the only possible way to address any operation that concerns their future. Therefore, the social housing requires to seek a balance between the past and the future, based on the belief that it is the symbol of a collective identity, worthy of being transmitted to future generations.

1 André Corboz, "Il territorio come palinsesto," *Casabella* 516 (1985): 22.

The social housing neighborhood as cultural heritage

If at a first glance, their artistic and functional dimension presents them as a "document/monument of modernity"[2] the problematic social aspect has introduced elements of precariousness in the transmission of their recognized design values. The prejudices related to the *malaise* of these districts have determined an aptitude to delegitimize the initial projects, distancing them for a long time from any process of acknowledgment. Beyond stereotypes and stigmatization, we should, therefore, understand the conditions and the *social practices* that once were social housing construction principles and that give them meaning even today. The analysis has in fact shown another reality, made up of people living in these places, who aspire to enjoy their neighborhood: in organized or spontaneous forms they personalized these places according to their own needs. A growing number of "heritage communities"[3] that define "landscapes of daily living"[4] leaving signs and "traces"[5] of individual and collective projections, forms of co-development and solidarity, show often hidden aspects of a culture that encompasses practices, social relationships and values.

In this way, both the provisions of the *Convention for the Safeguarding of Intangible Cultural Heritage* signed by the UNESCO in 2003, and of the *Council of Europe Framework Convention on the Value of Cultural Heritage for Society* signed in 2005, are demonstrated. These documents emphasize, respectively, the value of the knowledge that heritage *communities* develop "in

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2 Paola Di Biagi, "La città pubblica: un laboratorio della modernità da riqualificare e tutelare," *Riprogettare la periferia* (2004).

3 COE, *Council of Europe Framework Convention on the Value of Cultural Heritage for Society* (2005).

4 Paola Di Biagi, "La città pubblica. Un paesaggio dell'abitare quotidiano," in *Paesaggi in mutamento. L'approccio paesaggistico alla trasformazione della città europea*, ed. Annick Magnier and Maurizio Morandi (Milano: Franco Angeli, 2013).

5 Paola Di Biagi, "La periferia pubblica: da problema a risorsa per la città contemporanea," in *Oltre la città: Pensare la periferia*, ed. Attilio Belli (Napoli: Cronopio, 2006).

response to their environment, their interaction with nature and their history", [6] in order to "sustain and transmit to future generations"[7] some aspects of cultural heritage. The architecture examined, enriched by these social practices, is even more legitimized to be recognized as a cultural heritage, by accepting within it evidence of material and immaterial culture, and defining it synchronously.

Recognizing social housing neighborhoods as cultural heritage is important because of different factors. Firstly, it represents a mean to face the decline of these districts. In fact, the cultural heritage role should be "the construction of a peaceful and democratic society"[8] promoting both people inclusion and sustainable development. Moreover, the acknowledgment as cultural heritage should promote a renewal of the actions adopted, which are supposed to be more sustainable and shared among the actors, encouraging new governance.

The benefits of the empowering

The aim of the paper is to show the benefits of empowering for the regeneration of social housing neighborhoods. In Italy, the existing legislation continues to deal mainly with safeguard, without any remarkable innovation. Since 2002, the National census of the late twentieth-century Italian architecture[9] has aimed at issuing declarations for sites of important artistic nature, according to the law n.633/1941 on copyright, and at protection activities, provided by the legislative decree n.42/2004 and further modifications, for contemporary architecture. This seems to stimulate a greater attention to the contemporary

6 UNESCO, *The Convention for the Safeguarding of Intangible Cultural Heritage* (2003).

7 COE, *Council of Europe Framework Convention on the Value of Cultural Heritage for Society* (2005).

8 ibid.

9 Promoted by General Direction for Contemporary Art and Architecture and Urban Peripheries.

architectural heritage by providing a safeguard system, but instead, it is required a careful reflection on the quality of the actions to be taken towards it. Only by recognizing both the social role of these districts and the role of inhabitants, it is possible to think about the empowering as a regeneration tool. Empowering, in this case, means to acknowledge the residents' function and provide them with the necessary the tools to take an active part in their future, so that their needs and aspirations can really be expressed. Engagement and therefore commitment become growth factors, both for the citizens and for the city. So, empowering means accepting the challenge of new cooperation forms, through which citizens can participate in various ways, from design to management, to create common projects that guarantee greater solidarity. The seemingly weak social housing districts, therefore, have a potential for transformation and renewal that starts from this creative culture, capable of finally claiming an identity for these places.

Methodology

The research makes use of a case study analysis to support the identified thesis. The Decima neighborhood, in the periphery of Rome, was examined, because subjected to a shared management process by its inhabitants, in response to a state of decay and abandonment. The methodology used was mainly of qualitative nature, developed through archival and bibliographical inquiries; field surveys carried out through photographic investigations, interviews, remote observation and documents collection. After that, a transversal analysis of the available data was carried out, trying to identify the social innovation elements. The article will evaluate in the conclusion the effectiveness of the strategies put in place, and whether they can contribute to the definition of new inclusive and collaborative regeneration models, substantiating the thesis previously exposed.

The case study of Decima

The neighborhood Decima INCIS (National Institute for the Homes of State Employees) stands in Rome's periphery and was built between 1960 and 1966 by the architect Luigi Moretti. The architect posed many attention to the composition of the common and green spaces, designed to be as much livable as possible. The result is a fluid and permeable space, where the green fabric is enveloped by the buildings, without losing continuity. The collective space is, therefore, a substantial part of the project, able to establish important visual relationships that permeate the entire neighborhood, guaranteeing its physical and social unity. Despite an exemplary design, avant-garde for the time, the absence and precariousness of services and infrastructures, have amplified the perception of urban isolation by the inhabitants, who, on the other hand, have witnessed a particular affection to their district, matured thanks to its peculiar configuration. Even though today Decima is in a state of decay, the spirit of the place remains rooted in the memory of the eldest and appreciated even by the youngest. This is demonstrated by the birth of inhabitants organizations who are working in

Fig. 1

View of the public spaces before the intervention of the Association Decima50. Ph. Giorgia Di Cintio, 2017

Fig. 2

View of the public spaces before the intervention of the Association Decima50. Ph. Giorgia Di Cintio, 2017

synergy with each other and with the association Open City Roma[10] to give new life to their neighborhood.

The inhabitants' associations

In 2000 the neighborhood committee *Torrino Decima* was founded. Since 2014 it has been proposed as a citizens association with the role of interface between the municipality and the territory, communicating dysfunctions and emergencies reported by the inhabitants through an online survey, called "Let's help to improve the neighborhood". Some members of the committee were also involved in another important association: *Decima50*, which was established in December 2014 on the occasion of the fiftieth anniversary of the first neighborhood inauguration. In recent years, the association has attempted to reevaluate these spaces through recreational and social events to "give new life to our community"[11] as we can read on their blog. They apply an inclusive management model, proposing moments of

10 Open City Roma is a non-profit association founded in 2010 and composed by young people with different paths and skills. Operating mainly in Rome, it carries out reseaarches on urban sustainable development and on architecture and culture promotion.

11 Association Decima50 blog.

confrontation regarding the critical issues detected by the inhabitants, that become an opportunity to organize activities of recovery and participatory maintenance. In March 2017, the A park for Decima project was launched with the purpose of improving the architectural environment and promoting culture. The project aims to make accessible the central public area of the park, long since left to neglect, and to enhance it through the creation and maintenance of cultural spaces, the use of which is programmed over the period of twelve months, "to promote the rebirth of the territory in relation to cultural, architectural, artistic, environmental and economic potential."[12] The goal is to make the area available in a permanent way, through self-managed activities by the resident community.

A similar event had already involved in 2016 the *rotonda Moretti*. In this case, the initiative was the result of the project Living for supervised by Open City Roma and promoted by the General Direction for Contemporary Art and Architecture and Urban Peripheries - Ministry of Cultural Heritage and Activities and Tourism. In February 2016 they organized a workshop involving associations, such as Decima50, and citizens, with whom they worked on defining actions to improve the quality of life in the neighborhood. The first activity was a reasoned map of the district, the result of collective reflections, from which it emerged that the *rotonda Moretti* or *Donnini* square had always been a "meeting place"[13] of the neighborhood. However, forms of physical degradation accompanied by the closure of various activities, had led the place to be empty. The same applied to the large green areas, where the lack of lightning, accompanied by poor maintenance of the routes, make the users feel uncomfortable and insecure, especially at night. In addition, the spaces have undergone an acceleration in the degradation both due to poor individual management and incorrect

12 ibid.

13 Open City Roma, *Abitare per Decima Roma flyer* (2016).

planting. Contrary to the idea of Moretti, who imagined a continuous green space permeable to the users' gaze, the green space was planted with the *yucca*, a plant which creates physical and visual barriers, and with hedges to underline the delimitation of the respective condominium flowerbeds. The yucca, in particular, has proved to be a highly infesting plant. All this has often determined the loss of the original unitary perception of the green, altering it and effectively removing it from the collective fruition. For this reason, it was decided to plan a series of actions to reevaluate the critical issues emerged, under the light of the original project. The architects of Open City Roma together with the inhabitants, decided to redevelop the Donnini square and the green spaces, experimenting collaborative methodologies of realization and management over the time. The *rotonda Moretti* was disinfested and cleaned up during the days organized by *Decima50*, which self-financed the operations. A program was also planned for coordinating the shared management of the green spaces which had been recovered, trying to make them closer to the Moretti design ideas. The Decima50 association proposed to the Decima tenants, represented by the condominiums administrators, to share the recovery and redevelopment plan of the collective spaces and greenery pertaining to each building, since then managed in an autonomous and uncoordinated way.

Our duty, of all us inhabitants, as managers and users of the green areas of Decima, is to recover the idea of green conceived by the architect Moretti, only partially realized and, even more, impoverished by the unaware, even if deserving, intentions of individual management of the common good. The awareness of the architectural, environmental and social value of the place where we live, to protect and preserve, has led us as Association Decima50 to undertake this path of involvement and participation of the Decima inhabitants starting with the recovery and redevelopment of the green, which means to relaunch and to consolidate the sense of belonging and participation in the

management of the common good. (Association Decima50, Proposal for a unitary plan for the recovery, redevelopment and protection of Decima's green heritage, 2017)

The plan also proposed to jointly elaborate among the condominiums and the association some guidelines, a sort of user manual containing instructions on how to carry out the planned interventions, ranging from the type or period of pruning to be performed, to which materials to be used. "This, like other possible unitary initiatives affecting the neighborhood, intended as an organic whole in a wider urban context, aims to promote, support, share and enhance the uniqueness of the neighborhood"[14] always quotes the plan, which was drafted from the association with the collaboration of architects and experts.

This experience demonstrates that the collaboration between architects, institutional associations, and inhabitants both as individuals and gathered in neighborhood associations, can produce examples of effective co-management to improve the life quality. Starting from the awareness of the neighborhood's identity, it can be activated with the inhabitants a process of maturation of possibilities, understood as the organization of actions, times, resources, roles, expectations, desires. Activities that were born together, stimulated by professional skills, are proving to be effective and completely autonomous. This was confirmed by the fact that almost two years after the initiative "A park for Decima", the Decima50 association is continuing with its appointments for the recovery of the degraded green areas, and a condominium has already joined the initiative of the agreement, with a unanimous vote by the residents, underlining the inhabitants' general consensus and the recognition of the common good inhabited by them, a true *collective heritage*.

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14 Association Decima50, *Proposal for a unitary plan for the recovery, redevelopment and protection of Decima's green heritage* (2017), 14.

Conclusions

The experience shows how, in order to deal with the existing heritage of social housing neighborhoods in Italy, it is necessary to define a new, more inclusive and democratic paradigm, in which dialogue, cooperation and coordination are fostered through a multidisciplinary perspective. The inhabitants in fact, as "anonymous builders"[15] have developed a collective identity based on their daily life, on practices of appropriation, on their own ways of sociability. As observed in the Decima district in Rome, the residents have put in place real forms of civic engagement through participative management, constituting associations aimed at the redevelopment of the neighborhood itself. This experience, born in an informal way, is gradually constituting an interface between the tenants and the local administrations, providing a way to recovery projects based on the original design ideas. The *empowerment*, which in this case was based on the dialogue between architects and inhabitants, to whom the correct methodological support and the necessary tools were provided, has allowed to satisfy the collective needs and to strengthen the social value of the neighborhood, the bearer of a collective public interest. The empowering can be seen as a mean of social innovation for a new sustainable collective management model for cultural heritage. Just by assuring people their "right to the city"[16] we can achieve an *inclusive urban regeneration*.

15 Conference program *L'entre-deux barres. Une ethnographie de la transformation des ensembles de logements collectifs par leurs habitants* (Paris: Cité de l'Architecture et du Patrimoine, 2017).

16 Henri Lefebvre, *Il diritto alla città*, trans. G. Morosato (Verona: Ombre Corte, 2014).

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Event-Age: generating creative heritage through urban events

Urban Events; Design Cultures; CCI; Social Innovation; Creative Heritage.

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Since the Renaissance, the great events of the city's history have offered the opportunity for artists, men and women of letters and rulers to represent, describe and govern the city[1], each according to their own sphere. The foundation of all this human activity lies in its two-fold capacity for projection, that is, in being able to translate reality synthetically into a particular language, as well as knowing how to invent and stage imaginary futures. Design, in its role as the enabler and mediator of knowledge and creativity, is both the basis and the process of planning visions that anticipate the future and new identities.[2] Additionally, it gathers up and identifies the feeble signals of a future that can already be found in the present[3]. This contribution presents a literature survey on actions, practices and process for urban recycling and reactivation, assuming urban events and the concept of creative heritage as strategies to cultivate future identities of the city. In the European Year of Cultural Heritage 2018, the paper examines the state of the art on this

1 Michael Baxandall, *Pittura ed esperienze sociali nell'Italia del Quattrocento.* (Torino: Einaudi, 2001)

2 Flaviano Celaschi, *Non industrial design. Contributi al discorso progettuale*. (Milano: luca sossella, 2016)

3 Elena Formia, *Storie di futuri e design*. (Santarcangelo di Romagna (RN): Maggioli, 2017)

phenomenon through the analysis of some case-histories, comparing the hybrid range of practices and processes, overall temporary uses and events, set by a wide range of formal and informal actors. The intention is "to forge connections between cultural heritage as things and spaces on the one hand, and as ideas and people on the other" as stated in the *Creative Heritage*'s manifesto.[4]

Sunset of globalization and new conditions of existence of the city and cultural heritage

In the last two decades, the processes of globalization have undermined territories, national identities and local communities because they have escaped the control of all of them.

The processes of globalization intervened selectively, projecting some selected places – with their subjects and objects[5]– in global networks, actually abstracting them from their territory.

What are today the side-effects of the crisis in our cities, also induced by this process of de-territorialisation, and what are the solutions to be experimented?

Besides the effects of a political nature – reduced top down administrative capacity to govern the processes of urban reactivation, the high availability of public and private under used

4 Jörg Schröder, Maurizio Carta, Sarah Hartmann, *Creative Heritage*. (Berlin: Jovis Verlag, 2018)

5 Nicola Marzot, "Il diritto all'architettura come ricerca paziente. Forme del dissenso, pratiche di rivendicazione dello spazio e potere del progetto", in Olmo, Carlo (a cura di), *Rights. ARDETH*, n°4, Torino, Rosemberg & Sellier, Spring 2019, pp. 83-108. ISSN: 2532-6457.

heritage, the emergency of stopping the abandonment of sites that are no longer productive, migrations – we must consider the effects of identitary nature.[6]

The crisis of global finance is in fact generated by those who have no longer been able to support globalization, embodying its expectations, and who were the first to trigger an inverse and return process, from the global-ideal city to the real-present city. In the newly emerging condition, the demand of citizens to be an active part in the management of the city, considered as a common good, is always increasing. In the last decade, the conscious participation of citizens has been manifested above all into temporary practices and thematic events with the aim of redesigning small portions of the city's identities, enhancing cultural heritage, local roots and experimenting with new jobs.[7] These experiments have become prototypes of scalable, sustainable, high-widespread projects and have become the test bench for innovative methodologies and different design-driven processes of rehabilitation of the contemporary city.[8]

Fifty years after the most futuristic, ideal and science-fiction event ever happened –the moon landing– we have finally approached the year 2019. Not by chance, 2019 was advocated by the Ridley Scott's movie *Blade Runner* as a time where communities would be invited to leave the planet Earth to live in the "off-worlds colonies." In the present reality, it is worth starting from the cultural "recolonization" of our "many worlds on Earth" through creative practices and temporary events.

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6 Carola Hein, "Creative Practices. Bridging temporal, spatial, and disciplinary gaps", *European journal of creative practices in cities and landscapes,* no. 0 (2018): 1-5.

7 Peter Bishop and Lesley Williams. *The Temporary City*. (London, New York: Routledge, 2012).

8 Gianfrate, Valentina, Boeri, Andrea, Celaschi, Flaviano, Longo, Danila and Vai, Elena. "Design e tecnologia applicate al contesto urbano". *MD Journal*, no. 5 (2018): 186-195.

Temporary events as an opportunity to experience body, contents, containers

Both the territories not involved in global finance and those overturned by globalization, because of the crisis, have had to be re-invented. To that purpose, we look at the creatives, their movements of employment and self-management, already anticipated during the crisis of the Nineties, which saw in the abandoned spaces of the city, ephemeral places in which creativity could be expressed through experiments of a temporary nature.[9]

Historicization of these experiences has come to us thanks to the happening of events [from Lat. *eventus -us*, der. to have happen, to succeed] that were fundamental in the process of changing the identity of those same places. For this reason, I justify my interest in deepening the role of the event in its ability to anticipate new identities, to intercept the continuous and latent mutations of the city that constantly changes.

In recent years, the literature on the processes of material and immaterial transformation of the cities has been substantially distinguished in operational manuals that synthesize bottom-up experiences of gradual re-appropriation – characterized usually by temporary uses of abandoned spaces – and in methodological essays that indicate the specialization strategies necessary to complete the transformation, often as the result of academic research and funded projects.

It is complex to frame the contemporary phenomenon, but, through the case histories collected in the operational manuals and those observed in their making, it is useful to delineate it through the constant elements that emerge:

- the temporary and original use of spaces in the city, through the occurrence of temporary events;

9 Alinovi, Francesca. Arte di frontiera. New York Graffiti. (Milano: Mazzotta, 1984).

- the experimental use of city spaces through bottom up participation;
- the reuse of the city, through an unprecedented interaction between people, contents, places.

Tracing these constants makes it possible to categorize the processes that are activated during the events by naming them in relation to their potential growing impact on time, material and immaterial reality:

- processes of temporary reactivation of spaces, destined to have a minimal impact in the long term;
- processes of cogeneration of content, destined to have a great impact in the long term (such as design weeks);
- regeneration processes through the reuse of brownfield sites, the "recycling" of spaces, whose character is variously defined as "informal", "stratified", "in transition", "non-authorial".[10] "flexible" that are able to design and affirm new uses and therefore new identities.

The experience described in the *Manual for the temporary reuse of abandoned spaces in Italy*[11] combines both aspects of field experimentation and academic project, conducted by Temporiuso.net association, which has developed a tool kit by applying design processes and methods to the regeneration of underutilized assets in the post-industrial and post-global suburbs of Milan. In the interview with Stefano Boeri, reference is made to the publication *The European city of the 21st century: lessons in urban history* in which he describes how, in 2001, people were already maturing an awareness about the end of a system of spaces built in the Nineteenth century, which had progressively lost their function, not only those relating to industrial areas, but also spaces for exchange and care, such as large general markets and hospitals.

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10 Pippo Ciorra and Sara Marini (Eds.). *Re-cycle: strategie per l'architettura, la città e il pianeta.* (Milano: Electa, 2011).

11 Inti, Isabella, Cantaluppi, Giulia, Persichino, Matteo. *Temporiuso. Manuale per il riuso temporaneo di spazi in abbandono in Italia.* Milano: Altra Economia, 2014.

In the same year, it was published the book *Mutations*[12] by Rem Koolhaas within which the contribution on territorial transformations of the same Boeri was related to the USE project (Uncertain States of Europe) carried on by the research collective *Multiplicity*. Stefano Boeri tried to address one of the issues inherited from the transition to the new millennium, linked to the uncertainty of the future, on how to regenerate cities by reusing large gaps, also in light of the growing awareness that the number of inhabitants the metropolis would have grown to expect to 2015 the presence of 33 megalopolis of which 27 located in the less developed countries (Global Urban Observatory).[13]

The crisis of globalization has fortunately held back this growth of megalopolis, but it has not limited the growth of widespread empty spaces in all cities, not just European ones.

In the book *Riusiamo l'Italia*[14] listing more than 120 best practices, also published on the homonymous online site, Giovanni Campagnoli confirms the trend of temporary reuse as the first strategy carried out by young cultural start-ups and associations to revitalize "unconventional spaces" through a mixed public-private investment, aiming their transformation into creative spaces, for social and cultural impacts.

The value of reuse, declined in its counterpart "recycling", has received its consecration in the exhibition *Recycle. Strategies for architecture, the city and the planet*[15] curated by Pippo Ciorra and Sara Marini at the MAXXI museum in Rome. Accompanying the Miur Prin 2010-11 funding, the research has expanded and has involved ten architectural departments of Italian universities

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12 Stefano Boeri and Multiplicity, Rem Koolhaas and Harvard Design School Project on the City, Sanford Kwinter and Daniela Fabricius, Hans Ulrich Obrist, Nadia Tazi. Mutations. Barcelona: Actar, 2001.

13 Boeri, Stefano (Ed.). *Multiplicity USE: Uncertain States of Europe*. Milan: Skira, 2003.

14 Giovanni Campagnoli. *Riusiamo l'Italia. Da spazi vuoti a start-up culturali e sociali*. (Milano: Il Sole 24 Ore, 2014).

15 Ciorra, Pippo and Marini, Sara (Eds.). *Re-cycle: strategie per l'architettura, la città e il pianeta*. Milano: Electa, 2011.

that have developed analyses which explore the theme in the various urban planning disciplines, of architecture and law. The proposals to reinvent the city were summarized in the *Re-cycle Manifesto* by Mosè Ricci and published in the Agenda *Re-cycle*.[16] Given the enormous work of research, comparison and publications, the limit of this project is, from my point of view, to consider Recycle an agenda that must be delivered to politics. The whole project is already a political, economic and social agenda without mediations and could be immediately implemented. The hope is that creatives and designers turn it into reality: the radical nature of recycling lies in fact in the immediacy of its creative action as experimentation of new relationships. In the experiences mapped, the experimental phase is in the hands of the creatives who, through self-organized processes, look for new spaces to recreate new relationships and new identities.

Creativity, applied to design-driven processes staged during events, becomes therefore a continuous exploration tool of the city and a means for verifying the hypothesis of reactivating spaces through events,[17] looking for temporary, small-scale solutions, hopefully shared.[18]

The event, intended as an opportunity for encounter and unexpected interaction between people and places, is by its nature transformative of places, it is experimental in its ability to test new technical and technological discoveries, it is performative for the involvement of users, it is generative of new processes of relationship and it is a means of social innovation.[19]

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16 Enrico Fontanari and Giuseppe Piperata. *Agenda RE-CYCLE*. (Bologna: il Mulino, 2017).

17 Charles Landry. *The Creative City: A Toolkit for Urban Innovators*. London and Sterling, VA: Routledge, 2012.

18 Cristina Bianchetti. *Territori della condivisione. Una nuova città.* (Macerata: Quodlibet, 2014).

19 Elena Vai. (Ed.). *Cultura, creatività, industria. Culture del progetto e innovazione di sistema in Emilia-Romagna*. Milano: luca sossella, 2017.

Creative heritage as strategy to cultivate future identities of the city

Are there specific spaces that allow the staging of experimental and creative forms of operation?

These experimentation forms are expressed above all in activities of unreleased co-belonging between those who experiment and the places that are no longer used in the city and are in a state of abandonment and decay. Creatives are looking for new places and freed spaces are looking for new content. The relationship that is established is original and open, in which the subjects acquire new identities and the objects new vocations.

In the contemporary city the concept of "open-city" is already in crisis, closely connected to the effects of de-territorialization of European towns, to the loss of the link between city, community and its territory. The open-city concept had become a conscious object of attention from the end of 2009 with the Architecture Biennial in Rotterdam.[20] In the initial phase of the global financial crisis, there was not yet awareness of the open-city concept, but we lived passively, indeed we suffered the new phenomenon that was not yet recognized as an open city, but that had common outcomes in different cities, such as the accumulation of vacant buildings and abandoned areas, especially in peripheral areas but not only.

This loss of "material" connection, related to the processes of globalization, has produced "virtual" contaminations, hybridizations, open-source creations, creative commons databases in terms of cultural productions, but it has also destabilized the symbolic link between cities, citizens, heritage and territory. In the last decade, the progressive participation of citizens in the imagination of the city and its cultural and relational heritage is the most efficient way to make the continuous mutation of cities

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20 Tim Rieniets, Jennifer Siegler and Kees Christiaanse. *Open City: Designing Coexistence*. Amsterdam:Uitgeverij SUN, 2009.

sustainable.[21] The reverse bottom-up process that is emerging is justified by the overcoming of the paradigm of the contemporary immaterial—the city of flows, of the computerized and informatic multilayers[22]—through social street movements that use the technology and the social networks but encourage collaboration and the real encounter of the neighborhood communities of the city, through the civic crowdfunding and the renewed need for participation, after the virtual immersion that social media have granted. Nevertheless the digital revolution, through mobile applications, has exalted every sort of service to the citizen (low-cost flights, private car transport services, e-shops for any kind of goods) and has changed the everyday experiences of the city.

In less than a decade, the phenomenon of Ryanair or Airbnb have had a great impact in the mutation of large, medium to small cities in Europe that have become "postcard city", confirming the anticipatory reading made by Richard Ingersoll (2004) of the risks cultural and social services of global tourism. It is therefore urgent to reflect on the cross-eyed vision of the world that we are progressively adopting, driven by a need for localized and real relationship on one hand and the temptation offered on a world scale of possible and unlimited social but virtual relations on the other.

Following the success of Airbnb, the affirmation of a more conscious use of digital platforms—to promote the real "diving" within the city and make them rediscover through their creative practices and identifying spaces—is found in temporary experiences such as *Open House London*, which uses the web only as a vehicle to promote his format. Born at the beginning of the Nineties of the last century by the collective called Open-City, the model of temporary opening of public and private buildings, characterized by architectural value, has been adopted by more than

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21 Consiglio D'Europa. (2005). Convenzione quadro del Consiglio d'Europa sul valore del patrimonio culturale per la società. Retrieved from https://www.coe.int/it/web/conventions/full-list/-/conventions/treaty/199. Accessed on: February, 2019.

22 Carlo Ratti and Matthew Claudel. *La città di domani. Come le reti stanno cambiando il futuro urbano*, (Torino: Einaudi, 2017).

35 cities in the world. A two-day format of guided tours, in which training, tourism and territorial marketing are integrated values. Over the decades, the selected openings of the architects' studios, internationally called Open Studios, have multiplied over this model, through itinerant events in different cities, organized and promoted by professional associations, which have contributed to the promotion of architects in years of deep crisis of the profession. Over the years, the temporary Open House format, thanks to the confirmation of the success of attendance by professionals and visitors (*Open House London* attracts more than 250,000 people), has been recognized by administrators as an excellent strategy for the enhancement of architectural heritage of entire districts transformed into creative districts. This process is similar to what happen during the Design Weeks—organized in hundreds of cities spread over the four continents, despite the "official" World Design Week network counted in 2018 the accession of just 21 cities—with the consequent reactivation of areas involved in the temporary event, which implies also social and economic impacts in the continuous development of the cities.

In all these cases, the "digital twin experience"—offered by the online site devoted to the promotion of the events—extends over time the experience, creating however a gap within the real experience in the city, which has to be always mediated by the body as authentic relationship with others. The body becomes thus the limit that globalization, extended reality and the immersive city want to overcome. Today, however, the limit, the real and the body come into play as authentic values, as the basis of relationships in living in cities. And the event is the phenomenon in which the limit as temporary, the real as experimentation, and the body, in its relationship with the spaces and contents, manifest themselves creatively, drawing future traces of new identities.[23]

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23 Flaviano Celaschi, Elena Formia and Elena Vai. *La città mutante come materializzazione dei futuri: sfide ed etiche*. p 28-35. *Urban tracks*, no. 28. 2018: 28-35.

Conclusions

The cultural heritage of the cities is continually transformed in relation to the storytelling of the relationship between citizens, spaces and contents updated in those spaces. The actors who are most consciously involved in the transformation of material and cultural heritage, generally belong to the creative sector. However, when we talk about cultural and creative industries we are not bound by a specific field and we meet many disciplines according to cross-fertilization processes: art investigates new technologies, technologies look at communication, communication looks at design, design looks at architecture, architecture looks at culture, culture at politics, politics at society, society is inspired by cultural heritage, and the circle is completed to start new trajectories. Today design driven processes fall into principles, methods, and rules that are recognized in society as a whole. This awareness of the discipline of design, the bearer of methodologies that extend from within the industrial processes to all disciplines, has become pervasive in the circular society. The reasoning is none other than the rediscovery of how civilizations have always been formed. Design culture—critically putting itself in discussion, offering and staging through an anatomy of its objects and its principles and methods of work—helps to understand how to revolutionize the next life cycles of cities. Today cultural events are celebrated in their phenomenal quality and in their ability to experiment, to communicate and to define new creative and social assets,[24] which are necessary to generate future identities and are efficient ways to make the continuous change of cities sustainable.

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24 Montalto, Valentina, Jorge Tacao Moura, Carlos, Langedijk, Sven, Saisana, Michaela. The Cultural and Creative Cities Monitor. 2017. Retrieved from https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/cultural-and-creative-cities-monitor-2017-edition. Accessed on: February 19th, 2019.


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Claiming the Future by Pronouncing Local Heritage

Participation; Polycentric Growth; Rurban Heritage

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The concept of heritage has always been provoked by changes and the wish to preserve endangered historic legacy for future generations, it is closely connected to the historic and social situation and people in different times and depending on their origin interpret the traces of the past according to their beliefs and convictions. Heritage therefore is always an interpretation of the past and hence a political topic. Urbanistic heritage often becomes recognized as such, in the moment of city expansion, when what has been the entire city turns into a "historic centre". The whole landscape of the Sabana de Bogotá including its villages, rivers, wetlands, and land use patterns has experienced a rapid and extreme urbanisation process since the second half of the 20th century, changing completely the territory and everyday life of its inhabitants. As part of this urbanisation process six former villages are now part of the city. However, the recognition of the mega city's heritage is mostly limited to the historic centre of what has been the Spanish city of Santa Fé de Bogotá. This is reflected in publications on the topic, the public perception, the legal situation and official policies.
In order to explore the wider and multi-layered heritage of the current city of Bogotá, the Sabana de Bogotá will here be regarded

as a coherent "territory", a concept that includes a living combination of urban and rural space as well as the natural and built environment with its socio-cultural relations. So, the six integrated villages – knots within the territory – are key points to understand the past and on-going transformations of Bogotá as well as its neglected and evolving heritage. They represent tangible places of the diverse history of this cultural landscape and are part of the cultural heritage of the city and its inhabitants, contributing to a more complex identity formation.
Participative research with local heritage initiatives in the former villages revealed the potential to broaden and diversify the current official heritage, basically limited to European influence in the colonial period, by including the legacy of these historic sub centralities. The current situation at each site is particular and so is the interpretation of heritage. One village, still a centre of agrarian activity, is home to a group making use of the archaeological and rural heritage to claim a more carefully planned city extension. In two of the former villages local indigenous groups, after centuries of disavowal, have gained official acknowledgement and now claim respect for sacred places and territory-related traditions. Another group of community workers understands local heritage as an articulator from struggles of the past to social mobilization today. These groups differ in their legal status and central motivation, but their challenges are similar. All of them are excluded from the urban planning process and they use heritage to claim a greater say in city planning and campaign at the same time for a higher visibility of the rural traces within the present day city. Heritage is used as a trigger for further activity, linked to concrete social and environmental projects with a future perspective.

By expanding its urbanized area in the 20th century, Bogotá incorporated six villages. These sites demonstrate an equally long settlement history to Bogotá and are tangible places representing diverse origins and cultures of the territory. Since 2000 the former village cores are officially recognized as local heritage,[1] but lack a corresponding policy. The scientific study of the plac-

1 Decreto 619 (2000)/190 (2004) Art. 125 Componentes del Patrimonio Construido, Art. 160 Política sobre Patrimonio Construido

es is limited to few works,[2,3] academic publications on single places or aspects and locally produced grey literature have not yet been put in relation. Also cross-references to local initiatives, who deal with cultural heritage are missing. My research intends to establish these references and so contribute to the debate on an extended notion of cultural heritage.

The research addresses questions on how the transformation of rural sub-centers into parts of the contemporary city and expressions of the local heritage has happened. It examines aspects of change in a discursive, spatial and functional transformation using a multi-method strategy: interpretatively historical methods for examining heterogeneous written and cartographic sources, qualitative and inventive methods for creating and interpreting participatively created mappings and photographs, interviews with representatives of institutions, as well as own site analyses. Field work on three case studies are completing the methodology, results of this are presented in this article. The work is characterized by critical urban theory and assemblage theory, as well as theories of postcolonial studies.

Heritage, a contested field

Within the past and contemporary discussion on heritage, a line of arguments can be found to value the rural heritage of the villages within Bogotá. In the late 19th century Riegl and Sitte proposed to respect the direct surroundings of historic monuments—instead of clearing them out to showcase their sublimity[4]—they marked new paradigms in urban heritage.[5] By taking into account the "environment" around monuments,

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2 Marco Cortes, *La anexión de los 6 municipios vecinos a Bogotá en 1954* (Bogotá: UNAL, 2006)

3 Arturo Calderón, *Territorios Simultáneos. Formas de territorialización de la Sabana de Bogotá*, (Barcelona: UPC, 2016)

4 Achim Hubel, Denkmalpflege. Geschichte. Themen. Aufgaben. Eine Einführung, (Stuttgart: Reclam, 2006)

5 Françoise Choay, The Invention of the Historic Monument, trans. Lauren M. O'Connell (Cambridge: Cambridge University Press, 2001)

the urban tissue consisting of small scale every-day buildings was also valued as the monument's legacy. Sitte even proposed the urban tissue itself, especially the open spaces of squares, as worth to be protected.[6] This extension of the heritage concept was provoked by the growth and transformation of cities during the industrial revolution[7] and is still valid for valuing the former villages around Bogotá in process of urbanization. Also the Venice Charter, established in 1964, defending historically grown structures against modernist tabula rasa concepts, supports this attitude, here also "*urban or rural setting in which is found the evidence of a particular civilization.*"[8] are mentioned as worth to be preserved. Still, concepts for how to handle urban ensembles or subtler, rural heritage on a bigger scale are difficult to deduce from it. Also, even if "*a common heritage*"[9] was mentioned, the declaration here was supposed to be realized by experts. Contemporary UNESCO documents[10] recommend more participation of communities in the implementation of cultural policies and recognize heritage value beyond tourism and in different scales, on a very general base without actual policy references.

Many non-European practitioners find difficulties applying international norms to local heritage and claim new discussions on the process and concepts of heritage declarations.[11,12,13] Carrión discusses the role of historic centralities in Latin

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6 Hubel, *Denkmalpflege*

7 ibid.

8 International Charter for The Conservation and Restoration of Monuments and Sites (1964)

9 ibid.

10 Habitat III Issue Paper 4 (2015)

11 Rachel Lee and Philipp Misselwitz, "Introduction" in *Things don't really exist until you give them a name*, ed. Diane Barbé, Anne-Katrin Fenk, Rachel Lee, Philipp Misselwitz. (Dar es Salaam: Mkuki na Nyota, 2017)

12 Fernando Carrión, "Aproximación distante a los paisajes culturales: el caso de los centros históricos" in: *Paisajes Culturales. Reflexiones conceptuales y metodológicas* (Quito: Ministerio de cultura y patrimonio, 2013)

13 Denis Byrne, "Heritage as Social Action" in: *Heritage Reader*, ed. Graham Fairclough et al. (Abingdon: Routledge, 2008)

America, arguing that general concepts lack recognition of the specific context and local meaning. Accordingly, each site has a particular layering of history and cannot be acknowledged by a uniform, delocalized heritage,[14] nor does the hybrid legacy of centralities representing indigenous, African and European influences find consideration there. Rapid urbanizations in Latin America, Africa and Asia, have challenged centralities in dissimilar ways industrialization has affected European cities, so local knowledge is crucial to read and understand meanings and social significance, particularly when trying to make visible heritage by social groups that have been silenced.[15] The process of European "discovering" was also a process of "covering" local culture,[16] still causing "*conflic*t"[17][18] or "*struggle*"[19] about visibility of heritage, especially in former colonies. On the question on how to tackle these multifaceted constellations of heritage, including different scales, actors, histories and environments, it is necessary to go empirically to the specific sites,[20][21] gathering considerations of heritage by and with locals.

A next step then is to continue working with the heritage environment, so practical references of "*creative heritage*"[22] are needed, understanding design work within a grown urban fabric as a "*a step into the* tabula plena *game board mid-play*, *responding to the decisions of* […] *those who have acted before.*"[23] This gives the

14 Carrión, *Aproximación*

15 Byrne, *Heritage*

16 William Ospina, *América Mestiza. El País Del Futuro.* (Bogotá: Aguilar, 2006), 77

17 Fernando Carrión, "Los desafíos actuales en los centros históricos" in: *Seminario Permanente Centro Histórico de la Ciudad de México V.3*, (México: UNAM, 2014), 34

18 Lee and Misselwitz, *Introduction*, 14

19 Byrne, *Heritage*, 155

20 Byrne, *Heritage*

21 Lee and Misselwitz, *Introduction*

22 Jörg Schröder, Maurizio Carta and Sarah Hartmann, *Creative Heritage*. (Berlin: Jovis, 2018)

23 Bryony Roberts, "Introduction" in *Tabula Plena: Forms of Urban Preservation*, ed. Bryony Roberts (Zurich: Lars Müller, 2016), 14

opportunity to respect heritage and move forward by maintaining a dialogue through centuries, "'*doing' heritage* [...] *managing change*"[24]. Specific potential of the rural comes to light when using "*existing structures* [by recognizing] *climate-friendly house and settlement types*" [25] as resilient models.

Three case studies in Bogotá

At around 800 AD the Muisca started to form a coherent cultural landscape of interconnected settlements and cultivation areas in the "*Sabana de Bogotá*" that in the 16th century was adopted and transformed by the Europeans.[26] During the conquest, the settlements were taken over and converted to colonial villages. These so called "pueblos de indios" were meant to concentrate and control the indigenous population and shared the same generic urban layout, consisting of a rectangular plaza in the center of a regular nine square chessboard layout, hosting the most important buildings. These features can still be identified on site, even though the vicinity has changed completely: The concise colonial plan stands out against the contemporary neighboring districts and in many cases even the church of colonial origin is still present. Political independence has transformed the villages, but the process of urbanization in the 20th century caused the most noticeable alterations: Bogota rapidly expanded its urbanized area covering the former municipality land, driven by the growth of population, rural migration, the administrative incorporation of the former municipalities and land speculation.[27] In the examined sites it can be observed that Usme is in a process of urbanization, Usaquén, Suba, Engativá, Fontibón

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24 Graham Fairclough and Per Grau Møller, "Landscape Heritage and National Cultures. Comparing national approaches to protecting and managing Europe's landscapes" in *Landscape as Heritage*, ed. Graham Fairclough and Per Grau Møller. (Berne: University of Berne, 2008), 14

25 Jörg Schröder, "Landraum" in *Landraum. Beyond rural design*, ed. Jörg Schröder and Kerstin Weigert. (Berlin: Jovis, 2010), 7

26 Calderón, Territorios

27 Cortes, *La anexión*

and Bosa are morphologically part of the urban fabric. Participatory mappings show that these places are hardly recognized as (historic) centralities by Bogotá's inhabitants.[28] In contrast, on a local level, several initiatives of civic engagement are aware of the historic value of these sites and use it as a trigger to participate in the construction of their city. I realized fieldwork with initiatives in Usme, Bosa and Suba, producing participatively mappings, photographs, walks and interviews.

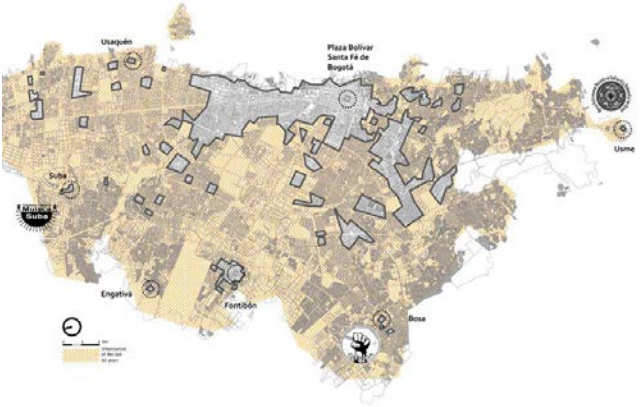

Fig. 1

Urbanization process of Bogotá and location of heritage initiatives

Fig. 2

Pictures of Usme by Sandra Carolina Díaz, Harold Villay, Jaime Beltrán and John Villabón all related to Mesa Patrimonio Ancestral, Cultural y Ambiental de Usme

28 Alissa Diesch, *Recognition of a territory: the forgotten cultural heritage of Bogotá's villages* (Barcelona: UPC, 2017)

The *Mesa Patrimonio Ancestral, Cultural y Ambiental de Usme* is an organization founded by local community after the discovery of an ancient necropolis on the site of an urban expansion project in 2007. The urbanization had been considered a threat to the socially and economically functioning village even before and loose interest groups of opposition had already been formed. The appearance of archaeological findings helped to unite these disperse initiatives and made academics and artists join the protests against the project, which has not been continued until now. The heterogeneous group mainly consists of farmers and young academics. The menace for their current lifestyle by the urbanization project helped them to become more aware of their rooting to the territory. The value of the village core with its surrounding fields was pronounced clearly and historic foothold was supported by the archaeological site. The concept of heritage of this independent group includes archaeological, architectural and landscape aspects. The central square of the village, markets, and single buildings are acknowledged architectural characteristics. Landscape features like rivers and vegetation play a vital role, as well as practices like farming and trading. Local legends and meanings are still present and connected to material assets. The group does not have an office but is negotiating to get one close to the central plaza.

Movimiento Quinua is a community corporation in Bosa, founded in 2010 seeking to gain higher territorial appropriation and empowerment of youth and women. The concept is based on peasant movements stressing the right to the territory. This background highlights identity and appropriation needing history and local foothold. Heritage here is understood as a tool to root people to their place in order to take responsibility for it. This was the motivation to gather information about the local history and to start building a network of diverse voices telling the recent transformations. The former village became a dense city district in the 1970s marked by a high degree of informality. Women living in the neighborhood for decades, employees

Fig. 3

pictures of the La Bosa no contada Tour by Septei @ septei.colombia, Movimiento Quinua

of the colleges, members of the congregation and the local indigenous group, representing even pre-Hispanic bonds to the territory, contributed to a city tour called "La Bosa no contada" (The Untold Bosa). The interpretation of heritage is mainly connected to the central square and its surrounding institutions like the colleges and the church, as they manifested in the organized walk. Self-organization and the capacity of integrating people is part of the living heritage, as a leader states in an interview, as well as cultural expression and the struggle for rights. The local indigenous emphasize cultivation practices and a close relation to the river and wetlands. The group also runs a library and a radio station and is active in adult education, for this the local branch of the church offers spaces for gatherings and offices.

The *Cabildo Muisca de Suba* is an organization of local indigenous people, officially recognized since 1990. They are the youngest generations of Muiscas still living in the now urbanized but since pre-Hispanic times same area and consider themselves a people in reconstruction. Their concept of heritage consists of the territory, understood as a living combination of land with its animals, plants and human inhabitants, along with language and traditional practices. Actions on the territory like agriculture

Fig. 4

Self-Representations of the Cabildo Muisca de Suba in social media (Instagram, WhatsApp Status, Facebook)

and landscape features have also mythological meanings. On the one hand, the inner re-organization and implementation of self-recognition is an important sphere of activity, on the other hand, public positioning especially towards territory related issues becomes more important. Particularly questions concerning urban planning and renovation as well as the connection and integration of landscape elements like rivers, hills and wetlands into the urban tissue are of their interest. The activities ranges from public guided tours and artistic intervention of the public space, collaborations with environmental NGOs and discussions with political and administrative representatives, to participation in planning processes. They run an office at the central square of Suba, where they organize gatherings and support for their members through workshops and consultancy.

These examples do not only display aspects of a multi scale heritage and the complexity of visibilities and hybridization of the history of different social groups and their struggle for recognition, they also show how material and immaterial heritage are intertwined and how they are connected to the current social and political situation. All of them clearly express their wish to participate actively in further urban planning to enhance the visibility of heritage by at the same time creating

an urban environment worth living for future generations. All of these groups are well organized and aware of their societal role, thus their work can be considered social innovation, challenging established heritage practices, as they express "*a social need not yet sufficiently addressed by government programs.*"[29] Their dedication stands for governance approaches,[30] "*embedded in specific socio-political* […] *context.*"[31]

The normative heritage situation in Bogotá reflects a top-down model: the selection of the heritage assets is carried out by experts who hand down their instructions. Thus, in the former villages, official heritage is limited to monuments and objects representing state and religion, mostly before the 20th century. Also the protected ensemble, the generic urban grid, is a colonial legacy. Apart from the declaration and inventory, no further policies are presented. There is little to no investment neither for preservation and less for active appropriation or interpretation by the community.

In contrast, the described groups include multiple local and professional stakeholders, claiming to be more than a mere folklore decoration but to "*empower formally excluded people*"[32] by representing the histories of different social groups. In a discursive and participatory process, they display a broader view on heritage, including specific landscapes, territorial related activities, diverse historic periods, comprising pre-colonial and contemporary times, transformation processes and different

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29 Adalbert Evers and Taco Brandsen, "Social Innovations as Messages: Democratic Experimentation in Local Welfare Systems" in: *Social Innovations in the Urban Context*, ed. Taco Brandsen et al. (Cham: Springer, 2016), 170

30 Sandro Cattacin and Annette Zimmer, "Urban Governance and Social Innovations" in: *Social Innovations in the Urban Context*, ed. Taco Brandsen et al. (Cham: Springer, 2016)

31 Barbara Van Dyck, and Pieter Van den Broeck, "Social innovation: a territorial process" in *The International Handbook on Social Innovation. Collective Action, Social Learning and Transdisciplinary Research*, ed. Frank Moulaert et al. (Cheltenham: Edward Elgar, 2013), 133

32 ibid.,135

scales, in short, they relate to many aspects of the on-going heritage debate. These historic features are understood as particular, local values and resources[33] that are interpreted and appropriated by the groups to promote their agenda. Hereby, they show high personal involvement of volunteers that spend much of their energy and time into the promotion of the groups' goals. The core definition of social innovation, addressing and closing gaps of public services, applies here, even more, heritage is comprehended as a thread for further activity, linked to concrete social and environmental projects with a future perspective.

33 ibid.

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Dynamic heritage. Designing landscape and ecosystem scenarios for the Po Delta area in Italy

Retreat; Evolving Landscapes; Scenario-based Approach; Hyper-natural Landscapes

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The role of climate change in re-defining and improving the notion of heritage is a critical issue in many fields of study. During the last few years, an intense debate around the necessity of dislodging heritage from the conventional concept of its being somehow pre-figured or ready-made has been fed by a vast multidisciplinary literature that has highlighted the impacts of environmental transformations on both its tangible and intangible qualities.
In such perspective, landscape architecture can contribute to articulate this dynamic nature of the cultural heritage concept into planning and development frameworks, by operating on the spatial implications associated with the construction of exploratory scenarios and adaptive strategies to climate change. With this aim, the present contribution focuses on the on-going transformations of deltaic systems, seen as an exemplar case-study of how the current conservation-driven management policies need to be deeply reformed to face the challenges of resilience. The article explores the potentials of alternative solutions to the orthodox implementation of landscape and ecological restoration criteria, proposing a selective retreat of human activities from the Po river Delta area in the northern Italy.

A possible way of addressing the issue is to theoretically frame the actual trend of the Delta transformation within the definition of *novel ecosystems*. Following this concept, a more pragmatic and prospective mindset can affect the way into which the ideas of landscape and heritage conservation should inform the development of appropriate management goals and approaches. In order to understand whether these new systems are - or will be - persistent, sustainable, and what values they may have for the cultural identity of a territory, long-term strategic visions are needed and useful for addressing right away policymakers' decisions for the future.
The research work, considering the region's increasing hydro-morphological degradation and other variables, depicts different scenarios of infrastructural and environmental evolution. In summary, the intent is to define procedures and ways according to which abandoning to the marine transgression selected areas of the Po Delta by re-organizing the whole landscape, infrastructural and environmental system at the light of a new dynamic ecosystem functioning. In this perspective, the proposal of a *Selective Retreat* investigates limits and potentials related to the possible transition of the Po Delta from an intensively-managed (and collapsing) systems to a novel and emerging heritage.

Introduction

The role of climate change in re-defining and improving the notion of heritage is a critical issue in many fields of study. An intense debate around the necessity of dislodging heritage from the conventional concept of its being somehow pre-figured or ready-made has been fed by a vast multidisciplinary literature[1] that has highlighted the impacts of environmental transformations on both its tangible and intangible qualities. A different perspective on the dynamic components contributing to define cultural identities has grown. Especially within the field of human studies, a new attention has been paid to the processual interaction

1 Cristina Sabbioni, Peter Brimblecombe and May Cassar (ed.). *The atlas of climate change impact on European cultural heritage: scientific analysis and management strategies*. London and New York: Anthem Press, 2010.

of the past and the future as an agent of cultural change[2] and finally of heritage production, evolution, or continuity.

As noticed by David Harvey and Jim Perry[3], the heritage-climate change nexus needs to be tackled according to an operational attitude which should "reject the traditional view of heritage conservation carrying a treasured past into a well-understood and unsafe future"[4]. A new view of heritage, serving society in times of rapid climate change, should embrace loss, alternative forms of knowledge and uncertain futures in order "to make decisions about values and the ways heritage assets are passed through time".[5]

In such perspective, landscape architecture can contribute to articulate this dynamic nature of the cultural heritage concept into planning and development frameworks, by operating on the spatial implications associated with the construction of exploratory scenarios and adaptive strategies to climate change. With this aim, the present contribution focuses on the on-going transformations of deltaic systems, seen as an exemplar case-study of how the current conservation-driven management policies need to be deeply reformed to face the challenges of resilience.

The research work, considering the region's increasing hydro-morphological degradation and other variables, depicts different scenarios of infrastructural and environmental evolution by following the *Scenarios' Evaluation by Design methodology*.[6] The final goal is to provide policymakers and management authorities with alternative standpoints from which to start rethinking the future of the Po Delta area as a dynamic

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2 Mike Hulme, "The conquering of climate: discourses of fear and their dissolution," *Geographical Journal* 174, no.1 (2008): 5-16.

3 David Harvey and Jim Perry (ed.) *The future of heritage as climates change: loss, adaptation and creativity*. London: Routledge, 2015.

4 Ibid., 3.

5 Ibid., 3.

6 Roberto Di Giulio, Luca Emanueli, and Gianni Lobosco, "Scenario's evaluation by design. A "scenarios approach" to resilience," *TECHNE-Journal of Technology for Architecture and Environment*, no.15 (2018): 92-100.

heritage. In this framework a Selective Retreat Strategy can be considered as an exploratory scenario[7] aimed at grounding the debate around the Delta on a more prospective outlook.

The Po Delta toward a novel ecosystem

Life on deltas has always been largely subject to uncertainty, and large flooding events were ordinary phenomena to deal with.[8] Mostly during the last century, such processes have been widely altered by human interventions aimed at exploiting natural resources of rivers and framing their normal dynamics. As a consequence, deltas have undergone an increasing degradation due to several factors like the sharp reduction in the sediment input, large fresh water consumption, man accelerated subsidence, water salinization and eutrophication. Combined with global climate change effects, such as the eustatic sea level rise, all these forces have made the environmental management of delta areas more and more difficult, expensive, and pervasive to the point that, without strong anthropic actions, many of them would be rapidly submerged by fast marine transgression.[9]

The Po River Delta is a distinct example of how such complex issues have intertwined over time shaping the landscape and transforming ecosystems [Fig. 1][10]. Its present morphology is an over-engineered system in which any kind of interaction is hardened, strictly mediated and controlled [Fig. 2]. In spite of that, the sea is constantly retaking its space on the top plain, re-flooding

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7 Luca Emanueli and Gianni Lobosco, "Scenarios' Evaluation," in *Riviera Reattiva*, ed. Luca Emanueli (Macerata: Quodlibet, 2018), 107-113.

8 James P.M. Syvitski, "Deltas at risk," *Sustainability Science* 3, no.1 (2008): 23-32.

9 Irina Overeem and Robert G. Brakenridg (ed.). *Dynamics and vulnerability of delta systems*. GKSS Research Centre, LOICZ Internat. Project Office, Inst. for Coastal Research, 2009.

10 This illustration, as well as the figures 4, 5 and 8, has been realized by Lucia Ferrarini within her Master thesis at the University of Ferrara, co-supervised by the author: Lucia Ferrarini, "PAESAGGI ANFIBI. Una strategia di ritiro selettivo per l'area del Delta del Po." Master Thesis diss., University of Ferrara, 2015.

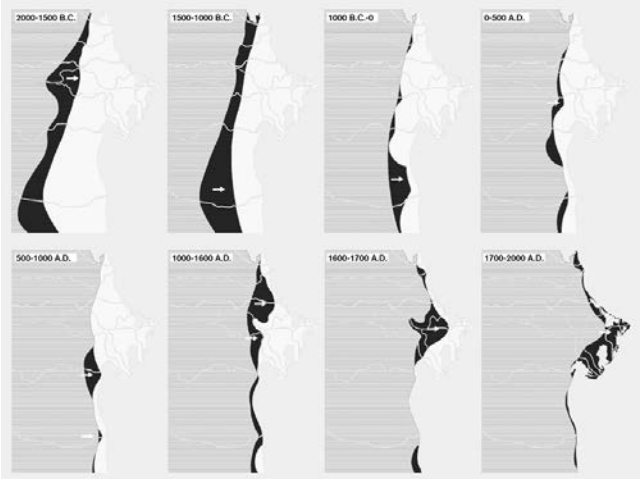

Fig. 1

Age of deposition of the different sediment belts now forming the Po Delta coastal plain between the Venice Lagoon and Ravenna.

Fig. 2

Satellite imagery of the present day Po Delta configuration.

broader and broader areas, and affecting human activities, settlements and their safety [Fig. 3]. More than four-fifths of the Delta is already well under the average sea level, even below -4 and -5 meters [Fig. 4], and the predictions about the global eustatic sea level rise (1 or 1,5 m by 2100[11]) foretell even a more dramatic scenario.

11 According to the Intergovernmental Panel on Climate Change (IPCC).

Fig. 3

Examples of the widespread erosive retreat affecting the delta coastline.

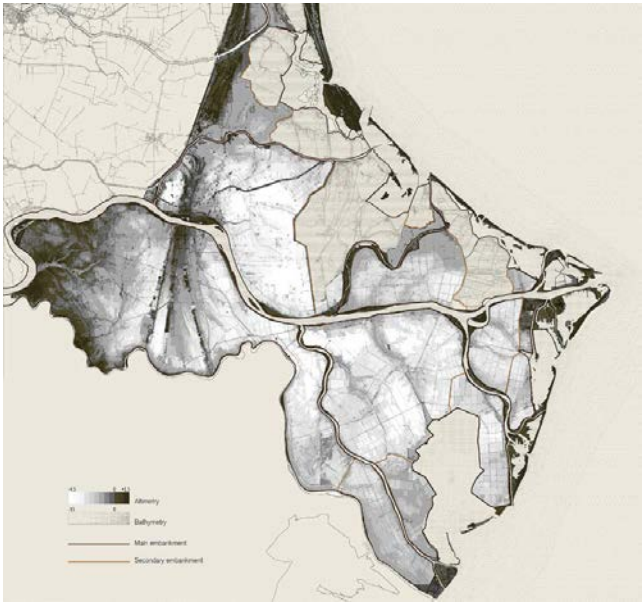

Fig. 4

The Po Delta plain elevation model; note that the vast majority of the area is presently well bellow sea-level and is artificially kept dry by large land reclamation works.

As many events have already proved, the futile attempt to crystallize and fully control such a changeable system is a losing approach. Innovative strategies grounded on the intrinsic dynamism of the Po Delta system are therefore strongly needed. It is clear that the present rigid environmental framework

will soon become untenable[12], and a retreat of human activity from the artificially reclaimed areas well below sea level will become unavoidable.

On this assumptions, a possible way of addressing the issue is to theoretically frame the actual trend of the Delta transformation within the definition of *novel ecosystems* proposed by Hobbs and colleagues[13] to describe those new ecological assemblages that form self-organizing systems with no historical precedent, arising "from biotic response to human-induced abiotic conditions and/or novel biotic elements (e.g. land degradation, enrichment of soil fertility, introduction of invasive species). This includes the cessation of management of systems that have been managed or created by humans (e.g. agroforestry systems, pastoral land)."[14]

Following this concept, a more pragmatic and prospective mindset can affect the way into which the ideas of landscape and heritage conservation should inform the development of appropriate management goals and approaches[15]. In order to understand whether these new systems are - or will be - persistent, sustainable, and what values they may have for the cultural identity of a territory, long-term strategic visions are needed and useful for addressing right away policymakers' decisions for the future.

In this belief, the proposal of a *Selective Retreat* aims at investigating limits and potentials related to the possible transition of the Po Delta from an intensively-managed (and collapsing) systems to a novel and emerging ecosystem.

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12 Stefan Greiving, Juan Du and Wiriya Puntub, "Managed Retreat—A Strategy for the Mitigation of Disaster Risks with International and Comparative Perspectives," *Journal of Extreme Events* 5.02, no.03 (2018): 1850011-35.

13 Richard J. Hobbs et al. "Novel ecosystems: theoretical and management aspects of the new ecological world order," *Global ecology and biogeography* 15, no.1 (2006): 1-7.

14 Ibid., 2.

15 Eric Macdonald and Elizabeth G. King, "Novel ecosystems: A bridging concept for the consilience of cultural landscape conservation and ecological restoration," *Landscape and urban planning* 177 (2018): 148-159.

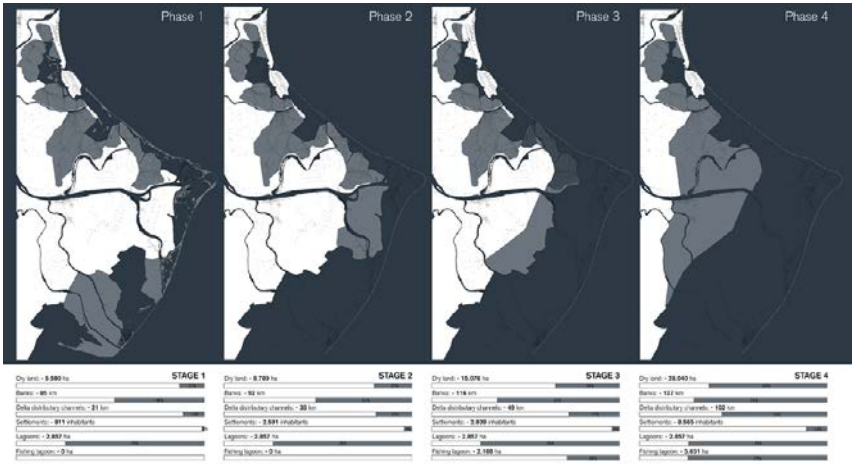


Fig. 5

Planned stages of the anthropic retreat from the Po Delta plain

Designing the Retreat Scenarios

In summary, the intent of the proposal is to define procedures and ways according to which abandoning to the marine transgression selected areas of the Po Delta by re-organizing the whole landscape, infrastructural and environmental system at the light of a new dynamic ecosystem functioning.

Still work-in-progress, the study started by analyzing potential risk scenarios forecasted for the next decades; extreme events such as sea storm surges, very high tides, and river floods were taken into account to highlight the large vulnerabilities and weakness spots of the region. The Po Delta plain was then subdivided into areas showing different levels of vulnerability, according to their propensity to be flooded: an increasing *porosity degree* value has been assigned to each area in order to indexing the whole territory in terms of *prospective retreat probability*.

On the base of these analytical inputs, four successive retreat boundaries (i.e., desertion lines) have been planned [Fig. 5] leading, step by step, to increasingly safer configurations of the Delta system, and to reach a progressive economic balance in its hydro-morphologic management.

At every stage of the retreat process, some sites are planned to be preserved from flooding, to form an artificial archipelago in front of the Delta where several services and infrastructural facilities will be developed. Existing embankments or harbor works could be saved becoming marinas or off-shore cruise docks, with the aim of boosting the maritime accessibility to the area. Small isolated villages, such as Santa Giulia, San Rocco, Gorino, and other sites below sea-level, could be networked and converted into diving parksThis whole archipelago system [Fig. 6][16], besides its value as a focal element within the landscape, would probably act as a catalyst for the development of tourism and as a trace of the past.

Fig. 6

A possible configuration of the Delta morphology at the very beginning of the selective retreat process.

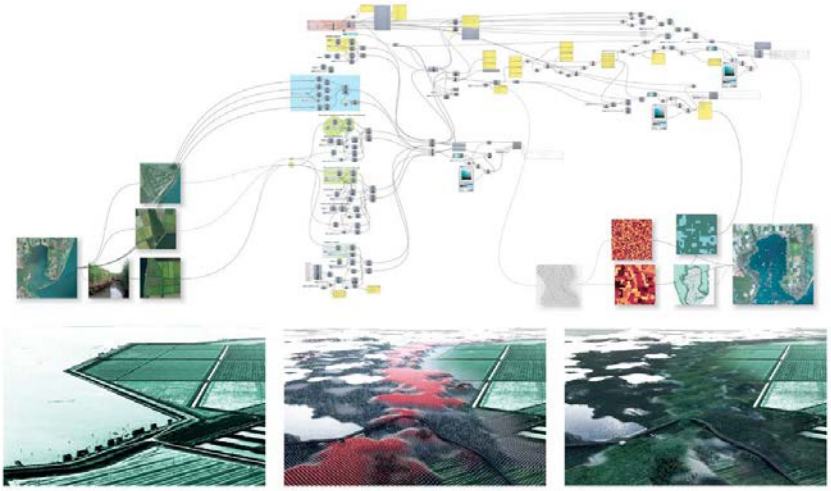
16 This illustration, as well as the figures 7 and 9, has been realized by Giuseppe Dotto within his Master thesis at the University of Ferrara, co-supervised by the author: Giuseppe Dotto, "NEUTRAL BUFFER MODEL. Un nuovo paesaggio progettato tramite modello parametrico per le aree tampone della sacca degli Scardovari nella biosfera del delta del Po" Master Thesis diss., University of Ferrara, 2017.

More in general, each subsequent scenario relies on the rethinking of two main operative layers: the mobility infrastructure network and the wetlands system. The infrastructural system needs to be reset before the starting of the regulated flooding process. Both existing and new infrastructures have to be connected to manage the population and the economic activity resettlement.

The project sets up a new mobility network through two types of roads corresponding to an increasing resiliency level. The first one consists in seasonal connections, conceived to be flooded under extreme overflow conditions, being just over the average sea level. They will shape the wetland landscape when the most advanced protections are dismantled. The second level is designed to be a long-lasting infrastructural element: this road system is patterned after existing main roads and embankments, set up to a safety elevation, and will ensure durable connections between dry lands. Road infrastructure will become the supporting framework to the retreat process, catalyzing new functions and re-shaping the Po Delta's identity [Fig. 7]. Unlike today, the future Po Delta landscape will lay on a *branched* fruition system, rather than on the monotonous zoning of single-purpose areas.

Fig. 7

An example of Grasshopper-based processing for developing landform strategies aiming to the re-configuration of the infrastructural networks.



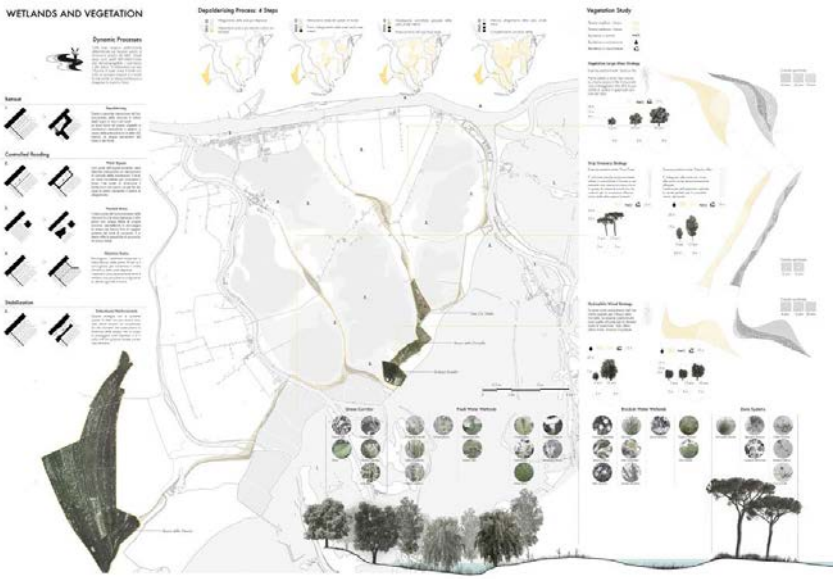


Fig. 8

Some interventions concerning floods protection by wetlands and vegetation planting to improve the area resilience.

In order to control environmental and coastal dynamics, the project strategy relies on a new wetlands system which will evolve from the deliberate flooding of lower areas [Fig. 8]. Such operation will allow to contrast erosion phenomena both at a local – by dissipating the marine wave energy –, and territorial scale – by providing a great amount of additional material to the sediment transport along the littoral limiting the erosion of southern beaches. Wetlands also behave as expansion basins for river floods and their importance is associated with biodiversity conservation and improvement. All these qualities should be measured in the long term and according to an overall management of the different Delta's habitats.

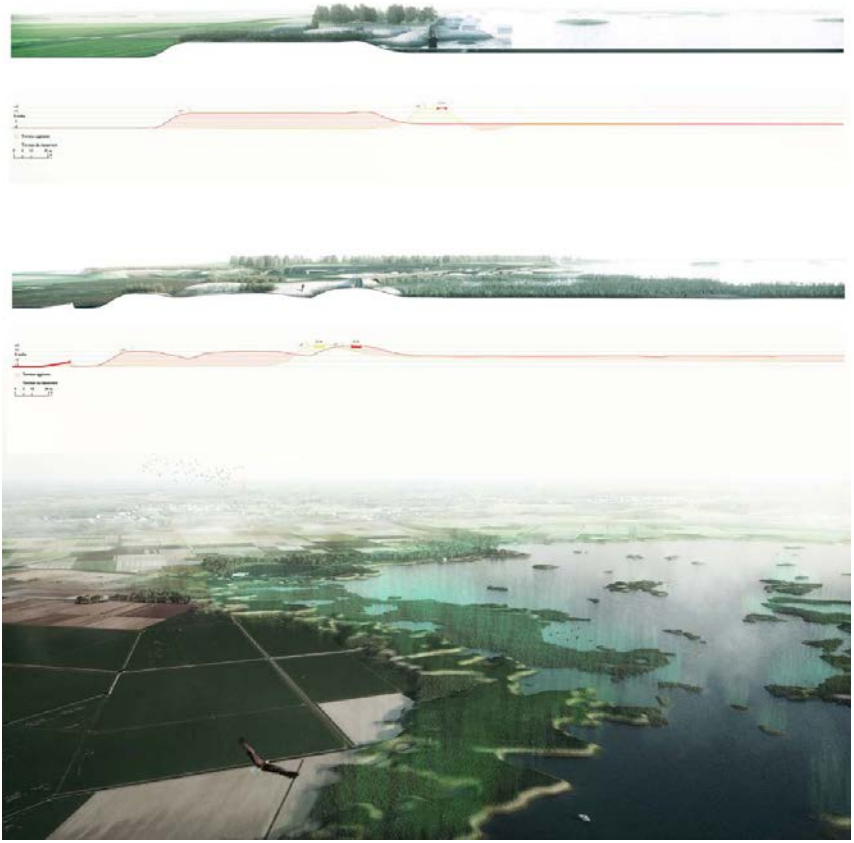
Along the coastline, after removing a few portions of embankments, the sea will quickly retake large areas. In inner lands, artificial basins will keep fresh waters in order to prevent the salt water wedge intrusion from reaching the inner delta plain and to improve the productivity of the remaining fields.

It is almost impossible to exactly predict the final configuration of the coastline and the way the sandbars will migrate over the years. The persistence of a lagoon belt and inter-distributary bays between the coastal sand spits and the new delta borders is certainly the most likely scenario. Within the lagoon belt *buffer zone*, many activities will be rearranged and enhanced such as the mussel culture, taking advantage from the increase of the shallow seabed areas [Fig. 9].

All these interventions consider the limit between land and water as a deep and dynamic space with soft transition borders,

Fig. 9

An example of a potential buffer zone implementation among the Sacca degli Scardovari located in the southern area of the Delta.



and as consistent resiliency sectors devoted to mitigate extreme sea and river events. In such perspective, these areas are meant to work as biodiversity reserves which could host the local fauna's relocation during the retreat process. Unlike the current setting of the deltaic zones, featured by a sharp distinction between different environments, the proposed scenario should improve the inter-connections of different habitats fostering fauna's adaptability to future climate change and extreme events.

Conclusion

The present article depicts a radical solution to the question of how to articulate the dynamic nature of the cultural heritage concept in relationship with effective adaption strategies to climate changes. The proposal aims at planning a new ecological assemblage featured by a different balance between biotic and abiotic conditions raising from the cessation of unsustainable management systems and the creation of a new landscape.

In such perspective, the concept of *novel ecosystems* informing the research on the *Selective Retreat Strategy* has been proposed to define a new conceptual framework for landscape planning policies which are now still mostly tied to the assumption that an ideal Delta environment exists and must be kept *frozen* at any costs.

During the last few years, planning procedures have mainly focused on environmental remediation, ecological restoration, and the so-called *re-naturalization* processes. According to this approach, the landscape should be brought back somehow to a previous *natural* state, whose characteristics however actually belong to a very specific evolutionary phase. Fast evolving contexts such as deltas have often been considered and managed as if their dynamic attitudes were something to be fixed or eliminated rather than being included into planning policies. Even the European and National regulatory framework itself, following the same logic, identifies protected areas and high environmental interest zones as permanent in time and space. This

is in sharp contrast with the high natural mobility of the deltaic systems and the landscape in general.

The recent declaration by the UNESCO of the Po Delta as one of the 651 *Biosphere Reserves* of the world ratifies the importance of this region and presents a new challenge. Since the proclamation purpose is to "recognize and promote a balanced relationship between human communities and ecosystems"[17], we should better consider, in projection, if and how long this nexus would last without being updated by new visions and adaptive solutions to climate change. In these terms, as landscape architects, we are called upon today to take seriously the demand for creativity in order to envisage the physical scenarios in which the production of new meanings and the dynamic constitution of heritage can actually happen.

17 Francesco Di Castri, Malcolm Hadley, and Jeanne Damlamian, "MAB: the man and the biosphere program as an evolving system," Ambio 10, no.2/3 (1981): 52-57.

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A Comparative Study on the Relevant Policies and Their Protection Status of the Two Types of Historical Village Protection System in China

Rural Heritage; Heritage Conservation Policy; China Historical and Cultural Famous Towns (villages); China Traditional Villages

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Although since the 1980s, some scholars have begun to pay attention to the preservation of the built heritage of Chinese villages. But it wasn't until the beginning of this century that the Chinese government began to issue policies regarding historical villages.From 2002 to the present, China's historical village protection system has gradually developed and matured. Since 2003, the Chinese government has successively announced the lists of two types of national historical villages. The two types of villages are China Historical and Cultural Famous Villages (CHCFV) and China Traditional Village (CTV). As of now, in the published lists, there are 478 CHCFVs and 6,819 CTVs.
In this article, through case analysis, the author makes a comparative study of the two types of historical villages in terms of registration standards, value evaluation standards, sources and distribution of conservation funds, and restoration of built heritage. In addition, through the analysis of Italian Criteria for the Application of the Areas of the National Register of the Historical Rural Landscape, the author proposes what China can learn from Italy in the conservation of historical villages. At the end of the article, the author summarizes the shortcomings and deficiencies of China's existing laws and regulations on the protection of traditional villages.

Introduction to China's Historical Village Protection System

As early as 1975, *The European Charter for Architectural Heritage* pointed out the importance of the buildings in ancient towns and characteristic villages and their natural and artificial environments in the cultural heritage protection system. One year later *The Recommendation concerning the Safeguarding and Contemporary Role of Historic Areas adopted by UNESCO* in 1976 states that " in rural areas all works which cause disturbances and all changes of economic and social structure should be carefully controlled so as to preserve the integrity of historic rural communities within their natural setting[1]." But in the seventies, the government of China haven't realized the importance of protecting the traditional rural settlements. Until 1982, the Chinese government promulgated the *Protection Law on Cultural Relics* and officially established the China Historical and Cultural Famous Cities (CHCFC) System[2]. This was the beginning of the overall protection policy for Chinese architectural heritage, but at the time the law did not cover the protection of traditional rural settlements. After joining the Convention Concerning the Protection of the World Cultural and Natural Heritage in 1985, China has gradually perfected the related protection system of cultural heritage and established a corresponding regulatory mechanism for the protection of traditional villages. A report[3] issued by Ministry of Construction and Ministry of Culture in 1986 proposed that blocks, buildings, towns, villages, etc. that can fully reflect the traditional features of a historical period and the features of

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1 UNESCO, *Records of the General Conference, 19th session, Nairobi, 26 October to 30 November 1976*, v. 1: Resolutions, Annex I, (Paris : UNESCO, 1977), 26.

2 According to the Protection Law on Cultural Relics, a National Famous Historical and Cultural City is a city with an unusual wealth of cultural relics of high historical value and major revolutionary significance, subject to the approval and announcement of the State Council of PR China.

3 Ministry of Construction and Ministry of Culture "Report on the announcement of the second batch of National Famous Historical And Cultural Cities", 1986.

ethnic places should also be protected and announced as "Historical and Cultural Protection Zone". Since then, some Chinese scholars have carried out researches on the conservation methods of historical villages and towns (Ruan, 1989) and rural cultural landscape (Peng & Nie, 1992). In 2000 Xidi village and Hongcun village were declared as the "Ancient Villages in Southern Anhui" World Heritage Site by UNESCO.

In 2002, in the revised *Law on Cultural Relics*, the article about protection of historical villages was officially proposed. In October of next year, the Ministry of Construction and the State Administration of Cultural Heritage announced the first batch of **China Historical and Cultural Famous Towns and Villages** (CHCFT/V)[4], marking the official inclusion of historical villages and towns in the Chinese cultural heritage protection system. From 2003 to 2019, the state has announced 7 batches of CHCFT/V including 312 towns and 478 villages. Starting from the 11th Five-Year Plan Period[5], a fiscal appropriation system for historical and cultural villages and towns has been formed for CHCFT/V (Zhao, Tang, Long, & Wang, 2012). In 2008, the State Council promulgated the *Regulations on the Protection of Historical and Cultural Famous Cities, Towns and Villages*, which standardized the implementation details of the protection work. Then *the Intangible Cultural Heritage Law*, promulgated in 2011, stipulates that intangible cultural heritage is an important part of the historical towns and villages. In 2012, China government issued the "*Traditional Village Evaluation and Identification Index System (Trial)*", which quantitatively evaluated and qualitatively evaluated traditional

4 The Notice on the Promulgation of China's Famous Historical and Cultural Towns (Villages) (First Batch) issued by the Ministry of Construction and the State Administration of Cultural Heritage in 2003 (described the Famous Historical And Cultural Towns (Villages) in China as having preserved cultural relics with great historical value. Or the revolutionary commemorative significance, which can more fully reflect the historical style and local ethnic characteristics of the town (village).

5 China's Five-Year Plans are a series of social and economic development initiatives. The economy was shaped by the Communist Party of China through the plenary sessions of the Central Committee and national congresses. The Eleventh Plan refers to 2006 to 2010.

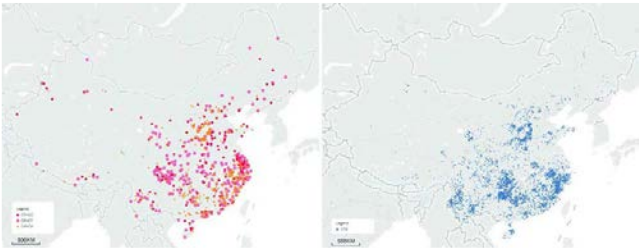

Fig. 1

Distribution of CHCFT/V and CTV by 2019 (Elaboration by the author)

villages through three indicator systems: traditional building evaluation index system, site selection and pattern evaluation index system, intangible cultural heritage evaluation index system. From 2012 to 2019, 5 batches of 6,819 national-level China Traditional Village (CTV) were selected [Fig. 1]. In this paper, the author compares the two types of historical villages, CHCFV and CTV, through three aspects: registration standards & evaluation system, sources of protection funds and status quo of case villages.

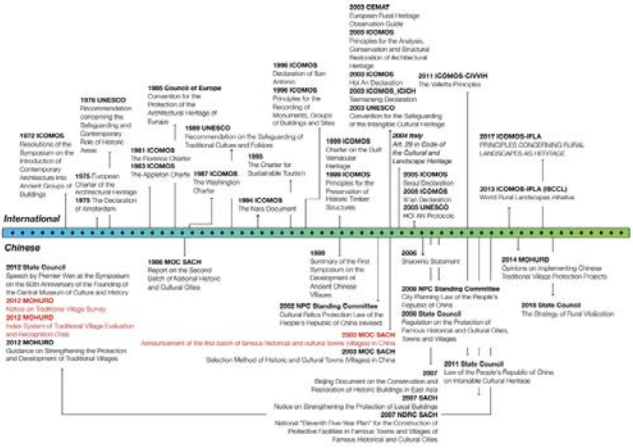

Fig. 2

A comparison between the guidance documents of Chinese rural historical settlement protection and the important documents of the world (Elaboration by the author). Full name of abbreviations in the figure: MOHURD is the Ministry of Housing and Urban-Rural Development, PRC; MOC is the Ministry of Culture, PRC; SACH is the State Administration of Culture Heritage, PRC; NPC is the National People's Congress, PRC; NDRC is the National Development and Reform Commission, PRC.

Comparison of CHCFV and CTV registration standards

CHCFV refers to those villages that are rich in cultural relics and have great historical value or revolutionary commemorative significance can more fully reflect the traditional features of the

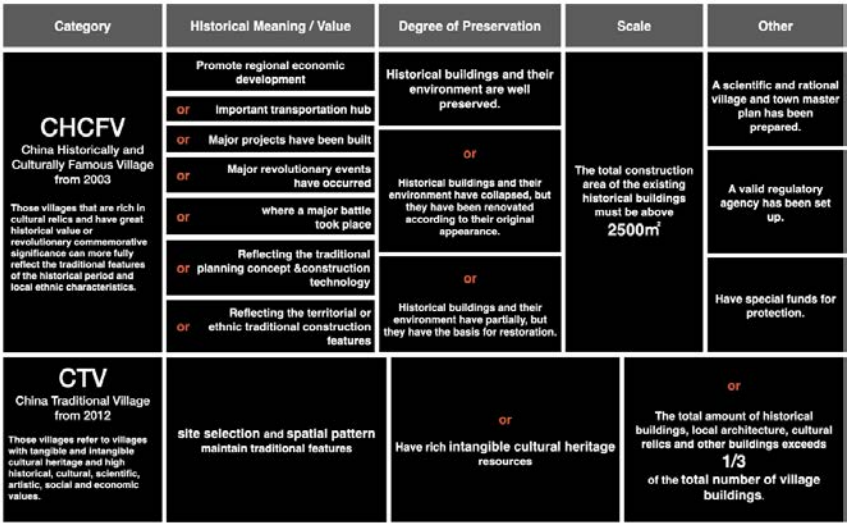

Fig. 3

Comparison of selection criteria for CHCFV and CTV (Elaboration by the author based on *the Notifications for the publication of China Historical and Cultural Famous Towns (and the villages)* ,2003, and the *Guidance on strengthening the conservation and development of traditional villages,* 2012)

historical period and local ethnic characteristics[6]. CTV refers to villages with tangible and intangible cultural heritage and high historical, cultural, scientific, artistic, social and economic values[7]. The registration criteria of CHCFV not only emphasizes the preservation of the historical buildings and environment, but also the historical significance of the town (village), such as whether it was an important transportation hub, or whether important historical events have occurred. However, compare with CHCFV the selection criteria for CTV are not so strict. Only need to meet one of the three conditions of "site selection and spatial pattern maintain traditional features", " Have rich intangible cultural heritage resources" or "the total amount of historical buildings, local architecture, cultural relics and other buildings exceeds 1/3 of the total number of village buildings."[Fig. 3]

6 State Administration of cultural relics, Ministry of construction. "The notifications for the publication of China Historical and Cultural Famous Towns (and the village)" (2003).

7 Ministry of Housing and Urban-Rural Development, the Ministry of culture and the Ministry of Finance, "Guidance on strengthening the conservation and development of traditional villages"(2012)

Fig. 4

Comparison of the evaluation indexes for CHCFV and CTV (Elaboration by the author based on *China's Historical and Cultural Famous Towns (Villages) Evaluation Index System, 2004 and Traditional Village Evaluation and Identification Index System (Trial), 2012)*

According to the prescribed procedures, the evaluation of the heritage value of villages and towns is a necessary work before the selection of CHCFT (V) and CTV. The evaluation criterions are *China's Historical and Cultural Famous Town (Village) Evaluation Index System (2004) and Traditional Village Evaluation and Identification Index System (Trial) (2012).* [Fig. 3.] CHCFT(V) 's evaluation indicators are divided into two parts: value characteristics and protection measures. As shown in Table 2, "typicality of traditional buildings" and "protection and restoration measures" have the highest weights in each sub-indicator, while "intangible Cultural Heritage" has the lowest weight. Among the various evaluation indicators of CTV, the items with the highest weight are "scientific and cultural value of village's site selection and form", "integrity of the traditional form structure of the village", "intangible cultural heritage and its dependence on the village."

Comparing the above two evaluation criterions with the Italian *Criteria For The Application of The Areas of the National Register*

of the Historical Rural Landscape (Criteri Per La Candidatura delle Aree del Registro Nazionale del Paesaggio Rurale Storico, 2012), the author finds that the evaluation content and methods of the Italian Criteria shows the following different characteristics: 1. emphasis on the evaluation of historical value; 2. in addition to the investigation and evaluation of the preservation, age and use of material elements, animal and plant factors, social and economic activities, social perceptions, etc. are also required to conduct surveys and assessments; 3. in addition to the qualitative assessment of the uniqueness of the landscape, the qualitative examination of the aesthetic and visual characteristics, and the quantitative assessment of the historical extent of the material elements, the delineation of the overall historical environmental boundary is also particularly emphasized; 4. require quantitative evaluation of the historical environmental integrity of the rural landscape, and provide a practical path for the recording, evaluation, detection and management of the surrounding environment of the settlement as a technical platform by corresponding clear technical procedures and calculation method, is called the methodology VASA (Valutazione Storico Ambientale) (Agnoletti, 2013). It shows that there are many differences between Italian and Chinese criteria. The former focusing on the "harmony between settlements and the natural environment" and "harmony between the village and the surrounding natural landscape environment" in historical environmental protection. Therefore, Italian Criteria have applied the "integrated" protection ideas in the protection of rural heritage from the perspectives of historical environment, economic development and ecological sustainability, and paid attention to the relationship between agricultural landscape and historical villages.

Sources of protection funds and their use

Sources of protection funding for CHCFV and CTV include the following: a) Central government subsidy funds, b). Local

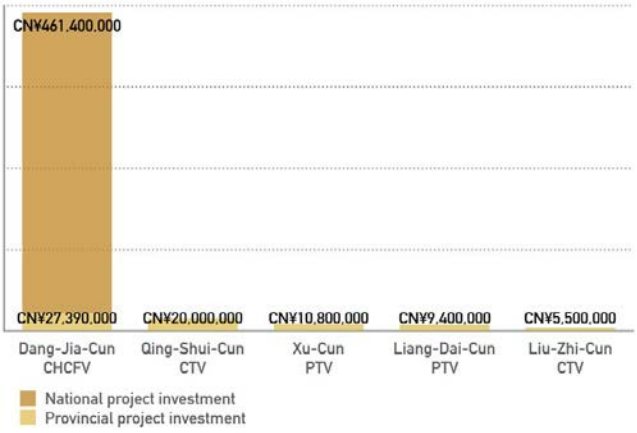

Fig. 5

Investment budget for protection facilities construction of some villages in the list of CHCFV, CTV and PTV (Provincial Traditional Village) in Shaanxi Province, China, 2015-2020 (Elaboration by the author based on the *13th Five-Year plan" for the protection of famous towns and villages in historical and cultural cities in Shaanxi*, 2017)

governments invest funds, c) Village collectives and villagers invest funds, d) Other social investment funds. Compared with investment from villagers, village collective organizations and other social organizations, the government's protection funds are more stable and reliable. However, the government's investment in protection funds for CHCFV and CTV varies greatly [Fig.5]. Taking Shaanxi Province as an example, in the budget report of the government's total expenditure on protection of historical villages and towns between 2015 and 2020, CHCFV's protection funds accounted for 42% of the total budget, while CTV's protection funds accounted for only 14%[8]. The average investment fund invested by the government in each village, for CHCFV is 214,910,000 yuan, while for CTV is only 14,675,926 yuan. The difference between the two is nearly 15 times. On the one hand, from the perspective of increasing the protection of key protected villages, quickly establishing famous towns and villages tourism brands, and accelerating the development of tourism economy, this kind of capital investment model that brings the "Matthew effect" can speed up the demonstration effect of the CHCFV villages. On the other hand, there is a certain potential risk in this

8 Shaanxi Provincial Housing and Urban Construction Department, "The 13th Five-Year plan for the protection of famous towns and villages in historical and cultural cities in Shaanxi", (2017)

mode of fund allocation, that is, the officially protected sites that have been well preserved, the funds are more and more supported. However, the protection funds from the government that the general protection units can obtain are in a state of being longer in a lesser state, and even making some protection work unsuccessful. Thirdly, from the perspective of the overall protection of the historical environment, unequal distribution of protection funds in traditional village groups in a regional geographic unit (not the quantitative imbalance, but the unscientific and unfair distribution) will seriously affect the integrity protection and restoration of rural natural and cultural landscapes.

Since 2014, the central government has formulated a budget for rural environmental improvement funds[9] , This budget is used to support the protection of CTV. According to documents issued by the Ministry of Finance of China[10] , the budget funding standard is 3 million yuan per village. It is worth noting that the area and population size of CTVs are different. Take the two CTVs in Hancheng as an example. According to 2018 statistics, the population of Xiyuan Village is 3964, and the population of Wangfeng Village is 1851. The population of the former is twice that of the latter, and of course its village area is also larger than the latter. In fact, many CTVs are smaller and have fewer populations. But the funds allocated to each village are indeed the same. This seemingly average funding model is actually not fair.

Comparison of the status quo of case villages

1) Historical building preservation status

Buildings protected by law in CHCFV usually include the officially protected sites (immovable artifacts identified by the

9 State Council Information Office of China (SCIO), "327 Chinese Traditional Villages Were Included in the First Batch of Central Financial Support in 2014", (2014)

10 Ministry of Finance, "Notice Regarding the Release of the 2019 Budget for Rural Environmental Improvement Funds (Traditional Village Protection)", (2019)

Cultural Relics Protection Department) and historic buildings. According to the provisions of the *Protection Law on Cultural Relics* (2015), the principles of not changing the original state of cultural relics must be observed when repairing, maintaining and relocating immovable cultural relics. According to the provisions of the *Regulation on the Protection of Famous Historical and Cultural Cities, Towns and Villages* (2008), the original height, volume, appearance and color of historical buildings should be maintained. In other words, the interior space of a historic building can be transformed. Most of the traditional buildings in CTV are not officially protected sites, and their protection and repair requirements are determined by the "conservation and development plan" which prepared by each traditional village[11](in fact, the quality of "conservation and development planning" in various traditional villages is mixed.). In contrast, the historical buildings in CHCFT/V are legally more strictly protected and preserved. Although the traditional buildings in CTV are protected by policy documents, the preservation of traditional buildings in CTV is threatened by the unsound implementation and supervision of protection measures.

2) Comparison of traditional building repair methods

In the field survey we found differences in the protection measures of traditional dwellings in CHCFT/V and CTV. Take Fenghuang Town (a CHCFT in Zhashui County, Shaanxi Province) and Zhangdai Village (a CTV in Hancheng City, Shaanxi Province) as an example. The traditional dwellings within the protection core of Fenghuang Town have been identified as provincial level officially protected site. Their protection and repair are carried out under the supervision of the government. A professional cultural relics protection team participates in the repair of residential houses, and the repair funds come from the government. In the

11 Ministry of Housing and Urban-Rural Development, Ministry of Culture, State Administration of Cultural Heritage, Ministry of Finance, "Guiding Opinions on Effectively Strengthening the Protection of Traditional Chinese Villages", (2014)

Fig. 6

Restoration of traditional dwelling in Fenghuang Ancient Town, 2018. © Kun Li

ongoing rehabilitation project of residential houses, we can see that the repair team adheres to the principle of "identifiability" of materials [Fig. 6] . The funds for the repair of traditional houses in Zhangdai Village come from the villagers' families, that is, the owners of the right to use the homestead. The repair project was carried out by folk artisans and there was no professional cultural relic protection team involved. In the reconstruction and repair, the method of a kind of "stylistic restoration" was mainly used, and the authenticity of traditional architecture is not respected [Fig. 7]. This practice not only completely violates the spirit of the original designer or artisan in the repair design, but also wipes away the imprints and stories left by these years on these buildings during the repair process, which has to some extent separated the link between the built environment and the history. As shown in Figure 4, the main hall is rebuilt according to the drawings that the craftsman "borrowed" from elsewhere.

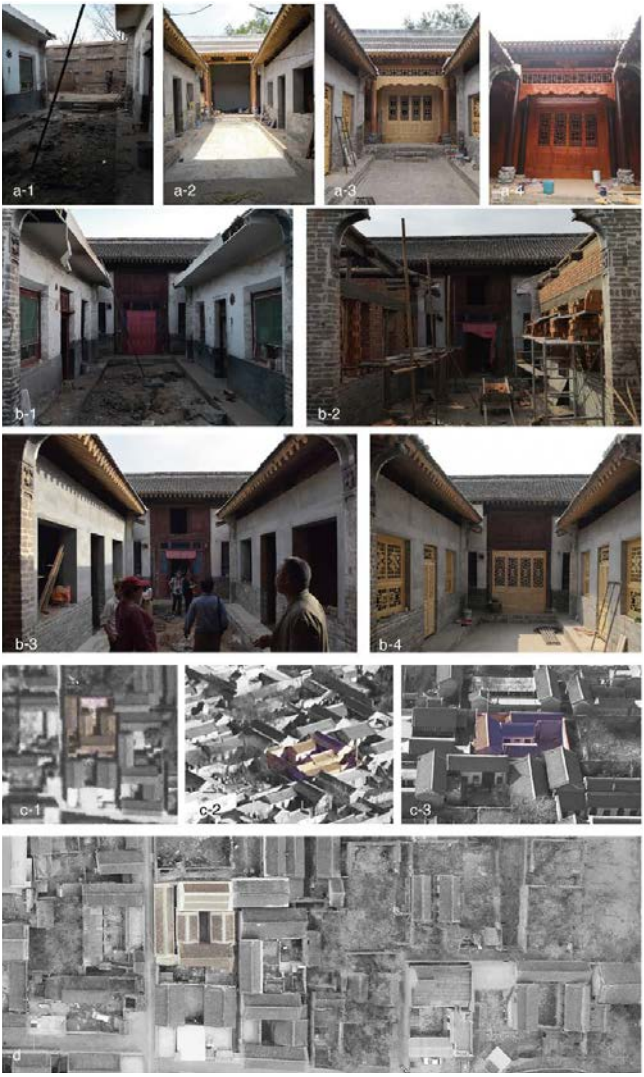

Fig. 7

Reconstruction and restoration of the traditional dwelling in Zhangdai Village. © Kun Li

Although from the scientific point of view of cultural relics protection, the former practices respect the authenticity of the heritage; however, although the latter's restoration method does not respect the original appearance of the heritage, it is carried out under the traditional concept of "reconstruction" because China has always had a construction tradition of "demolition of old

ones and building new ones." There is strong evidence that we rarely find homes built 300 years ago in rural China. Therefore, how to continue the "tradition" on the issue of the preservation of traditional dwellings is still a question worth considering.

Conclusion

At present China has basically formed a set of policies and regulations related to traditional village protection (Wang & Wu, 2017). However, in the laws and regulation system there are still deficiencies. The insufficiency of the protection of traditional villages by existing laws and regulations is mainly reflected in the following: First, the operability of the existing regulations is not strong. There is no detailed regulation on how to punish illegal acts and how to rectify them. Second, the related repair work has lagged, and the repair funds for most traditional houses have not been implemented. Third, there is a lack of regional and national professional repair teams to carry out specific protection work.

By comparing the preservation status of two types of Chinese rural settlements, the author finds that there are obvious differences in the distribution of protection funds, laws and regulations, and protection measures. There is a lack of scientific in historical value assessment methods, especially in the evaluation of historical environments. In addition, traditional Chinese dwellings with wood as the main structural material, which have poor durability and low adaptability to modern life, are a more fragile "weak heritage" compared to European traditional residential buildings. Old ways of life (including buildings in a living environment) have a habit of inertia, but if it can't satisfy people's needs, it will eventually lose people's faith in it. It doesn't make sense to hold a tool that has no effect, because it can cause inconvenience in life and even cause people to suffer losses (Fei, 1992). This is precisely why the traditional dwellings have disappeared in China in recent decades. Therefore, in the case of limited government funding, how to guide farmers to consciously

protect these precious traditional buildings? The author believes that the solution of the problem needs to start from the economic point of view. At present, among most traditional villages surveyed, farmers' income sources mainly depend on the primary industry. The heritage value of traditional dwellings has not been passed down into economic value. In addition to pride, farmers with traditional dwellings do not have more enthusiasm and ability to protect traditional dwellings. Therefore, how to help farmers increase their income through dwelling heritage to improve farmers' enthusiasm for heritage protection is an urgent problem to be solved.

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Heritage in action. *Adapting reuse* for the Historic Urban Landscape.

Adaptive Reuse; Cultural Heritage; Historic Urban Landscape; Open Public Spaces; Enhancement.

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This paper explores the centrality of adaptive reuse for knowing, accessing, understanding, conserving and enhancing open public spaces in the Historic Urban Landscape. The objective is to propose an experimental process, the *Adapting Reuse Process (ARP)*, as a possible approach to keep alive heritage sites balancing conservation on the one hand, and innovation, as well as the evolving needs of this time, on the other. The paper starts introducing the concept of 'adaptive reuse' and a change in terminology by using the expression of 'adapting reuse'; it then presents an extensive section focused on the importance of 'use' within literature and the most recent European initiatives and events. Finally, it describes the ARP, its assumptions, phases and first results by reporting the experimental reactivation implemented by the H2020 ROCK project for Piazza Scaravilli in Bologna (Italy). Starting from this real application, the study contributes to the knowledge on and sharing of current practices in solutions for the functional re-appropriation of historic open public spaces; at the same time, it offers an interesting picture of what is being done in Europe on the matter of heritage's adapting reuse.

Introduction

> "Adaptive re-use requires the adoption of a 'living' attitude vis-à-vis our built environment; an attitude that considers our built heritage as a man-made landscape that can be re-worked and re-modeled when necessary, starting out from the social, cultural, environmental and economic needs of our time. In so doing, our built heritage can be integrated in a meaningful and creative way into contemporary society and thereby be conserved in a sustainable way for future generations".[1]
>
> Leeuwarden Declaration, 2018

The principles of the Declaration *Adaptive re-use of the built heritage: preserving and enhancing the values of our built heritage for future generations*, signed on 23rd November 2018 in Leeuwarden (Netherland), set the cultural framework for the following study that will decline the general theme of the International Conference *The matter of future heritage*, capturing one of the most critical issues for buildings and sites of cultural importance: *the matter of use*. In fact, it is now established and widely accepted that no effective conservation can exist without reuse; architectural buildings, urban sites and even cities can only be saved if they are constantly used.[2]

Stressing the urban dimension of cultural heritage, this paper will focus on *the future use of the Historic Urban Landscape* (HUL), that is "the urban area understood as the result of historic layering of cultural and natural values and attributes",[3] as defined by UNESCO in 2011. It will also point out how use could

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1 Architects' Council of Europe, EFFORT, ERIH, Europa Nostra and FRH, *Leeuwarden Declaration. Adaptive re-use of the built heritage: preserving and enhancing the values of our built heritage for future generations* (Leeuwarden: 23rd November 2018).

2 Marco Dezzi Bardeschi, "Il ri-uso necessario," in *Restauro: due punti e da capo* (Milano: Franco Angeli, 2004), 247.

3 UNESCO, *Recommendation on the Historic Urban Landscape* (Paris: United Nations Educational, Scientific and Cultural Organization, 2011), art. I, pt. 8.

represent the major challenge for keeping alive heritage sites balancing conservation and innovation, the past and the future.

Over the centuries, the adaptation of the built environment for contemporary uses has been a very common practice; sometimes it proved to be the best way to ensure built heritage survival, sometimes it just wiped out centuries of history and values.[4]

It is our responsibility, today, to support the natural attitude of the urban structure to change, taking into account conservation on the one hand, and the evolving needs of this time on the other. "Adapting reuse"[5]— a catchy expression coined by the Italian architect Barbara Camocini— becomes therefore a powerful vector for implementing enhancement processes in the historic urban landscape, which are not ends in themselves, but driving forces to solve cities' problems like physical degradation, social conflicts, environmental pressures, lack of security and under-use of existing spaces, while promoting sustainable and creative development.

In this perspective, this study will investigate strategies of *adapting reuse* for the HUL in managing the urban complexity, protecting urban identities, preserving urban quality of life, valuing local cultures, as well as fostering conservation, economic, social, environmental and cultural issues.

This is also one of the main objectives of the European project ROCK— *Regeneration and Optimisation of Cultural heritage in Creative and Knowledge cities*—, funded in May 2017 under the Horizon 2020 Programme (GA No. 730280). In the ROCK vision, historic city centers are intended as "extraordinary laboratories

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4 Such a consideration derives from the analysis of many transformation works carried out to adapt heritage to new uses. The *10 European Initiatives*, launched during the *European Year of Cultural Heritage*, also confirmed this statement stressing the key role of reuse for the contemporary society. For more information, see: European Commission, *Building the legacy of the European Year of Cultural Heritage 2018: 10 European Initiatives - Overview - 4 Principles* (September 2018). <https://europa.eu/cultural-heritage/sites/eych/files/overview-10-european-initiatives-factsheet_en_2.pdf> [accessed: 5th March 2019].

5 Barbara Camocini, *Adapting Reuse. Strategie di conversione d'uso degli interni e di rinnovamento urbano* (Milano: Franco Angeli, 2016).

to demonstrate how Cultural Heritage can be a unique and powerful engine of regeneration, sustainable development and economic growth".[6]

Starting from the description of the experimental reactivation implemented by the ROCK project for Piazza Scaravilli in Bologna (Italy), this paper will explore in detail specific solutions for the functional re-appropriation of historic open public spaces, offering, at the same time, an interesting picture of what currently is being done in Europe on the matter of heritage's adapting reuse. [CM]

The matter of use. Keeping alive HUL open public spaces

Reuse is a constant in the history of architecture to the point that "the history of architecture could or should be rewritten as an immense history of reuse and adaptations or, perhaps, of conservation and restoration".[7] This statement perfectly defines the cultural background behind the expression 'adaptive reuse', one very popular today among academics but that has always been translated into practice throughout history.

The importance of use was already stressed by Vitruvius—"*ratio utilitatis*"[8]— and by many other authors of the treatises' tradition. Over the centuries, it was confirmed by several scholars and architects such as E.E. Viollet-le-Duc— "On the other hand, the best way to preserve a building is to give it a use"[9]—and Alois Riegl— the so-called "use-value"[10]— just to mention but

6 ROCK Official Website. <https://rockproject.eu> [accessed: 5th March 2019].

7 Francesco Stefano Musso, "Permanencies and disappearances," in *Conservation-Adaptation. Keeping alive the spirit of the place. Adaptive reuse of heritage with symbolic value*, eds. Donatella Fiorani, Loughlin Kealy and Stefano Francesco Musso (Hasselt: EAAE - European Association for Architectural Education, 2017), 217.

8 Marco Vitruvio Pollione, *De Architectura*, I, 2.

9 French original quotation: "D'ailleurs le meilleur moyen pour conserver un édifice, c'est de lui trouver une destination". Eugène Emmanuel Viollet-le-Duc, Ad vocem "Restauration," in *Dictionnaire raisonné de l'Architecture française du XIe au XVIe siècle*, VIII (Paris: Bauce-Morel, 1954-1968).

10 Alois Riegl, *Der moderne Denkmalkultus: Sein Wesen und seine Entstehung* (Vienna-Leipzig: Braumüller, 1903).

a few, as well as by the Charters of Restoration—the Athens Charter in 1930, the Venice Charter in 1964, the Nara Document on Authenticity in 1994 and so on.[11] This is no coincidence as "architecture is the only form of art whose functionality is one of its main fundamental parameters",[12] that helped it preserve the built environment from abandonment while limiting physical degradation.

For this reason, a continuous process of use-reuse has been defined in architecture over time taking very different forms, out of which the relevance and the extensive literature on the subject. The architect Barbara Camocini recently emphasized this continuity in the book *Adapting Reuse. Strategie di conversione d'uso degli interni e di rinnovamento urbano* where she suggested to replace the adjective 'adaptive' with the gerund 'adapting', as she considers it more appropriate to explain the idea of a constant and repeated action capable of going beyond the event of functional adaptation and encouraging a long-term and non-stop process of reuse.[13] This paper aligns with this little change in terminology, suggesting a new perspective that puts heritage into action instead of being a passive subject.

At the European level, a great deal of attention has been paid to the matter of use, as proven by the last two events organized in the framework of the *European Year of Cultural Heritage* (EYCH): the signing of the *Leeuwarden Declaration* and the Conference *Cherishing Heritage* in Venice. The first one confirmed "the multiple benefits of re-using our built heritage"[14] (cultural, social, environmental and economic benefits); it also stated: "However, heritage buildings that have lost their original function still

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11 For more information, see: *The Athens Charter*, 1931, art. 2; *The Venice Charter*, 1964, art. 5; *The Nara Document on Authenticity*, 1994, art. 13; *Nara +20. Statement adopted at the Meeting on the 20th Anniversary of the Nara Document on Authenticity*, 2014, art. 5.

12 Italian original quotation: "L'architettura è l'unica forma d'arte che ha come parametro fondamentale una utilità funzionale". Piero Gazzola, "Restaurare?," *Castellum* 20 (1979): 71.

13 Camocini, *Adapting Reuse*, 19-38.

14 Architects' Council of Europe, EFFORT, ERIH, Europa Nostra and FRH, *Leeuwarden Declaration*.

embody cultural, historic, spatial and economic values. Adaptive re-use offers itself as a strategy aimed at preserving those elements that contain these values, while at the same time adapting the place for new uses. New functions are thus brought together with heritage values in an active and meaningful dialogue".[15] The second event promoted a debate on "the right balance between quality in conservation and safeguarding on the one hand, and dynamic approaches to restoration and maintenance, innovative reuse and enhancement of cultural heritage on the other".[16] Although acknowledging the need to give heritage a 'second life', they both highlighted how adapting reuse impacts or has a potential to impact—positively or negatively—historic buildings and sites; therefore, both events pointed out that decisions relating to any major changes to the historic urban landscape must be planned as smart and quality-based processes.

Such practical recommendations have an impact on the multitude of spaces of the city, each of which raises specific issues according to its own characteristics. Among these, the category of open public spaces seems to be the most stimulating one. These are, for instance, squares, courtyards, streets, porticoes, residual or interstitial areas between existing buildings. They are spaces of contamination, rooted in the individual and collective memory, they usually have different uses at different times of the day, they are often abandoned, unknown and in decay, but they are most frequently under protection constraints.

The research on the adaptive possibilities of these spaces has yielded a rich theoretical debate that has had a remarkable development in the Sixties and Seventies and that is still a key matter today, in the framework of urban regeneration policies.[17]

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15 ibid.

16 European Commission, *Cherishing Heritage: developing quality standards for intervention on cultural heritage - Protection pillar* (September 2018).<https://ec.europa.eu/culture/content/cherishing-heritage_en> [accessed: 5th March 2019].

17 For more information, see: Valentina Gianfrate, "Gli spazi urbani aperti: le relazioni con la città," in *Urban micro-design. Tecnologie integrate, adattabilità e qualità degli spazi pubblici*, eds. Valentina Gianfrate and Danila Longo (Milano: Franco Angeli, 2017), 29-42.

Testing the adaptive capacity of the historical urban structure means trying out its resilience, that is the attitude to support change in relation to the needs of the contemporary society, while preserving its material and immaterial identity.

In order to meet the challenge of keeping alive open public spaces in the HUL, this paper puts forwards—with the the support of experimentations implemented by the ROCK project—a series of operations of "urban acupuncture"[18] to be programmed in accordance with already existing urban plans.

The idea is to carry out site-specific interventions capable of being economically sustainable and respectful of historical spatiality and of triggering not only a physical change but also a perceptual and relational one, as well as of catalyzing, in turn, positive regeneration actions of further urban spaces. In literature, they are defined as actions of "urban micro-design"[19] which are often associated with forms of "instant urbanism",[20] or rather strategies of temporary reuse able to retrieve the transitory character of these places.

Once redeveloped, the spaces of this historic everyday landscape become places where things happen, where new processes of social inclusion and new ways of accessing heritage are promoted, especially exploiting the potential of Information and Communication Technologies (ICTs), e.g. virtual reality, augmented reality, light and/or sound design. Posing attention to the environment is another fundamental issue, complementing both social and conservation aspects, that can be achieved, for example, through greening actions so as to improve the microclimate comfort of outdoor spaces.

A circular methodology based on a principle of *research/action/research* is the backbone of such a mechanism of reuse and re-appropriation of open public spaces in the historic urban

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18 Jaime Lerner, *Acupuntura urbana* (Barcelona: IAAC, 2005).

19 Gianfrate and Longo, *Urban micro-design*.

20 Camocini, *Adapting Reuse*, 98.

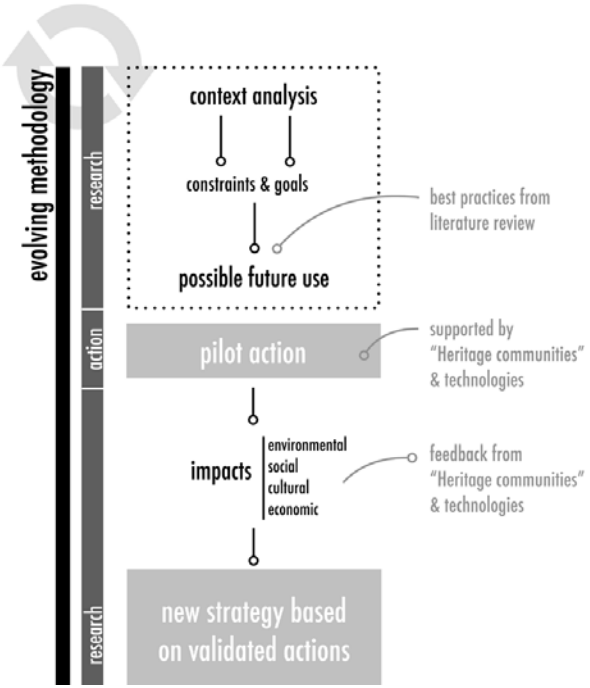

Fig. 1

The research/action/research methodology [designed by the authors].

landscape. The ROCK project is also based on the same methodology, as described into some of its deliverables.[21]

The proposed methodology starts out by analyzing the urban context, in particular by assessing constraints (conservation, social, environmental and organizational constraints) and setting goals to identify possible future uses, while following existing good practices (research). It then goes on to implement a pilot intervention, designed and sometimes developed with the support of local administrations, stakeholders and citizens (action), it later evaluates effective impacts, and starts a new phase of investigation aimed at defining a plan of adapting reuse, based on scientifically validated actions (research) [Fig.1]. The following paragraphs will make clear this method as well as the process and related actions introduced so far on a strictly theoretical level. [CM]

21 ROCK Official Website. <https://rockproject.eu> [accessed: 5th March 2019].

Planning the use for HUL open public spaces

Starting from the analysis carried out in the previous paragraph, the research started from few questions: 'what are the major aspects that we need to consider when we intervene in HUL open public spaces?', 'is it possible to identify some lines of interventions able to enhance the cultural heritage, but also to promote it as a living space for people?', 'how does climate change affect cultural heritage and how can we consider mitigation and adaptation?'. These questions arise immediately when we consider the use of cultural spaces as the first layer of protection and conservation. Thus, the research focuses on the idea that considering different layers—or degrees— of intervention could be a starting point for deeply analyzing the needs and the challenges of open public spaces in HUL and for understanding the best ways to intervene.

In fact, it is now accepted that while acting on physical cultural sites there is a need to start from gaining a deeper knowledge, because these spaces embody not only the tangible aspects of history and culture (materials, techniques, etc.) but also the intangible ones (practices, skills, uses, etc.). An open public space is in fact lived (or not lived) by a specific community and it is immersed in the multi-layered structure of urban complexity.[22] Acting on one of them can signify changing a decisive node into this complexity: it can be a meeting point, an infrastructural node of mobility (e.g. a parking lot, an access, a safety route) conversely, it can also be a decayed area, with micro-criminality or urban degradation (e.g. waste, absence of services or light) or even, an area of climatic challenges (floods, very low or high temperatures in specific months of the year).

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22 Ernesto Antonini, Saveria O.M. Boulanger and Jacopo Gaspari, "Multi-layered urban strategies to foster the smart cities development," in *The Sustainable City X*, "WIT Transactions on Ecology and the Environment," eds. C.A. Brebbia, W.F. Florez-Escobar (Southampton: WIT Press, 2015), 23-34; Patsy Healey, *Urban Complexity and Spatial Strategies. Towards a relational planning for our times* (London - New York: Routledge, 2007).

According with the European Construction Technology Platform (ECTP), urban decay hits contemporary heritage mainly due to human vandalism and weathering: "natural and man-made hazards, especially those occurring at relatively short time intervals in the same areas, will shorten the cycle of interventions, not only increasing costs but also potentially threaten heritage values as every intervention involves the removal of original materials. This asks for preventive conservation and effective maintenance including the mitigation of effects of foreseen climate change and man-made and natural hazards".[23] Consequently, ECTP defines, as priorities, the identification of efficient predictive models, evaluation techniques able to assess the "conservation level and evaluate the service life",[24] the creation of processes that, with minimal interventions, can improve safety, conservation and long-term maintenance.

In line with those priorities and approaches, this paper proposes a series of recommendations in a *very practical factsheet* [Fig. 2] that starts from the analysis of the space in its wholeness and its role into urban dynamics, assesses lines of interventions, according with different degrees of intensity and objectives, then

Fig. 2

The operating factsheet: extracted pages regarding the use of lighting technologies [designed by the authors].

23 ECTP - European Construction Technology Platform, *Heritage and Regeneration* (FP9 2021-2027 Position Paper, February 2018).

24 ibid.

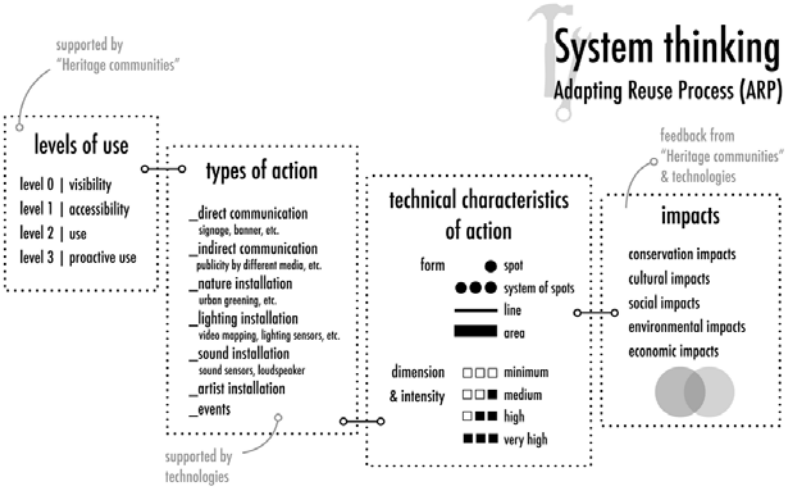

Fig. 3
The Adapting Reuse Process (ARP) [designed by the authors].

sets the base for understanding how to plan a long-term maintenance, according to UNESCO Management Plans.[25]

The objective is to *define a process*, more than an instrument, that connects the two worlds of practice of urban regeneration and heritage conservation.

The *Adapting Reuse Process (ARP)* is based on the above-mentioned research/action/research methodology and implies the use of System Thinking, considered here as a way of thinking that links together multiple layers of complexity. For facilitating it, this paper proposes a scheme that guides on several steps [Fig. 3]:

1. the identification of the targeted level of use among four (visibility, accessibility, use, proactive use);

2. the identification of the foreseen impacts on different levels (conservation, cultural, social, environmental, economic);

3. the analysis of the technical characteristics of actions according with forms (spot, system of spots, line, area), dimension and intensity intended in relation to the invasiveness of interventions (minimum, medium, high, very high);

4. finally, the selection of specific types of action according with the previous analysis.

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25 UNESCO, ICCROM, ICOMOS, IUNC, *Managing Cultural World Heritage* (Paris: UNESCO World Heritage Centre - World Heritage Resource Manual, 2013).

It is important to notice that the three first steps are not intended as subsequent but as recurring paths of thinking. In order to better explain this process, we propose a concrete experience of reuse carried out in the city of Bologna within the H2020 ROCK project. [SB]

Piazza Scaravilli as a case study of adapting reuse

The selected open public space is Piazza Scaravilli: a former car parking inside the heart of Bologna cultural district, the city center within the ancient walls [Fig. 4]. The square is a rectangle of around 640 m^2, with a perimeter of about 105 mt covered by historical porticoes (one of the few examples of urban squares with four sides of porticoes) [Fig. 5].

The area is characterized by several elements:

- the proximity to the historic and touristic area (very close to Piazza Maggiore and the Two Towers);
- it is inside the urban University Campus;
- the high presence of students, professors and university's staff but also of residents;
- the high presence of food & drink services and the lack of other types of services;
- a sufficient penetration of public transport (mainly one bus line crossing the area);
- the high presence of cars; even if it is an area with control of access, it is not a fully pedestrian area.

Fig. 4

Piazza Scaravilli. Location in the heart of the historic city centre of Bologna [® Google Earth].

Fig. 5

Piazza Scaravilli. Before the transformation carried out within the ROCK project the square was used as a car packing [® Google Earth].

Besides, some challenges were also present:

- the monofunctional use of the space (only persons with special permission are allowed to park there);
- the high temperatures during summer due to the soil impermeability (mainly asphalt) and to the dense urban fabric, even if the porticoes provide some shadow;
- the presence of urban degradation due to micro-criminality and waste management especially during summer when students tend to stay outside longer at night.

The ROCK intervention moved from these considerations identifying, in addition, its potential to become an open-air living room for the community, with a variety of functions. At this point, it is now possible to apply the proposed process and to discuss the different possible outcomes of acting in such a space, starting the reflection from the different levels of use. In the following pages the proposed methodology is explained through its application on the selected case study. Thus, it includes both the description of what has been done in the area and of other examples of what can be included under the specific considered level.

The first level is the *Visibility* of the space. Some actions applied to this context can be the development of urban signs to make the area known to outside communities or the study of a new lighting system (action). These can be a unique spot or a network of spots if they are linked with a wider intervention of signage inside the district (form). These types of actions can be considered as having a minimum impact on the historical site, while if lighting is expected to be on historical walls, this can make the intensity higher (intensity). Finally, this kind of action would have impacts only on the social and cultural perspective, making an unknown place more known (impact). In Piazza Scaravilli the visibility of the area has been increased simply through transforming the square from an anonymous car parking into a space where it is possible to stop; anyway, the result was more than making it simply more visible. Another foreseen action was the installation of a new lighting system connecting the area with the porticoes, but this action has not been performed yet.

Acting on visibility can be considered as a starting point for other actions as it can give benefits such as: gaining attention to the area from communities, starting a change without a need for big budget or big interventions, putting the area under a spotlight by pointing out the necessity of an intervention. As happened for Piazza Scaravilli, the first selected action (removing cars) acted both in the direction of increase visibility, accessibility and use, as explained further.

The second level of use is *Accessibility*. This term is intended to make the area more accessible in a tangible way. It can be applied at different levels (universal, disabilities, etc.) and through several actions such as removing barriers, making physically accessible the area but also by implementing intangible strategies by using for example virtual reality. In the selected case study, removing cars and transforming the open space in a community meeting point (**action**) created the conditions of making the area accessible again. Not only because of the removal of cars but mainly because by removing cars new uses were possible. In particular, the project decided to add urban furniture with greenery. This type of actions can be considered having an area form (**form**) because it included the entire transformation of the space, producing impacts at several levels: social (possibility to use the space as a community meeting point), conservation (a car-free area is also less polluted), economic (indirect impact) (**impact**). Also, in this case the intervention intensity was minimum, because no direct actions on the historical materiality have been foreseen (intensity). In fact, the action included the installation of different urban furniture made with recycled and natural materials just laid on the existing surface.

The third level that can be then considered is *Use*, which means making the space usable in different ways by different targets. Increasing the use of a HUL can have benefits in term of re-appropriation of spaces from communities and the valorization through use is usually considered one of the most common and most effective ways to preserve heritage. In urban areas this is a very interesting and challenging level as it can put in place a

variety of specific actions: from completely transforming the original use, to the implementation of tools and instruments enabling new uses etc. In the selected case study, the project intended the new use of the area as 'a place where things happen'.

The implementation of furniture and greenery is in fact allowing multiple uses of that space by several targets, with high degrees of flexibility: the area has been used for organizing workshops with children, for eating outside during sunny days, for reading and relaxing, for playing outdoor music and even for celebrating graduations (action). This intervention has a medium intensity in relation with conservation because it foresees the installation of new removable objects, as there is no restriction at soil level even if it is an ancient pavement (intensity). This action has impacts at different levels: cultural (as it makes an historical place used and known), social, environmental, economic (indirect). Also, from a conservation perspective, plants can have effects (e.g. some can digest detrimental forms of pollution) (**impact**). This level is the level reached within the ROCK project so far [Figs. 6-7].

The final level is the *Proactive Use*, intended as an extension of the use of space in a proactive way, in line with the definitions of Smart Cities.[26] Proactive use can be achieved with the implementation of technologies, services and tools that enable communities to actively intervene into the public space, for instance through: virtual reality and gaming where people can directly interact with the space; sensors that increase the knowledge capacity; connection to innovative management systems (such as the Bologna Regulation for Common Goods, where citizens are concretely involved into the management of a public space); link to a network of energy management or, finally, its connection to urban platforms where citizens are able to suggest projects, to report issues, etc. (action).

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26 Valentina Gianfrate and Saveria O.M. Boulanger, "L'integrazione delle tecnologie per la città smart e sostenibile," in Gianfrate and Longo, *Urban micro-design*, 165-186.

Fig. 6

Piazza Scaravilli. Malerbe installation within the ROCK project: urban furniture and greenery [® ROCK project].

Fig. 7

Piazza Scaravilli. Detail of the greenery boxes [® S.O.M. Boulanger].

This level of use can have low to medium intensity (e.g. when installing sensors on walls and roofs) (intensity). They can highly impact social participation and involvement (also for increasing the sense of belonging), conservation, economy and environment (indirect through an increased knowledge), culture (linking the area to a network of other cultural spaces or to cultural routes) (**impact**). The forms may differ from spot to systems of spot (single sensor or systems of sensors) (**form**). Within the ROCK project, a preliminary form of proactive use has been reached with the co-creation of one of the wooden elements installed in the square (the SLAB stage), as it involved students in a co-creation and co-construction approach [Figs. 8-9].

In addition, the stage is actually used by the community in different ways (playground, stage for music, etc.) ([Fig. 10].

[SB]

Conclusion

The proposed *Adapting Reuse Process* has not the ambition to be a definitive tool or instrument, as many of them are already available. It proposes to be a guided *System Thinking* with the value of making architects and policy makers more responsive by posing a variety of questions that in our opinion are crucial for addressing efficiently and consciously the conservation and enhancement of the historic urban landscape. The process is addressed to all people that need to act on these spaces with a specific regard to architects and administrations. For the first group it is intended as a process supporting the definition of multi-disciplinary projects, also considering different phases of implementation. For public administrations and policy makers it can be useful for knowing in advance what kind

of actions can be done in a specific space and for addressing Management and Conservation Plans.

Therefore, the process points out the need to start from a deep knowledge on a site-specific level, as interventions on the historic urban landscape cannot be exchangeable or disconnected from the specificity of places. Then, knowledge alone cannot answer to the pressing needs of regenerating these spaces that are repositories of cultural, social, economic and environmental potentialities. The use, in fact, is a possible way to respect the built heritage while considering the complexity of *interaction between ancient and contemporary life*, the complexity of cities where open public spaces are placed and their potential role as crucial living nodes. Simultaneously, re-using these spaces can become a way to involve local communities in co-design and even co-creation experiences as well as in conservation processes, in line with the idea of creating "heritage communities"[27] introduced by the Faro Convention.

In relation with the selected case study, the ROCK project is still performing the evaluation of impacts of the specific actions and testing new ones. So that the present paper cannot for now assess if the proposed strategies are successful or not and in which measure. This will be assessed on future publications.

Fig. 8

Piazza Scaravilli. SLAB co-construction within ROCK project [® BAG studio].

27 Council of Europe, *Framework Convention on the Value of Cultural Heritage for Society* (Faro: Council of Europe, 2005).

Fig. 9

Piazza Scaravilli. Detail of the wooden installation [® S.O.M. Boulanger].

Fig. 10

Piazza Scaravilli. After the transformation implemented by the ROCK project the square has become a living urban space [® ROCK project].

In relation with the presented process, it is perceived the necessity of incorporating also the variability of *time* into it because interventions that today are in line with contemporary objectives can easily and sometimes fast become overcome, due to advancement in technologies, knowledge and findings; for this reason, solutions of adapting reuse should be as reversible as possible. This concept also strengthens the reiterative nature of the ARP over time.

Finally, the Adaptive Reuse Process can be used as a supportive guide for the evolving needs of urban spaces and for the construction of an identity of the dynamic city, still rooted in the memory of places. [CM; SB]

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Baltic Coast Regiobranding: towards a multi-level heritage interpretation

German Baltic coast; Multi-level heritage; Patterns & Scenarios

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This paper presents the results of the project REGIOBRANDING (BMBF 2014-19) which formulated an integrated territorial branding study on the characteristics of the cultural landscapes in different areas of Germany. In particular here the focus is on the German Baltic Region (Mecklenburg-Vorpommern and Schleswig-Holstein) whose history has been always defined by inter-cultural exchanges of heritage (from the Norse exploration to the Hanseatic League trading structures; from the Danish-Swedish domination to the Post-War reconstruction). From Lübeck to Wismar, from Stralsund to Rostock, today the region is witnessing a relevant touristic boom especially related to the main harbor cities and coastal areas, but how can short-term Baltic hype be transformed into strategic impulses for urban and regional development?

The methodological steps have been oriented towards a Territorial Integrated Evaluation for explorative scenarios and design-based strategies in the context of Future Heritage interpretation. For this reason, scenarios and patterns are displayed as accelerators in knowledge and decision processes linked to REGIOBRANDING: combining imagery, economic positioning, identification processes, and visions of future habitats.

Fig. 1

The Brick Gothic ensemble of St. Nicholas' church and the show wall of the Town Hall – Alter Markt Stralsund.

Photo: Emanuele Sommariva, 2018.

Baltic Sea as a cultural medium

Cultural Heritage mutual influences and exchanges are important driving forces in developing understanding the evolution of the Baltic Region —as manifested in patterns of landscapes, settlements, buildings, artefacts, traditions and uses, whether material or abstract— and leverages to foster Land-Sea interactions at different scales. Already in 1996, with the 1st Presidency Declaration of the Baltic Sea States in Visby[1], the importance to invest in strategic visions towards a common Cultural Heritage of the Baltic Region was highlighted: as integral part of regional identities, with particular attention to the valorization of the historical cities and to integrate the maritime heritage assets towards sustainable coastal development strategies.

In this perspective, the notion of the Baltic Sea as a *cultural medium* —as it was historically the Mediterranean Basin— is even

1 EU Commission with the establishment of *Council of the Baltic Sea States* (CBSS, 1992) fostered a new season of multilateral co-operation between Denmark, Estonia, Finland, Germany, Iceland, Latvia, Lithuania, Norway, Poland, the Russian Federation and Sweden after the end of the Cold War. The 1st CBSS Presidency declaration was promulgated on 3-4 May 1996 in Visby (Gotland), one of the best-preserved Hanseatic medieval cities in Scandinavia, enlisted since 1995 in the UNESCO World Heritage sites. For further details see: CBSS "Cultural Heritage Co-operation in the Baltic Sea States, in National Heritage Board Report 3 (Västerås: Edita Ljunglöfs, 2003). Accessed April 24, 2019, http://balticheritage.raa.se/reports/cultural-heritage-co-op.pdf

more adequate not only to read the cycles of dominance which characterized these territories throughout history[2], but also to foreseen challenges and synergies for the implementation of a common vision of the European cohesion policy and the Baltic Sea strategy (CBSS 2010).

If the expression "*Ruler of the Seas*" applied to the Baltic Sea Region has always denoted the ultimate goal to establish one major economic-political influence overall Northern Europe, today its significance shifted after the fall of the Iron Curtain, when the region saw the chance for regaining its predominant position for cross-border cooperation in Northern Europe, towards the development of "*Freedom of the Seas*" principle in the international law. For this reason, the Baltic Sea Basin today is conceived the new "*Mare Nostrum*" of the European Union. (Andersen et al. 2002)

The reawakening of political attention on the region as well as the renewed interest on territorial inquiries and inter-cultural exchanges and conflicts, occurring also to the interwar and the Cold War periods, has given Baltic studies a considerable boost. In the last twenty years, in particular the works of David Kirby, Alan Palmer and Michel North emerge as the most significant researches able to describe the "spatial turn" which has given a new historical and geo-political perception of the concept of common regional identity applied to the Baltic coasts: from the idea of a closed Sea at the margin of Europe's northern Periphery

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2 The centres of political and economic powers influencing the *multiethnic* Baltic Sea Region have been altering over the centuries, leaving a deeply rich palimpsest of urban settlements and spatial traces in the different cultures around the shores a common sea: from the *Norse* (Vikings) trading-exploration period, to the Christianization crusades towards Old Prussians, Lithuanians and the pagan Slavs; from the 13th century Danish-German lordship over the Sea imposed by Eric of Pomerania —ruler of the Kalmar Union— over the Øresund straights (The Danish Belts and The Sound), to the 17th century Danish-Swedish conflicts for the *Dominium Maris Baltici*; from the foundation of St. Petersburg and the raise of Russia as the new Baltic Power between 18–19th century to the sovietization process over WWII till the formation of the Welfare States. For further details see: Michael Andersen "Mare Balticum – Reflections in the wake of an exhibition", in *1st Baltic Cultural Heritage Forum* (Gdańsk: Polish Maritime Museum, 2003), 24-25. Accessed April 24, 2019, https://www.nmm.pl/1stCHFpdf/pdf_articles/1.2_Andersen.pdf

out of the Post-Soviet world (Kirby, 1995) to a disputed territory in the awakening of nationalisms and territorial competition to make the Baltic States independent from Russia (Palmer, 2006) towards a supra-local vision of cultural heritage valorisation in terms of shared policies, trends and process of formation for the future of the Baltic region (North, 2016).

According to this last vision, ***cultural heritage*** refers not specifically to the historical legacies and the conservation policies, but rather about the present relationship that these assets are able to build as *"a space of inter-cultural dialogue"* and their ability to deal with change, adaptation and reuse in a changing society.

In particular, the critical identification of the structural invariants (both natural and anthropic) as territorial heritage assets are significant object of this study able to promote cultural association and integration as a field of future innovation for Europe's expanding, urbanising and ever more demanding population. In a region historically characterized by the presence of different ethnic groups, the interfaces between built environment and cultural landscapes, entails mutual transformation and influences between spatial production in settlements and natural resource management, materialized each and every time as ***migrating architectural culture*** along the Baltic coasts.

Fig. 2

The Brick Gothic architectural heritage influence over Northwestern Europe and the Baltic Sea Region, strictly connected to the history of the *Hanseatic* League since 13th cen., with significant presence over Mecklenburg-Vorpommern and Schleswig-Holstein. Source: Emanuele Sommariva, 2018 (Dataset: European Route of Brick Gothic).

Fig. 3

Significant examples of Brick Gothic's typological invention: The Holstein Tor (city gate) and the *Salzspeicher* (salt storehouses) on the river Trave in Lübeck; the Alter Hafen with St. Mary´s and St. George´s churches in Wismar; the *Żuraw* (medieval Crane) today National Maritime Museum in Gdansk. Photo: Emanuele Sommariva, 2018.

Cultural landscapes of the German Baltic coast

One of the most prominent examples of regional common heritage over the Baltic Sea is the flourishing of brick gothic architecture since the 13th c., in a period when the traditional half-timbering[3] building technique was largely adopted in North-western Europe, due to the presence of extensive woodlands and the lack of natural stones to be used for building.

Especially related to holy or secular architecture, brick gothic building technique became the distinctive sign of merchant bourgeoise' political and cultural expansion over the Baltic regions, transposing decorative elements from the Romanesque-Gothic stone architecture but with the use of a different

3 Half-timbering techniques (from the German *Holzfachwerck* or earliest known as *opus craticum* by the Romans) refer to a series of traditional building methods characterised by frame of load-bearing heavy timbers and open spaces called "panels" (in German *Gefach* or *Fächer*). These frames were normally infilled with non-structural materials such as woven lattice and light wooden strips daubed with a combination of wet soil, clay, sand, animal dung and straw. For further details see: Richard Harris, *Discovering Timber-framed Buildings* (London: Shire Books, 1993); Ulrich Grossmann, *Der Fachwerkbau in Deutschland. Das historische Fachwerkhaus, seine Entstehung, Farbgebung, Nutzung und Restaurierung* (Köln: DuMont Buchverlag, 2004).

material, and producing, at the same time, significant stylistic innovations with a vast repertoire both in urban (*Dielenhaus*, town-halls, storehouses) and rural typologies (*Kemläden*, suburban farms, patrician manors).

This was a period strictly connected to the history of the Hansa (from Middle Low German-Saxon: Deutsche Hanse) firstly organized as a loose alliance of merchants established between the coastal or river outposts in Westphalian, Saxon, Wendish and Livonian areas. With the consolidation of regional-shared interests, the formation of trading guilds (often operating in a cartel-like market), the Hansa development characterized the growth of Baltic coastal cities and mercantile marine, with Lübeck, Wismar and Stralsund as the League's most prominent free-cities (Lübisches Recht). In half century a strong influence on the Northern Europe maritime exchanges emerged through the growing number of affiliated towns, securing commercial routes and economic agreements established in other countries.

In other words, the *Hanseatic League*[4] materialised the first instance of a pan-Baltic cross-border network, encompassing peoples and merchants of different linguistic and cultural backgrounds, able to associate and to transfer common socio-structural organizations to different coastal territories and market towns of the German, Balto-Slavic and Scandinavian areas

4 Over the 14-15th c. the *Hanseatic League* was a closely-knit system of 195 allied centres over 16 countries ranging between Cologne, Bremen, Hamburg, Lübeck, Wismar, Stralsund, Greifswald, Danzig, Königsberg (today Kaliningrad, Russia), Visby, Riga, and Reval (today Tallinn, Estonia) with large affiliated trading offices (the *kontore*, operating as early stock exchange hubs) in London, Brugge, Bergen and Novgorod. The ascendancy of sovereigns and territorial states, the discovery of America and, above all, the emergence of powerful competitors in the Netherlands and England led to the decline of the Hanseatic League from the mid-17th c. The last Hanseatic Diet (*Hansetag*) was held in 1669, with only three members (Lübeck, Hamburg and Bremen) which retain the official titling of "Hanseatic City" in their German names till today. For further details see: Philippe Dollinger, *The German Hansa* (London MacMillan, 1970); Donald Harreld, *A Companion to the Hanseatic League*, Leiden-Boston: Brill Publishers, 2015).

(Hocker 2003; Harrald 2015), as officially recognized in 1991 with the designation of a related European Cultural Route[5].

In these contexts, the ***Hansa Cultural Route programme*** demonstrate how extending the debates among site-specific preservation strategies —as described in UNESCO World Heritage nomination and management plans of Lübeck, Visby, Tallinn, Wismar and Stralsund— to a wider promotion of Baltic's ***cultural landscapes***[6], is needed in order to explore new inter-regional development perspectives, for implementing the valorization of the League's common architectural heritage, whose traces are still present today across the Baltic region even if potentially altered during the Post-war reconstruction period.

In this regard, a significant case study is represented by the regions of Mecklenburg-Vorpommern and Schleswig-Holstein, where the main urban poles —the Hanseatic cities of Lübeck, Wismar and Stralsund— have retained their original mediaeval structure in an almost unaltered state, despite the damages suffered during the WWII, and the subsequent transformations and integrated urban development interventions.

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5 A Cultural Route of the Council of Europe is not necessarily a physical path to be walked through and can be made up of institutional stakeholders complying with several criteria: the presence of networking elements common to at least three States; the significance of multidisciplinary and scientific research on it; the support of local communities for cultural and educational exchanges. Since 1991, the Hansa is one of the certified European Cultural Routes, partners of the project "Hanseatic Approach to New Sustainable Alliances" (HANSA) which wants to enhance the historical values of the Hanseatic League, by developing new territorial marketing strategies and a leading brand of the Baltic Sea Region. For further details see: https://www.coe.int/en/web/cultural-routes/the-hansa and https://www.hanse.org/en/hanseatic-cities/

6 Since 1992 UNESCO Convention recognized "cultural landscapes" as the product of significant interactions between people and the natural environment. To be included on the World Heritage List, sites must be of outstanding universal value and meet at least one out of ten selection criteria. Among these, the IV-V criteria encourage inter-cultural dialogue and co-management of cultural heritage related to "*a traditional human settlement, architectural ensemble [...] landscape or land-use which illustrates a significant stage in human history, or human interaction with the environment, representative of a culture or cultures*". For further details see the UNESCO Operational Guideline available at https://whc.unesco.org/en/criteria/

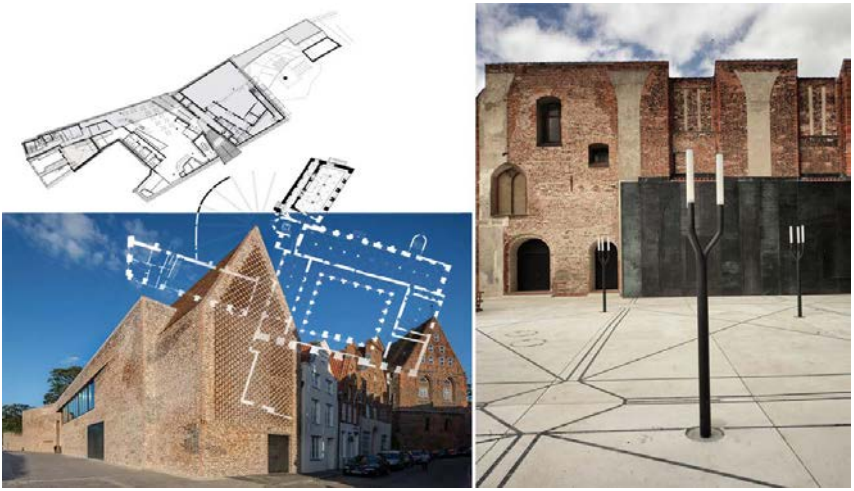

Fig. 4

The project for the European Hansemuseum (2015) designed by Andreas Heller (shortlisted for EU Miesaward 19) represents one of the typological reinventions in the old medieval center of Lubeck along the wall at the foot of the Castle Hill.

Photo: Thomas Radbruch, 2017.

These centers by their very maritime trading nature, have continuously evolved their urban patterns under the influence of multiple socio-economic and cultural change, without losing an overall morphological homogeneity. This "*continuity through changes*" can be retrieved most clearly in the re-design of the harbor basins and waterways, as well as in the evolution of the urban form: from a series of walled harbours to a wider network of urban-maritime estuary regions, mostly intertwined with the patterns of spaces derived from the landscaping of the former defense and bastions systems, channels and urban-rural fringes.

From Lübeck to Wismar, from Stralsund to Rostock, such as the Hanseatic League expressed its wealth in fine adorned civic spaces and its influence with the successful linkage of sea, river and land routes, today along the German Baltic coast new drivers of changes are implementing land-uses transformation and wider perspectives on land-sea interactions. Therefore, the focus on vernacular intelligence in this rationale of settlements and landscapes, can contribute to the debate of future heritage towards the capitalisation of territorial branding when polycentric habitats are envisioned. (Schröder 2017)

Pattern and Scenarios for RegioBranding

Whether Mecklenburg-Vorpommern and Schleswig-Holstein are famous for their historical cities and natural landscape —2 UNESCO Word Heritage Sites, 3 national parks and biosphere reserves, over 2.000 lakes, 2.000km of coastline— today these regions are witnessing a relevant touristic boom (FUR, Reiseanalyse 2017) especially connected to cultural offer and activities of the main harbor cities, as well as being the departing point of Baltic cruises towards Scandinavia and Russia. This trend is bringing along significant spatial transformations in places and villages both along the coastline and in Lubeck-Rostock areas, due to a renewed housing market demand and the influence of commuters coming from Hamburg Metropolitan Region.

In this framework, the research project REGIOBRANDING[7], funded by the German Ministry of Education and Research, worked on a multidisciplinary platform between scientific (5) and institutional stakeholders (3 focus regions) in order to formulate an integrated territorial branding study on the characteristics of the cultural landscapes in different areas of Germany (Steinburger Elbmarschen; Griese Gegend-Elbe-Wendland; Mecklenburg-Vorpommern Schleswig-Holstein). The transdisciplinary collaboration among the partners, organised in an "innovation group" model, subsequently elaborated analysis, evaluations, and vision steps to be implemented into "innovation-plans" and in the general concept of branding.

Regional Branding here is formulated as an articulation of spatial characteristics as potentials for sustainable management of cultural landscapes and territorial heritage, based on a scientific and participative process of awareness building and open

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7 REGIOBRANDING. *Branding von Stadt-Land-Regionen durch Kulturlandschaftscharakteristika*, funded by Bundesministerium für Bildung und Forschung (BMBF 2014-19) programme FONA to IES Institute, Leibniz Universität Hannover, scientific responsible IES Unit: Prof. Jörg Schröder, Dr. Maddalena Ferretti, Dr. Emanuele Sommariva. For further details see: http://www.regiobranding.de/

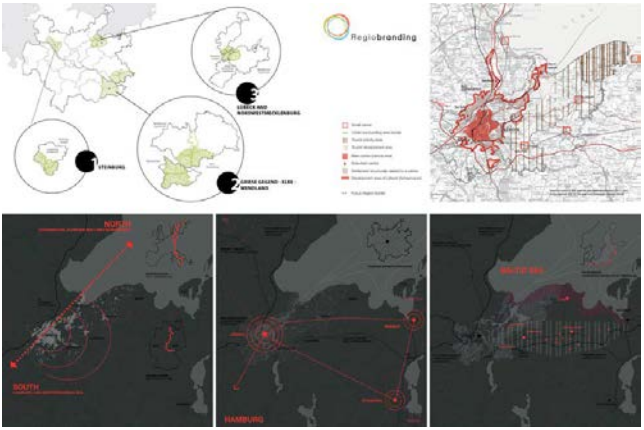

Fig. 5

Development scenarios for the focus region Mecklenburg-Vorpommern and Schleswig-Holstein, according to NS axis (Scandinavian-MED corridor), network reinforcement to inner polarities and rural transect connections towards the Baltic coast. Source: Maddalena Ferretti, 2018 for LUH-IES Regiobranding.

communication (Knaps, Herrmann 2018; Hermann et al. 2016), with the possibility to formulate integrated pilot projects that root design concepts for spatial futures in highly sensitive contexts, in order to produce further policy recommendation and governance ability. (Ferretti 2017)

In particular, this explorative design-based approach has been the focus of the work conducted by the Chair for Regional Building and Urban Planning, Institute of Urban Design and Planning of the Leibniz Universität Hannover. The work programme have been organized according to a *Territorial Integrated Evaluation* (TIE) methodology to study the inter-regional development dynamics and the elaboration of quantitative and qualitative tools, such as the Pattern analysis and the Explorative Scenarios.

Patterns are minimal units that are repeated with a certain frequency in the territory and that constitute therefore recognizable figures —buildings, traditional materials, natural elements, etc.— establishing a complex relational system between them and the surrounding landscapes. The Scenarios elaborate plausible images of the future, summarizing the dynamics on a regional scale in visions of the territory in transformation. (Schröder, Ferretti 2018)

For Mecklenburg-Vorpommern and Schleswig-Holstein, the

project has highlighted semantic and alternative configurations to traditional conservative spatial approach, conceptualising territory as a relational system and pointing out the potential role of large territorial figures, according to:

- North-South Corridor: focusing on the Lübeck-Travemunde estuary region, under the impulse of Fehmarnbelt sea tunnel (TEN-T Scandinavian-Mediterranean) connecting Germany, Denmark and Sweden; new harbour, productive and housing development areas to reduce the pressure on Lübeck;
- Medium-sized Polarities: counterbalanced regional development with urban-rural cooperation strategies in South of Lübeck, Grevesmühlen, Wismar and Schwerin; enhancement of slow mobility, regional markets for rural areas; medium-sized centres for service provision and SMEs specialisation;
- Along the Coast: capitalisation of eco-tourism and natural resources along the coast, according to EU Baltic Sea Region Strategy; consolidation of main harbour conurbations Lübeck, Wismar and Rostock, strengthening the wider accessibility (highway A20) to Hamburg and Berlin; new spatial configurations for new economic impulses, energy transition, sustainability and land-use characterization.

Explorative design strategies

A significant innovation aspect developed by REGIOBRANDING is represented by the multi-levelled interpretation of territorial heritage, which has led to the definition of a double context of operability for the policy decision-makers: from one side, it has operated through field explorations, detecting the most relevant spatial, cultural, economic, and social invariants of the areas, in order to develop an inductive survey method (*pattern analysis*); from the other side, it has informed an progressive and intuitive learning tool (*explorative scenarios*), discovering through design the plausibility, the adaptation or the evolution of socio-cultural landscapes analysed, according to a double-set of evaluation scales:

Fig. 5

Polycentricity along the Baltic coast and new settlements developed for *Sommerfrische (Kalkhorst)*

Source: Julia Maretzki and Rosa Pankarter for LUH-IES, 2017

- macro-territorial scale: linked to the explorative scenarios for future heritage valorisation and supra-territorial branding strategy for cultural landscapes for Mecklenburg-Vorpommern Schleswig-Holstein;
- micro-territorial scale: linked to local planning instruments in different thematic zooms (resident pop. 10.000) within the Focus Region in order to specify adaptive processual visions, as concerted at the Regiobranding Evaluation Workshop, with the main regional and local authorities.

Thus, besides the research activities implemented for REGIOBRANDING project, the Chair for Regional Building and Urban Planning has organised several seminars and design studios in order to extend knowledge formation and the capitalisation of the outcomes produced within the academic level.[8]

8 A selection of these design works —developed by LUH Master students in Architecture, Urban Design and Regional Planning— have been elaborated specifically for the Mecklenburg-Vorpommern and Schleswig-Holstein Focus Region in the framework of academic years: 2015–16 seminar "Land Portraits"; 2016-17 two Master thesis "Sommerfrische Ostsee", and "Rural Lübeck"; 2017-18 design studio "Baltic Coast: A New Architecture"; 2018-19 design studio "Creative Coast".

Among these proposals the German Baltic coast shows great potentialities for the valorization of urban-maritime cultural landscape exploring alternative forms of inhabiting, reinterpreting the historical heritage assets of the territory. For instance, the networks of existing minor settlement connected to traditional rural typologies in grouped formation, such as manors and hamlets, have been the focus of the design proposal next to Kalkhorst, Brook and Gross Schwansee.

Sommerfrische proposes a polycentric pattern of urbanization to guide the impulses of the expanding holiday housing market towards new shared and co-living models of urbanisation, merging leisure, culture and sports. The project works on the transition zone between the bogs landscape of the coastal hinterlands and the open sandy foreshore which characterize the long beaches of Mecklenburg-Vorpommern. In this sensitive zone the design of the public spaces constitutes the structuring and functional grid for the clusters of living-labs organized as new hamlets in a natural edge-landscape. A similar focus, but with a different reading of the land-sea

Fig. 7

Waterfront re-design and new co-housing district from heritage re-invention for *Wismar Hafencity* 4.0.

Source: Lisa-Marie Schwuchow and Pia Gesenhues for LUHIES, 2018.

interactions and land-use patterns, conceptualize the interventions on 27 km coastline between Travemünde and Boltenhagen, which look at enhancing new model of sustainable mobility by bike and by boat. In particular *Experience: New Coastal Networks* foresee alternative mixed-use settlements, marinas and vacation sites developed along the coastline along the key-access point of regional protected areas (Natural parks & Biosphere reserves) through minimalist architectural interventions able to host bicycle-friendly eco-tourism.

The focus on *Rural Lübeck's* southern fringe highlights the potential of a stronger cooperation in urban–rural contexts, in particular for establishing regional food networks and urban farming practices, strengthening accessibility —including through existing waterways such as the Elbe–Lübeck Canal— introducing innovative living and working models in a polycentric vision of the territory.

With *Wismar Hafencity 4.0* the redevelopment of urban waterfront become crucial for reestablishing the connection between the old city center and the port, more than a century subdue to shipbuilding yards and industrial activities, especially to wood imports from Sweden. Due to the planned port expansion, the focus of production will be shifted to the outer areas of the bay, while the freight traffic and tourism demands foster the expansion of urban services and housing offer. The project creates new clusters of housing facilities reinterpreting the traditional mixed-use row housing typology of the Hanseatic cities — still visible in old parts of the Jacoki Quarter in Lübeck or the Bryggen district in Bergen— evolving them in a contemporary mixed-use living-lab of the new Hafencity.

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Re-Maining Material Legacy, Re-Meaning Cultural Heritage: Preserving the Past to Design the Future

Material legacy; preservation; meanings; re-signification; cultural heritage; Casa Littoria; Bolzano; street art; Forlì; Berlin; Kampung Pelangi; Indonesia

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Leading a reflection about the re-signification of existing heritage, this paper aims at highlighting that the matter of future heritage may represent the result of two fundamental operations which are capable of re-maining material legacy and re-meaning cultural heritage. Especially, the possibility of preserving the existing works, even if conferring new meanings to them, will be here addressed by the analysis of some promising practices carried out on various kinds of assets: monumental buildings, minor productions and forgotten places.

What is the matter of future heritage?

A reflection can be developed on the basis of two aspects: on the one hand, there is the city with its history, its heritage and the human beings living in the urban spaces; on the other hand, there is the essential relationship between these fundamental components.

With regard to the first issue, a relevant question may be highlighted. As pointed out by Antonio Pennacchi "the city is above all an anthropological fact: it is made up of the people in it, the relations among them, their culture and their shared heritage of histories, memories, myths and practices which make it a specific *communitas* […] that is different from all the others"[1]. In relation to the second issue, Marc Augé clarified a very relevant theme. As a matter of fact, he said that "the work describes its time, but it does not describe it exhaustively anymore. Those who contemplate it today […] will never have the gaze of those who saw it the first time. […] The perception of this gap is the same perception of time, of the sudden and frail reality of time"[2].

The above-mentioned topics make it possible to open a reflection. Particularly, the present paper aims to extend attention beyond the boundaries of the well-known sites and buildings, such as those mentioned in the UNESCO World Heritage List. The purpose is to refer to the cultural heritage as the identity set of tangible and intangible assets produced by different and specific cultures. Heritage with symbolic value contributes to forming the spirit of the place[3]: the different assets composing it are both the direct material expression of local communities and the bearers of the immaterial dimension of those

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1 Antonio Pennacchi, *Fascio e martello. Viaggio per le città del Duce* (Roma-Bari: Laterza, 2008), 279, author's translation.

2 Marc Augé, *Rovine e macerie. Il senso del tempo* (Torino: Bollati Boringhieri, 2004), 25-26, author's translation.

3 See Donatella Fiorani, Loughlin Kealy and Stefano Francesco Musso (eds.), *Conservation-Adaptation: Keeping Alive the Spirit of the Place. Adaptive Reuse of Heritage with Symbolic Value* (Hasselt: EAAE, 2017).

communities. But if heritage is "a defining trait of ethnic and territorial groups", then "global interdependence likewise makes heritage universal"[4]. As a consequence, heritage "embraces things and ideas that give us collective identity"[5].

From this perspective, built heritage is the bearer of a material inheritance – which in turn is carrier of messages – that the past gave to the present and that the present should leave to the future. In this regard, there are at least three factors that can be identified and which connect people to heritage: the mutation of the observer's gaze, the possible rereading of the existing buildings and the change of meanings with the change of time. Precisely in relation to this, the intent of the present reflection is to draw attention to a particular aspect, which is the fact that the matter of future heritage may represent the result of two fundamental operations which are capable of re-maining material legacy, by preserving it, and of re-meaning cultural heritage, through the addition of new meanings.

In an effort to deepen the above-mentioned field of investigation, this paper aims to prove what has been asserted, by including in the reasoning the daily memory over time[6]. Especially, the reflection about the possibility of preserving the existing works, even if conferring new meanings to them, will be here addressed by the analysis of some promising practices carried out on various kinds of assets: monumental buildings, minor productions and forgotten places. Interventions vary according to the asset, but the basic assumption remains. In the first case, it is the installation superimposed to the Casa Littoria in Bolzano that shows how a punctual insertion may add new meanings to an architecture even if preserving its unique material substance.

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4 David Lowenthal, "Identity, Heritage, and History," in *Commemorations: the Politics of National Identity,* ed. John R. Gillis (Princeton, N.J.: Princeton University Press, 1994), 43-44.

5 Ibid., 43.

6 See Antonella Tarpino, *Geografie della memoria. Case, rovine, oggetti quotidiani* (Torino: Einaudi, 2008).

In the second case, it is the common buildings and urban walls that confirm the possibility of transmitting new messages through contemporary intervention. A few outstanding examples are that of Forlì where a street art festival has been configured as an opportunity for collective reflections about social themes, and that of Berlin where it was street performers that transformed political symbols of hate into works of art and love. Finally, in the third case, it is an intervention carried out in Kampung Pelangi in Indonesia that highlights how a simple operation may confer new meanings to places which were unknown yesterday, and that are enhanced and visited thanks to rereading processes today.

The monumental buildings and the addition of new meanings

The monumental buildings constitute the first kind of assets examined in this investigation. In particular, the focus is on a case study which is characterized by a complicated and difficult symbolic significance. As a matter of fact, attention is given to a mighty architecture dating back to the Fascist era. Highly experimental, the buildings realized in Italy in the period between the two World Wars show a continuous research for tradition, as well as for innovation. They bear proof of a balance between past and future which looks at modernity, although they demonstrate an "attempt to establish continuity with a suitable historic past"[7] capable of strengthening the national identity and that of

7 Eric Hobsbawm, "Introduction: Inventing Traditions," in *The Invention of Tradition*, ed. Eric Hobsbawm and Terence Ranger (Cambridge: Cambridge University Press, 1983), 1.

the local communities. In this way, Fascist regime reinforced an imaginative power[8] by adopting a political abuse of nostalgia[9].

In this scenario, the first experience here documented is the Casa Littoria in Bolzano: one of the many headquarters of the National Fascist Party. Designed by Guido Pellizzari, Francesco Rossi and Luis Plattner, this building was erected between 1939 and 1942. Geometrically defined and spatially calibrated, the Casa Littoria in Bolzano presents itself to the city through a massive façade with a large bas-relief. Realized by Hans Piffrader in the 1940s, this sculpted representation was meant to illustrate the history of Fascism through symbolic images. Therefore, a strong connection to the Fascist ideologies characterizes this work with Benito Mussolini on a horse lying at the heart of it.

In the case of this treatise, the aim isn't to focus on the historical significance and documentary evidence of this heritage, neither on the dual need for its conservation and contemporary use. Rather, the essential purpose of this paper is to underline a parallel and equally fundamental theme. As a matter of fact, this specific case represents an excellent example for highlighting the precious opportunity of adding new meanings to the built heritage. Moreover, if this operation is possible on a building with a strong ideological value, this is equally practicable on other architectures too.

But what happened in Bolzano exactly? The recent history of the local Casa Littoria is marked by an ideas competition announced in 2011 by the Provincial Council of Bolzano, whose aim was the transformation of the façade of this building which hosts the Palace of the Financial Offices nowadays. After winning the competition, Arnold Holzknecht and Michele Bernardi

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8 See Stephanie Zeier Pilat, "La Parola al Piccone: Demonstrations of Fascism at the Imperial Fora and the Mausoleum of Augustus," in *Political Landscapes of Capital Cities*, ed. Jessica Joyce Christie, Jelena Bogdanović and Eulogio Guzmán (Boulder, Colorado: University Press of Colorado, 2016), 343.

9 See David Lowenthal, "Nostalgia tells it like it wasn't," in *The imagined past: history and nostalgia*, ed. Christopher Shaw and Malcolm Chase (Manchester: Manchester University Press, 1989), 20.

Fig. 1

Casa Littoria, Bolzano. Author's photo.

from Ortisei carried out an operation of extreme relevance: they materialized their conception of a luminous writing that was located above the bas-relief in 2017. The insertion provides a contemporary response to the Fascist maxim "Believe, Obey, Fight": it does not obliterate the past, but it does interpret the theme of memory according to an approach that favors stratification. As a matter of fact, the intervention operated by addition, superimposing an installation with a significant writing containing some simple but deep words by Hannah Arendt, a German philosopher of Jewish origin of the 20th century: the luminous installation exclaims and remembers that "no man has the right to obey"[10] [Fig. 1].

For these reasons, the Casa Littoria in Bolzano constitutes an emblematic case study: it demonstrates that it is possible not only to make a transition from an unwanted memory to memorial spaces[11], but also to respect the existing heritage and, at the same time, to modernize it. Notably, it allows to show how a punctual insert can offer the possibility of adding new meanings to an architecture even if preserving it.

10 See http://www.basrelief-bolzano.com/en.html.

11 See Rob van der Laarse, "Fatal Attraction: Nazi Landscapes, Modernism, and Holocaust Memory," in *Landscape Biographies*, ed. Jan Kolen, Johannes Renes and Rita Hermans (Amsterdam: Amsterdam University Press, 2015), 345-375.

The minor productions and the transmission of new messages

Urban fabric includes not only monumental buildings, but also significant architectures of recognized value, as well as common buildings. The ensemble of these constructions contributes to defining the tangible and intangible identity of a community which, without that specific set of buildings, would be 'another community'.

Focusing on minor productions, it is possible to confirm the great opportunity of preserving the existing assets and of transmitting new messages deriving from the contemporary epoch. Once again, it is the abandonment of a removal-friendly approach that makes it possible to preserve an architecture even if transforming it. In this process, interpretation becomes an essential planning tool.

Several experiences contribute to demonstrating the above-mentioned assumption, but here the attention is given to two exemplifying European case studies, located in Italy and Germany, respectively.

The Italian experience focuses on a city which is promoting urban practices characterized by a high social value and a strong participative involvement: Forlì is one of the cities of the region Emilia-Romagna that is paying attention to these aspects of great relevance.

On the occasion of this paper, the investigation is circumscribed to a specific city event: the Murali street art festival. Organized in 2018, the first edition of this project was developed under the art direction of Marco Miccoli and it provided an interweaving between communication and artistic expressions. Particularly, the choice of the initiative was to redevelop defined urban areas through interventions on the walls of buildings with a low value. In this way, these surfaces have been intended as paintings on which works of contemporary art could be realized.

The involvement of numerous artists — such as Eron, Camilla Falsini, Gola, Millo, Moneyless and Zed1 — made it possible to shape creations that are freely usable by people. The *fil rouge* of the operation was the Constitution of the Italian Republic: seventy years after its coming into force, the aim was to decline some of its articles in a moment of collective reflection about social themes. This confirms that "while there are plenty of wrong reasons for disliking a work of art, there is no such thing as a wrong reason for liking it"[12].

In Via Nullo, Zed1 has chosen to focus on article 1, according to which Italy is a democratic Republic founded on work. In Piazza del Carmine, the wall painting by Millo calls for a reflection about the important theme of equality; as a matter of fact, he interpreted article 3 of the Italian Constitution, whereby all citizens have equal social dignity [Fig. 2]. In Parco della Resistenza, Camilla Falsini reread article 9, in which Italy promotes the development both of culture and of scientific and technical research; moreover, it safeguards the landscape and the historic and artistic heritage of the nation. In Vicolo Casaglia, Gola referred to the same article. In Via San Domenico, Eron worked on the issue of family: the wall painting portrays some washing lines; furthermore, given that it is located in the city area where there was the Jewish ghetto of Forlì, it reinterprets the theme of the Holocaust with striped clothes. In Via Cobelli, Moneyless played with forms and colors. Nonetheless, within this framework, the project Barcaccia Underground promoted interventions of urban art on the walls of the parking garage underlying the Musei San Domenico, a renowned cultural place in the historic center of Forlì[13].

Shifting attention towards Germany, another experience is worth mentioning. Here again, wall paintings both regenerated

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12 Horst Woldemar Janson and Ernst Hans Gombrich, "The Story of Art," *College Art Journal* 9, no. 4 (1950): 429.

13 See http://www.muralifestival.it.

Fig. 2

Wall paintings, Forlì and Berlin. Author's photo; "Berlino,".

urban compartments and offered the pretext to invite reflection. Nevertheless, the initial situation highlights the main difference between the Forlì experience and that of Berlin. If in the first case wall paintings made it possible to add value to 'anonymous spaces' of the city, in the second one they acted on symbols with a strong ideological significance.

Specifically, the project that has been developed in Berlin has dealt with some urban walls of the German city which showed the presence of swastikas. A possible reply to this situation could have been the removal of these terrible symbols, but the will of the project was to identify a different path: once again, art suggested interesting solutions and provided important incitements.

The project germs occurred in 2015 when a man went to a local paint shop to erase a flag of the Third Reich that appeared on a wall of his building. Consequently, an idea came to mind to the owner of that shop, Ibo Omari, who started believing that a wider urban creative action could have turned hate conveyor elements into positive messages of peace. Thus, the so-called Paint Back campaign started and the writer Ibo Omari, together with *Die kulturellen Erben*, a group of street performers, intervened on the walls of the city which were marked by swastikas.

The initiative saw the participation of artists for new reinterpretations which managed to transform political symbols of hate into works of art and love[14] [Fig. 2]. In this sense, the operation shows the possibility to use creativity for transforming things associated with dark periods of history into contemporary messages of hope and equality.

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14 See "Berlino, così gli artisti di strada trasformano le svastiche in murales," *Corriere della Sera*, 10 January (2018); Letizia Tortello, "Il writer che trasforma le svastiche in opere d'arte," *La Stampa*, 22 March (2018).

Fig. 3

Kampung Pelangi, Indonesia. Morosi, "Kampung Pelangi,".

The forgotten places and the enhancement of unknown spaces

The final category investigated in this paper concerns the forgotten places: whole villages, or even portions inside cities, may constitute little known, if not unknown, spaces. Nevertheless, promising practices demonstrate not only that a redemption is possible for these urban areas too, but also that from rejected spaces they may become known, appreciated and visited locations.

An outstanding example of this is the intervention carried out in Kampung Pelangi in Indonesia. This shanty town was an extremely degraded place composed of about two hundred houses. Very few people knew it and nobody wanted to visit the spaces of the village. This condition persisted until not long ago, when Slamet Widodo – the director of a local school – promoted an exemplary initiative. Indeed, he decided to paint the slum houses of Kampung Pelangi with the aim of creating a rainbow village. The challenge was accepted by the whole population and, thanks to this simple but powerful intervention, the village has changed but, at the same time, it has been preserved. Probably, no one would have imagined the real replay that such an

operation was able to obtain, but the truth is that Kampung Pelangi attracts visitors from all over the world nowadays[15] [Fig. 3].

The intervention carried out in Indonesia appears noteworthy since it provides a message of possible regeneration through practices which are contrary to destruction. Furthermore, it shows how a simple operation is able to enhance little known, if not unknown, places and urban spaces. As a matter of fact, rereading processes may activate a virtuous circle composed of urban practices, interventions on existing buildings, creativity, art and people. Nevertheless, giving visibility to these communities is certainly one step but, other than that, there might be conflicting perspectives and cleavages to be addressed[16]. In this respect, it seems necessary for these operations to fit within wider regenerative paths. Identification of the needs of current and future users, together with participation and innovation, can thus become components of a system of mutual exchanges and fruitful relations.

The above-mentioned case study relates to a whole village; nonetheless, as has already been anticipated, the approach adopted in Kampung Pelangi may be confined to parts of cities which, in this way, can initiate broader enhancement paths.

Many other experiences show the existence of a creative cities network[17]. The interconnection between different cultural industries highlights the multiple possible declinations of creativity[18] which, conceived as a strategic factor, can actualize the spiral reaction of cultural tourism[19], within enhancement processes of local specificities and global heritage.

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15 See Silvia Morosi, "Kampung Pelangi, la baraccopoli indonesiana trasformata in opera d'arte," *Corriere della Sera*, 17 May (2017).

16 See Peter Gathercole and David Lowenthal (eds.), *The Politics of the Past* (London: Routledge, 1994).

17 See http://en.unesco.org/creative-cities/creative-cities-map.

18 See Edouard Louis, Annie Ernaux, *et al.*, *Pierre Bourdieu. L'insoumission en héritage* (Paris: Puf, 2013).

19 See UNESCO, *Protection of mankind's cultural heritage. Sites and monuments* (Paris: UNESCO, 1970), 61.

The link between past, present and future

The promising practices investigated allow to develop a broader reflection that contributes to highlighting the possibility of re-maining existing works, even if re-meaning them. This generates a fusion between past time and present place[20], which in turn is projected into the future. With regard to the built heritage, a double need can be underlined: on the one hand, there is the necessity of preserving material legacy that constitutes the challenge to our cultural heritage[21]; on the other hand, there is the need to interpret existing assets in order to give them new meanings through processes which do not obliterate, but add messages from the contemporary epoch.

Heritage as memory carrier constitutes the expression of personal and collective legacies[22]. Therefore, its conservation makes it possible to protect documents of culture and, in so doing, to enable others to have the same opportunity of knowing these unique and unrepeatable proofs in the future. From this perspective, the preservation of cultural heritage – with its material and immaterial values and transformations – provides documentary evidence of traces and signs which give information on things, men and history[23].

For these reasons, the challenge of contemporary intervention is to support the narration of the existing heritage or, in the words of Lucien Febvre, to help "mute things speak"[24]. Thus,

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20 See David Lowenthal, "Past Time, Present Place: Landscape and Memory," *The Geographical Review* 65, no. 1 (1975): 1-36.

21 See Yudhishthir Raj Isar (ed.), *The Challenge to Our Cultural Heritage: Why Preserve the Past?* Proceedings of a Conference on Cultural Preservation, Washington, D.C., 8-10 April 1984 (Paris: UNESCO, 1986).

22 See David Lowenthal, *The Heritage Crusade and the Spoils of History* (Cambridge: Cambridge University Press, 1998); Michael Frisch and David Lowenthal, "Possessed by the Past: the Heritage Crusade and the Spoils of History," *The American Historical Review* 103, no. 5 (1998): 1567-1568.

23 See Eugenio Vassallo, "Tempo e memoria," in *Architetture nel tempo. Dialoghi della materia, nel restauro*, Maurizio De Vita (Firenze: Firenze University Press, 2015), 204.

24 Lucien Febvre, *Problemi di metodo storico* (Torino: Einaudi, 1966), 177, author's translation.

interpretation becomes an essential act. The assumption of the meanings of a work as a project element should imply the conservation of its messages and the guarantee that others may interpret them. Nevertheless, as this study attempted to demonstrate, it is possible to preserve existing assets and to enrich them through the attribution of new meanings. In this regard, Umberto Eco contributed to underlining the fundamental possibility of adding following meanings to a work[25].

Hence, the promising practices here analyzed help to develop a reflection that highlights a triple need. The first one is to maximize preservation of what the past has transmitted to the present; the second one is to maintain the multiple meanings of existing assets; finally, the third one is to add new meanings deriving from the contemporary epoch. In so doing, knowledge and creativity may become essential operations of interventions that can then take various declinations on the basis of the asset on which they are carried out. But if actions vary according to the asset, then the same assumptions can be followed in different cases.

Along these lines, the awareness of the possibility of re-maining material legacy and re-meaning cultural heritage can lead to virtuous interventions that create a link between past, present and future. In this perspective, we ourselves are authors of the matter of future heritage because it is through the preservation of the past and the re-signification of the existing heritage that we can provide a contribute to design the future.

25 See Umberto Eco, *La struttura assente. Introduzione alla ricerca semiologica* (Milano: Bompiani, 1968), 201.

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Values of immateriality
A housing typology as social and mobile element in the urban context of Buenos Aires

Lived Space; Collective Memory; Active Heritage

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To think of heritage in a different and future oriented way, the actual use, the everyday life within the building, its possibilities to transform and the social value as inscription of a present society production have to be reflected not only from the planners side but also from the users perspective and have to be communicated in different ways. In this paper three characteristic aspects of heritage – 1. Patina as reference to the material , 2. The immobile cultural vehicle, and 3. Collective memory as base are set into relation to the case study of the casa chorizo, which is part of a larger research framework on design paradigms for Lived Spaces as urban practice. The casa chorizo as popular housing typology in Buenos Aires (Argentina) due to its adaptability has come to be a space of continuous change, reflected connections and inscription of users that can be an exemplary case within the future reflection on matters of heritage and the understanding of Lived Spaces.

Heritage and its Patina

Heritage lets us—as architects and urban designers—think of buildings in first place—built structures belonging to a certain time or society and objects that as monuments give importance to the city. The material description of spaces often leads to a determination in old and new, before and after, refurbished, transformed and renovated or abandoned. What is spoken of is a specific state of a space, but rarely the process related to time and memory laying in between[1] the way how these spaces are adapted, what has formed them how and what importance the change has for the todays understanding of society – overall its socio-cultural meaning.

Spaces that in the present can show such a process can be seen as "lived spaces" - they have already experienced several kinds of uses and keep on being transformed. They show different layers of usage and spatial change and often function as collective memory for people – a social connection. After Lefebvre the idea of Lived Space is connected to a subjective perception of space, one lying in-between space of thought and the already lived – a space of expression and a significance through practice and use. It is an atmosphere understood through a sensual experience or feeling and the immaterial connection of people to space. Lived space means the social space as habitat characterized by humans. It is a never-ending entity under constant transformation of built and social elements. Space that due to its history, the different uses already taken place, their material changes and the patina of the place transmits the atmosphere of an already inhabited space where people feel attached to[2].

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1 Michael Guggenheim "Building memory: Architecture, networks and users". *Memory Studies* 2, no. 1 (2009): 40

2 Henri Lefebvre, *The production of space*. (Paris: Anthropos. Translation and Précis, 1974)

Fig. 1

Patina | Riccarda Cappeller 2014

We have to learn to read this patina of spaces, the continuous material inscription that tells of its uses[3]– the colour, broken parts in the walls, sticked half ripped of papers and growing plants. As materialized time we can approach them as a person, capture an impression at first sight and discover it layer by layer. To the material appearance, the haptic and visual experience we can add a nonmaterial, sensual and atmospherical impression that is captured when being in situ and moving through the space[4].

In the discussion about future architectural research the need to communicate architecture in a different way is just one issue. Jeremy Till here mentions especially the two necessary con-

3 Momoyo Kaijima; Laurent Stalder; *Yu Iseki, Architectural Ethnography - Japanese Pavilion Venice Biennale 2018*. (Nogizaka: Toto Verlag, 2018)

4 Gernot Böhme, *Atmospheric Architectures. The Aesthetics of felt spaces*. (London, New York: Bloomsbury, 2017) , Saskia Herbert, *Lived Space Lichtenberg #1*. (Berlin : Universität der Künste, 2014) and Benjamin, Walter. "Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit", in: Adorno, Theodor. *Walter Benjamin: Schriften* no.1. (Frankfurt: Suhrkamp, 1955)

texts for the production of architectural research: academy and practice, which both have to be considered. Also we have to overcome the addressing of only the academic community as well as research undertaken only for commercial reasons, "not shared with the rest of the community"[5]. Making buildings speak and allow them to tell their process through the interaction of social, cultural and economic ideas that form them could be one approach towards a different exchange with a more coherent strategy.

Cultural vehicle and Collective memory

To focus on Lived Spaces and monuments of the city again is necessary because they hold the city together, create a network of spaces of experience that is fundamental for a functioning urban space and forms part of its culture. The history of a space, that through the change of use transforms into memory is important for invention, because together with the site, an event and signs it works as characteristics of urban artefacts and transmits an identity - the soul of the city[6]. Heritage sites with their lived time-space today could be used more often as points of intersection – social spaces within the fragmented urban space that are accessible for everybody and function for unfolding creative production instead of being only spaces of nostalgia. On the one hand this refers to a different, a "reflective understanding" of nostalgia, which allows a more dynamic view of memory connected to the mediation of history and passage of time[7]. On the other hand it means to not only look to the historical facts of a space but also to include the present day to day interactions

5 Jeremy Till, *What is architectural research? Architectural Research: Three Myths And One Model*. (London: Riba, 2007)

6 Aldo Rossi, *The Architecture of the city*. Cambridge, (London: MIT Press, 1966)

7 Svetlana, Boym, *The future of nostalgia*. (New York: Basic Books, 2001), 53-54

of people in space[8]. "To receive and transmit a legacy is not enough; it must be refurbished and given new resonance while in our care" states Lowenthal[9] and with this makes clear the necessity of an active heritage production that is not only bond to the past and nostalgia.

Etymologically heritage means Leftovers – material or nonmaterial things our ancestors have left for us when imagining a future from their point of view. This generational perspective that is connected to the interchange of space, time and people manifesting within, underlines heritage as socio-spatial aspect with a cultural capacity that provokes change. It is a process in movement and has to be represented as such[10]. Like a time capsule it can transport concepts, ideas and images, an immaterial value of a specific place in a specific time and society. It is a cultural vehicle[11] and representation of time that through the history they contain and the stories they tell, – the collective memory – lets them work as social connectors, making people remember, recognize and take attachment to the space they live in. For example Cortazar in his short story "casa tomada" (engl. taken house) doesn´t start with a description of the actual house, but with a thought and feeling connected to it. "We liked the house because apart from its spaciousness and antiquity (today old houses succumbed to the more advantageous sale of their materials) it kept the memories of our great grandparents, our paternal grandfather, our parents and our childhood."[12]. What he transmits in first place is the feeling of a "Home" connected

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8 Alan Latham, "Researching and writing Everyday accounts of the city" in *Picturing the Social Landscape*, ed. Paul Sweetman and Carolin Knowles,. (London: Routledge, 2004): 119

9 David Lowenthal, *The Heritage Crusade and the Spoils of History*. (New York: Cambridge University Press, 2009):171

10 Sofia Nannini, "Yona Friedman. Mobile Architecture, peoples Architecture". Histories of Post War Architecture, no. 1 (2017):1-4

11 Paul Antze and Michael Lambek, *Tense past. Cultural Essays in Trauma and Memory*. (New York: Routledge, 1996)

12 Julio Cortazar, "Casa tomada" in *Contemporary Latin American Literature, ed. Gladys Varona-Lacey* (San Francisco: McGraw-Hill, 2001):157-161

to past stories. Later, with a description of the house´s spaces, the reader can follow the structure of the house and its apparent flexibility, which leads to the thought, that the mentioned house could also be a casa chorizo.

Connection Case study

"In the art of architecture the house is what best characterizes the habits, people and uses of a town."[13] According to Viollet le Duc if we want to talk about the socio-spatial aspects of the urban, we have to focus on the houses – everyday architectures and culturally spread typologies. The casa chorizo as a conceptual idea and typology is remembered by many. It is a Lived Space and popular urban habitat that through its different users tells of a social type under transformation.

The typology of the casa chorizo, a patio house, was brought to Argentina by European immigrants and spread as simple structure reacting to the narrow properties of Buenos Aires. It creates flexible and lively situations opening up to the city context and its original idea works as open and people connecting home and popular urban habitat that can be transformed according to the needs and habits of the users. The simple structure combines outside and inside spaces, private and public spheres and a quiet, but communicative and often green refuge within the density of the city. It allows flexible adaptions to private uses or public events, a huge variety of living situations and solutions to new demands for shared spaces within the city. Looking at several examples the story of the city, its cultural background and directions of the society can be told by the habitants and users of the houses.

To make buildings speak and let these perspectives become part of the research, interviews and documentary footage are

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13 Eugene Emmanuel Viollet le Duc in Roberto De Gregorio, *La casa criolla. Popularmente llamada casa chorizo*. (Nobuko: Buenos Aires, 2003)

Fig. 2

Casas chorizo
Riccarda Cappeller
2014

combined with found literature, theoretical texts and archival material. The user related transformations of the casa chorizo over the time is set into a broader context of the city expansion and connected to the concept of mobile architectures – not the static and material idea of built assets, but the travelled concept, the ongoing improvisation within a set frame and the changing user groups that continuously question the future idea for these habitats.

The narration of users and inhabitants on several spaces of the same kind, capture the main spatial ideas as well as the

socio-cultural background. As parts of a larger research on the casas chorizo they tell the story of a space imagined for social and highly urbanized life:

One explains the and general city structure of Buenos Aires linked to the fact that it is an european city brought up mainly by immigrants. A second tells about the conviviality and the sociable space within the casas chorizo, while a third one focuses on the development of several houses from private to a collective place full of happenings and spatial transformations. The fourth brings up the question of its future possibilities, relating a ruin to newly refurbished examples.

Fig. 2

Casas chorizo
Riccarda Cappeller
2014

Fig. 3

Transformation of builndings told by users

Connected to their structural transformations over time the story of the casas chorizo can be read in very different ways and function as inspiration for a future design process. By learning from the change of use through users and their improvisation according to their needs, we re-question and re-invent space differently and might arrive to a stabilization of forms in an architectural sense[14].

Future reflection on matters of heritage

To think of heritage in a future oriented way, more than the material states of buildings, their protection and reconstruction have to be considered. Even if the spatial context and the development of a building plays a role for its classification, the actual use, the everyday life within it, the possibilities to transform and

14 Michael Guggenheim, "*From Prototyping to Allotyping. The invention of change of use and the crisis of building types*". *Journal of Cultural Economy*, 7, no. 4 (2014): 411-433

the social value as inscription of a present society production aren´t reflected enough.

Starting from individual case studies connected to the users of the casas chorizos and their form of coexistence, heritage, like above, is understood on a more conceptual level, that integrates not only the material aspects related to time and people but also the immaterial like social connections and the collective memory. The ideas connected to the casa chorizo could be brought further, not only in the development of their buildings itself (vacant spaces, additions, change of program) but also as principals for newly designed spaces that address social exchange and flexible, process oriented ideas ideas from the beginning on.

The heritage value of the casa chorizo lays in the combination of historic, social and architectural aspects, also constituting the idea of culture as a medium for possible change. Moreover it is a collectively lived space from which we can learn for thinking, creating and producing density within our built environments. It is a starting point to learn from Lived Spaces, understand their essence and reinvent and adapt them to the needs of an already visible future.

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This article is an outcome of the ROCK project, funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No. 730280

Public Art, Collective Memory: the Contested Heritage of Arnaldo Pomodoro's Columns in Piazza Verdi

Art-Based Regeneration; Cultural Heritage; Public Space Management; Arnaldo Pomodoro, Bologna

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In 1972 the Mayor of Bologna Renato Zangheri installed three column-like sculptures in piazza Verdi, the heart of the University district and student life. In the idea of Zangheri, the columns—made by Italian sculptor Arnaldo Pomodoro and donated to the city by the artist—were a monument to the future of the world, expressed in the city by the University and its students.
Despite the harsh confrontation between the student movement and the Municipality, in particular during the 1977 clashes, the columns will soon become an affective and symbolic landmark for the student's militant population, who appropriated them in various ways. Acts of appropriation included using the columns as billboards for political pamphlets and manifestos, or staging temporary performances and installations around them. In 1977, the columns were even used as posts to build a tent to transform the square in a large campsite. The columns were colloquially referred to "totems," as a symbolic object for the Dadaist cult of the Metropolitan Indians, a counter-cultural agitation group.
During the 90s, concerns for the preservation of the artworks

forced the municipality to remove the columns from piazza Verdi—against the will of the artist—and to relocate them first at the Galleria di Arte Moderna (GAM) in 1996, and then at the Museo di Arte Moderna Bologna (MAMBO) in 2014.
Reconstructing the story of Pomodoro's "totems" allows us to tackle several issues concerning the politics of preservation, highlighting the non-linear processes of construction and removal of physical and cultural heritage, and the role of public art in place-making in urban environments, characterized by social conflicts.
Recently, in the public debate the opportunity of transferring Pomodoro's columns back to the University District has been reconsidered, removing them from the musealization of their current installation site, and bringing them back to the life of the city, together with their powerful symbolic and memory value.
However, the University District is still perceived as dangerous for the physical integrity of the artworks, because of its problematic nightlife and the proliferation of micro-criminality.
The possibility to re-locate the "totems" in the area may be facilitated by the agreement between Institutions (University, Municipality) and all the formal and informal players active in the area (i.e. the student's population, the local residents) upon an integrated plan of management and care for the artworks. The methodologies experimented in the city during the first year of the Horizon 2020 project ROCK, as well as the networks established by the University and the Municipality for the heritage-based transformation of the area, are key assets for this attempt.

At least since the "urban regeneration" of Rome promoted by Pope Sixtus V in the late 16th century, placing statues, fountains and monuments in crossroads and piazzas has been connected to the representation of local and national, religious and secular powers. Art, and its capacity to be interpreted and read as a series of signs and symbols, has been the main medium through which new urban transformations were communicated to the local population and travellers. Art was the tool through which the unity of people with their rulers was sanctioned and publicly represented. As such, public art was also the object of programmed vandalism and destruction during revolts and revolutions.

But what happens when the art to be placed in public spaces refuses to convey straightforward meanings or to employ shared symbols? And what happens if the artwork is not destroyed, but performatively appropriated by radical political groups during an urban revolt? This was the case of the Arnaldo Pomodoro's three *Columns* in Bologna. Started as the municipality's collaboration with a world-famous artist for the celebration of the city's university and its future, the columns were instead appropriated by the creative fringes of the autonomous movement of 1977 becoming universally known as *totems*. The columns became the retroactive symbol of the revolt against the established leftist city administration, but also the symbol of Bologna as a vibrant and tolerant artistic centre. The columns were then used throughout the 1980s as billboards for political posters and covered with writings and stickers, and they were finally removed by the administration to be restored and preserved in a more controlled museum environment.

Reconstructing the history of Pomodoro's columns allow us to tackle some questions on the nature of public art, cultural heritage and its relation to preservation. What happens if the intentions of the artist and the patron are swerved by the autonomous life of the artwork? Can the love for an artwork endanger its physical integrity? And also, what does it mean to restore a public artwork without restoring it to its original location, removing it from the life of the city? And finally, what could be the strategy to collective management of the artwork as a common good, to bring them back to their original location?

The life and death of a public artwork

Arnaldo Pomodoro realized his *Cilindro costruito* in 1969. The scuplture was initially meant to be installed in the Financial Plaza of the Pacific in Honolulu. The column was first noted by the Mayor of Bologna, Renato Zangheri, during the Rossini festival in Pesaro in 1971. In the same year, the municipality of Bologna

decided to buy the artwork and to exhibit it in a public art exhibition curated by Giuseppe Marchiori. Zangheri interpreted the columns as the monument to the future of the world. In Bologna the future was represented by the students of its University, known as the most ancient university of the Western world. For this reason, soon after its first public display, the Mayor asked the artist to position the artwork in Piazza Verdi, the heart of the university district. Pomodoro, who privileged the collocation of his artworks in public space, not only welcomed Zangheri's request, but he donated to the city of Bologna two more artworks: *Mole circolare and Colonna intera recisa*.[1]

Italy had the largest communist party in the Western block. Bologna, which was governed by the Party since the end of the Second World War, was the test case for the theory of Eurocommunism, an experiment with how an actual communist political agenda could be realized in a prosperous, and advanced capitalist, middle-size European city. However, the progressive agenda of Zangheri and the local Communist Party had also its own discontents, in particular from the younger generations of workers and university students. Sylvère Lotringer has described the dissatisfaction towards the Party's future plans for a progressive, future realisation of socialism: "[f]or the first time young workers and students saw what 'Socialism' looks like: acute unemployment, living costs higher than anywhere else, and the hypocritical image of a benevolent PCI. Young emigrant workers arriving from the South soon realize that their slumlords are card-carrying members." Instead of a future socialist society, perhaps represented in Zangheri's vision by Pomodoro's columns, "[t]he youth realized that they couldn't care less about Socialism, or the future society. They wanted instant change."[2]

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1 The general data and the cronology of Pomodoro's works were provided by Bitta Lorenzetti, from the Fondazione Arnaldo Pomodoro.

2 Sylvère Lotringer, "In the Shadow of the Red Brigades," in *Autonomia: Post-political Politics* (New York: Semiotext(e), 1980): xiv.

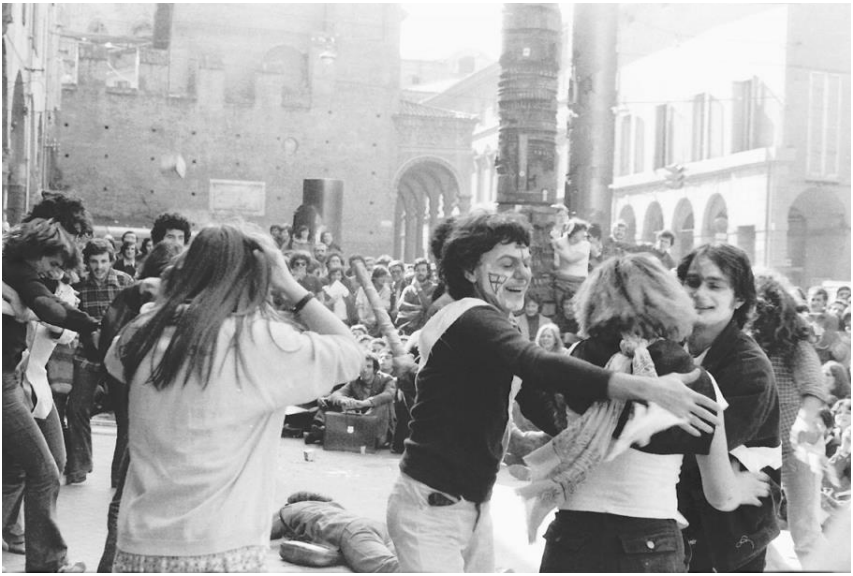

Fig. 1

Bologna, Piazza Verdi, 1977. Photo by courtesy of Giuseppe Cannistrà.

The political contestation against the municipality of Bologna was carried on by a series of far-left groups, including several organised political formations around the area of Autonomia (in particular, Autonomia Operaia and Lotta Continua), as well as loosely-organised, spontaneist, cultural agitation groups such as the so-called Metropolitan Indians. The conflict escalated in several violent demonstrations, which culminated in March 1977 with the shooting of a militant of Lotta Continua, Francesco Lorusso. Piazza Verdi and the university district became for a few days an autonomous zone controlled by armed students and militants for several days. Only the intervention of tanks sent from the Interior minister put end of the siege of the area. Arnaldo Pomodoro's columns were placed by the municipality of Bologna in what soon literally became a war zone, which could indeed compromise the integrity of the artworks.

However, Arnaldo Pomodoro's columns were the object of other kinds of performative acts. Before and after the 1977 clashes the columns became an affective and symbolic landmark for the student's militant population, who appropriated them in various

ways which included using them as seats, billboards for political posters, stages for performances [Fig.1]. During the "international conference against repression," that took place in September 1977, after a petition signed by intellectuals such as Jean-Paul Sartre, Michel Foucault, Gilles Deleuze and Félix Guattari, the columns supported a large tent, transforming Piazza Verdi in a temporary campsite for militants coming from all over Europe.[3]

In the 1980s, Pomodoro's columns became the retroactive symbol of the revolt of the 1970s and its collectively joyful character, as opposed to the general feeling of individualisation of the *riflusso* (the low-ebb era).[4] In these period, the columns were still used by the local population as billboards and covered with writings. Despite the uses and mis-uses which the artworks were subject to, they were periodically cleaned and maintained, and their presence in the square was not considered problematic until 1990. During that year, concerns for the preservation of the artworks forced the municipality to remove the columns from piazza Verdi. From 1990 till 1996, the columns were stored in a warehouse, waiting for an agreement for their restoration and future relocation. Arnaldo Pomodoro, who had always embraced the collocation of its artworks in the "dangerous" environment of Piazza Verdi, saw the six years of removal of his columns from the public space as the actual "mortification" of his artworks.[5] Eventually, in 1996 the columns were finally restored and installed in a garden in front of the Galleria di Arte Moderna (GAM) in 1996. With the relocation of the collections of the GAM from

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3 See Andrea L. Hajek, "Bologna and the trauma of March 1977: the 'intellettuali contro' and their 'resistance' to the local Communist Party," *Carte italiane* 2, no. 7 (2011).

4 The alliance between the Communist Party and Christian Democracy, followed by the cabinets led by Bettino Craxi in the 1980s produced a deep restructuring of the productive, political and cultural landscape of Italy, towards a neoliberalisation of economy, and a crisis of political representation and participation. See Paolo Virno, "Do you remember counterrevolution?", in *Radical thought in Italy*, ed. by Paolo Virno and Michael Hardt (Minneapolis: University of Minnesota Press), 241-260.

5 Brunella Torresin, "Ricordate i totem di Pomodoro? E' ora che tornino a casa," *La Repubblic*a (13 September 2011).

its former peripheral position to the newly restored art citadel in the centre of the city, the columns were relocated in 2017 to their current position in the sculpture garden of the Museo di Arte Moderna Bologna (MAMBO).

The idea of moving the columns back to piazza Verdi, however, was never fully abandoned and the "totems" are often used as a polemic pretext for local controversies. Local citizens associations, intellectuals, as well as the artist himself, have more than once declared their preference to restore the columns to their original location.[6] Instead of valorizing the symbolic strata that the columns have accumulated during an 18 year-long troubled history in a troubled location, the local administration favoured a curatorial strategy driven exclusively by the integrity of the physical aspects of the artworks. The location at the MAMBO has been considered by the municipality as "definitive."[7]

How to do things with monuments

To fully understand the symbolic importance of the Pomodoro controversy in Bologna, it is worth exploring, on the one hand, the figure of Arnaldo Pomodoro as one of the most influential and internationally established artist of the 1960s and 1970s. On the other hand, the interpretative practices, and the use of the monuments in the performative actions of the 1970s political movement, will be analysed.

Arnaldo Pomodoro's iconic polished bronze sculptures are literally present in every major art collection in the world. Their shiny presence is seen not only in galleries but also in front of some of the most prominent palaces representing local and international institutional powers: the United Nations in New York (*Sfera con sfera*, 1991), the Palace of Youth in Moscow (*Disco*

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6 Fernando Pellerano, "«Le mie colonne tornino in piazza Verdi»", Intervew to Arnaldo Pomodoro, *Corriere di Bologna* (7 May 2014).

7 Fernando Pellerano,"Bologna. «I totem di Pomororo restano al Cavaticcio, in mezzo ai giovani»," *Corriere di Bologna* (8 May 2014).

solare, 1983-84) the Vatican Museums (*Sfera con sfera*, 1991), the UNESCO headquarters in Paris (*La Freccia*, 1993-95) the Italian Foreign Office (*Sfera Grande*, first conceived for the Expo in Montréal in 1967), to name a few.[8]

Ironically, Pomodoro's columns were removed from Piazza Verdi in 1990, precisely when Pomodoro started to be recognized as the institutional and public sculptor *par excellence*. However, Pomodoro started gaining international visibility already since the mid-fifties as a participant of the Venice Biennale, and later, together with artists such as Lucio Fontana, as a member of the art group *Continuità*. Since 1959, he travelled to the United States and became artist-in-residence at Stamford in 1966. In 1970, he started a traveling exhibition across all the major American campuses, starting from Berkeley. When Zangheri first contacted Pomodoro, the artist was already internationally renowned. From this point of view, it is not surprising that Zangheri too wanted a Pomodoro's artwork for his city, as his sculptures were already considered in the public perception as familiar objects in the urban furniture of many Italian and international cities.

What changed the habits of public perception was instead the way in which the monument was used during the 1970s. In particular, one specific episode changed once and for all the perception of the object, producing an "incorporeal transformation" of the object perhaps more stronger than any more or less creative act of physical vandalism that was performed over the surface of the artworks.

One particular image from Giuseppe Cannistrà [Fig. 2] depicts the very moment in which this transformation occurred. A group of young militants are caught transforming one of Pomodoro's columns into a neo-pagan totem for a street performance of the so-called Metropolitan Indians, the creative fringes of the student movement. From that moment onwards, even in the

8 See Flaminio Gualdoni, *Arnaldo Pomodoro: General Catalogue of Sculptures* (Milan: Skira, 2007).


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languages used in local newspapers, politicians and curators, Pomodoro's columns became universally known the Totems.[9] Like in a dadaist artwork, Pomodoro's columns were used as an objet trouvée, ready to be attached with new meanings and uses.

What happened to Pomodoro's columns? Following the theory elaborated by John Langshaw Austin in his classic text *How to Do Things with Words* (1962), the Metropolitan Indians' provocation can be read as a "linguistic act".[10] According to Austin, a linguistic act, or illocutionary act, is a statement that does not describe any thing or any situation, but allows to the speaker to perform an action. Examples of illocutionary acts are those utterances performed by a priest who celebrates a wedding, or a judge declaring a sentence. These speech act do not inform about anything, they perform actions changing the status of the newly wed couple, or on the condemned. In a similar way, the 1977 action, through an artistic and political ritual, transformed the status of the columns. But while the acts of the priest and the judge excercise sacralised powers from the above, the Metropolitan Indians performed a de-sacralisation of the institutional role of the sculptures as icons of the powers of the city and the university, giving them back to the everyday use of the city and of the student population.

The reference to linguistic theory is not far-fetched from the cultural environment in which the students of the university of Bologna were immersed at that time. In 1971, Italy's first degree in the disciplines of arts, music and entertainemnt (DAMS) was introduced at the University of Bologna. The curriculum included courses by Umberto Eco and Renato Barilli, among others. Umberto Eco in particular exercised a strong influence both inside and outside academia, providing new tools for the interpretation

Fig. 1

Performative acts on monuments: the colums become totems.
Photo by courtesy of Giuseppe Cannistrà.

9 Arnaldo Pomodoro declared that he did not like his artworks to be called totems, preferring instead the name of "columns" or "cylinders", to preserve their abstract character and leave their interpretation open.

10 John Langshaw Austin, *How to do Things With Words?* (Oxford: Oxford University Press, 1975).

of previously neglected art forms such as comics, and for the analysis of the languages of mass media. His 1965 *Opera Aperta*, translated into English in 1989, explored the character of art—in particular of modern art—of being open to various interpretations and appropriations from the beholder. Eco explored the unfinished character of art and the role of chance in the process of creation, which does not end with the exhibition of the artwork. In this way, the audience has not a merely passive role in the reception of the artwork, but it cooperates, in alliance with the author, to complete and enrich it into new and unexpected forms.[11]

Eco expanded the concept of interpretative cooperation in his 1990 book *I limiti dell'interpretazione* (English translation *The Limits of Interpretation*, 1994). Here, Eco distinguishes a three-part interpretative scheme, composed by the intentions of the author, of the text and of the reader: *intentio auctoris, intentio operis and intentio lectoris*. Whereas the intentio auctoris—what the author really wanted to say—has traditionally received the attention of the critique, Eco is more interested to look for the the deep motivation of the text in itself. The *intentio operis* has to be found in the text iteslf, and it is independent from the intention of the author. It is then possible to look for an internal textual coherence of the text, and the systems of signification which it refers to. However, according to Eco's interpretative semiotic, a text is incomplete without the intervention of a reader. The reader fills in the gaps of the text through their own signifying systems or through their own desires and drives.[12]

Seen from the point of view of the *intentio auctoris*, we can observe that Pomodoro wanted to express through his work a desire of freedom and emancipation. In his works, Pomodoro employs rigid geometric and classical forms such as spheres,

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11 Umberto Eco, *The Open Work* (Cambrdidge, MA: Harvard University Press, 1989).

12 Umberto Eco, *The Limits of Interpretation* (Bloomington, IN: Indiana University Press, 1994).

columns and cones. However, the cracks on their polished surfaces allow the proliferation of complex structures made of cryptic signs reminiscent of archaic cuneiform writing, whose meaning is lost. Similarly to the work of Lucio Fontana, whose cuts destroyed the classical unity of the canvas bringing forward new spatial possibilities in the interstices of matter, Arnaldo Pomodoro breaks with the constraints of Euclidean solids unveiling a magmatic chaos of lost signifying structures. Such a spatial syntax, with its specific *the intentio operis*, is inserted in already consolidated urban spaces. Pomodoro's works are not *site specific*—like the ones Daniel Buren who, since 1965, started elaborating his works coherently with the spaces in which they were going to be installed. On the contrary, Pomodoro's metallic structure are alien elements, with an "internal textual coherence" that progressively merge into the life of the city.

In this sense, they still work as classical monuments inserted in urban spaces. However, the abstract language in which they are composed leaves their interpretation open to various appropriations. On the one hand, the Mayor of Bologna saw them as the representation of the progressive—yet institutionalised—form of administration of the Aemilian PCI. The 1977 movement, on the one hand, ironically elevated them as fetishes into a neo-animist cult. On the other hand, they created use values for the columns, restituting them to the practical and symbolic everyday life of the student community. Preservationists and curators saw them as expensive artifacts made by a world-famous artist in need for a controlled exhibition environment, far from the dangers of an allegedly troubled urban area. For the association of the friends and family of Francesco Lorusso, who authored a petition for the relocation of the "totems" in their original location in Piazza Verdi, they represent the heyday of Bologna as an international artistic avantgarde capital—not concealing the nostalgia

permeating a certain kind of narration often practiced in Bologna.[13] Others saw the parable of Pomodoro's columns the removal of a crucial episode in the history of the city, which changed its image and destiny forever.[14]

Public art, common goods

The story of Arnaldo Pomodoro's "totems" is instructive on the nature of public art and the relations it establishes with its audience in times of political turmoil. This example show not only the gap between the intentions of author, text, and readers in their interpretation of the artwork, but also in the power relations crossing the perceptive habits of the various audiences in the city. In particular, what emerges is the gap between the political intentions in the creation of a public artwork and its reception, which appropriates the object as a *common* good for a common use. At least since Elinor Ostrom was awarded the Nobel Prize in Economics in 2009, common goods have received great interest not only in political activist circles but also in the mainstream discourses of administrators and policy makers, in particular in Spain and Italy.[15] The Report of the Rodotà Commission—the first attempt to include common goods into the Italian juridical structure as a reform of the civil code—distinguishes common goods from public goods, since they can be owned not only by public bodies, but also by private individuals. They are basically composed by natural resources—such as water bodies, forests, glaciers, wildlife and other listed natural landscapes—as well as material and immaterial cultural, artistic or archaeological goods. According to the report, common goods suffer from a

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13 The text of the petition can be read here [in Italian]: http://www.radiocittadelcapo.it/wp-content/uploads/totem.doc.

14 Piero dall'OCCA, "Quando a Piazza Verdi c'erano le colonne," _Gomorra_ 4, no. 7 (May 2004): 22-26.

15 For an overview on the institutionalisation of common goods in Italy, see Ugo Mattei, "Institutionalizing the Commons. An Italian Primer," in _Global Activism. Art and Conflict in the 21th Century_, edited by Peter Weibel (Cambridge, MA: The MIT Press, 2015), 85-100.

highly critical situation because of their scarcity, perishability, or lack of juridical protection. However, they are defined as key elements to exercise fundamental rights and to develop individual freedoms, to be kept intact for further generations.[16]

Despite the attempts to include a regulatory framework for common goods in the national civil law, it was through local initiatives—in particular in the city of Naples—that common goods started to be recognised, and new forms of management are currently being experimented together with citizen's association and political groups. So far, the framework of common goods has been used in Naples to prevent the local water supply agency from being privatised, and the status of common goods has been given to some self-managed experiences of social regeneration in publicly-owned buildings of the city, some of which were illegally occupied.

The municipality of Bologna too has experimented with the concept of common goods, but the idea was applied in a much smaller scale compared to Naples, mainly to give recognition (as well as small financial support) to local groups and citizen associations that were already taking care of small public spaces and green areas across the city. However, the current pilot actions that the municipality of Bologna is deploying together with the University in the university district within the Horizon 2020 project ROCK, suggest the possibility to employ the common goods framework in a more ambitions way, towards the collective and integrated management of the cultural heritage of the university area. Following the model of UNESCO's integrated management plans for the world heritage sites, Bologna is currently working towards the engagement of all the institutional, formal and informal actors of the area towards the design and the implementation of an integrated management plan of the cultural heritage

16 Stefano Rodotà et al., "Commissione Rodotà - per la modifica delle norme del codice civile in materia di beni pubblici," technical report (Rome: Ministero della giustizia, 2007).

of the university district. Perhaps this experimentation with a community-based approach to cultural heritage and its preservation could be an occasion to rethink the destiny of Pomodoro's totems. Giving them back to the city would then mean not to use them instrumentally to celebrate a supposedly glorious past, but to accept and to engage with the diversity and plurality of life forms that have animated and will hopefully continue to animate the cultural landscape of Bologna in the future.

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Waste as a Cultural Heritage
A strategic approach to promote post-use materials as cultural assets

Post-Use Materials; Waste Prevention; Civic Architecture; Commons-Based Management; Urban Metabolism

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This paper aims to reconsider the impact and pervasive influence of wasted matters and to propose a broader notion of cultural heritage that can include the "everyday landscape" made of post-use materials, waste streams, flows of trash and discards.

It is argued that contemporary society should consider wasted matters as a future cultural heritage upon three main considerations. The first refers to the informational value embodied into wasted matters, a mostly invisible feature. In order to avoid loss of value, it is necessary to look at relationships rather than objects, through an approach based on ecology instead of efficiency. Two examples that differently display in spatial form the informational value embodied into waste are mentioned.

The second consideration concerns human-things and society-waste relations, as drivers for social innovation. The concept of commons is introduced in order to foresee a change in the way surplus and waste are managed and located in the urban environment. Practices and initiatives based on civic empowerment and collaborative management are considered advisable.

Finally, the third proposition is about the mutual correlations between waste and urban transformations. The aims of managing resources differently, preventing waste and changing production/consumption patterns, according to the European Union Circular Economy Strategy and the United Nations SDGs, are considered pivotal factors to set up an architectural agenda for contemporary cities. From a methodological standpoint, is proposed to transpose each item of the inverted waste pyramid (the scheme of the European hierarchy for waste prevention) into spatial terms, in order to foresee a new spatial and organizational reconfiguration of waste management infrastructure within the existing urban settlements.

It is stated that proximity, hybridization and accessibility are the main factors enabling to design spaces for waste prevention as welcoming places for communities. A cross-scale and incremental strategic approach is proposed, based on three different time steps for different urban conditions. Each step considers post-use materials as cultural assets by showing different potentials in terms of impact, value generation and partnerships. According to that, a selection of initiatives and projects is made with the aim promote new models and approaches.

Introduction

Human condition evolves and things that traditionally are considered "heritage", e.g. objects, monuments and buildings, nowadays can be accomplished by wider series of neglected items. This contribution aims to lucidly reconsider nowadays-unprecedented global impact and pervasive influence of wasted matters within the notion of cultural heritage. It is proposed a broader concept of heritage, beyond dismissed buildings, vacant spaces and urban voids. Focus is made on the "everyday landscape" consisting of post-use materials, waste streams, flows of trash and discards.

Representative projects that propose new strategies and approaches to face the issue of waste in contemporary city are selected. Moreover, a theoretical reflection is accompanied by useful design insights for spatial practices.

This paper starts by asking why and how contemporary society should consider wasted matters as a future cultural heritage.

This foresees three main considerations. The first refers to the informational value embodied into wasted matters, a mostly invisible feature. The second concerns human-things and society-waste relations, as drivers for social innovation. The third proposition is the most evident and it involves the mutual correlations between waste and urban transformations; it is supported by a selection of initiatives and projects that promote new models and approaches.

From objects to relations

Waste is a pervasive phenomenon that affects the environment to such a point to define the Wasteocene's era. [1] Wasteocene is a concept used by Armiero and De Angelis to frame "waste" in terms of relations, as a perpetual act of wasting. Thus, all the toxic relations and disturbing consequences deriving from wasting are recognized. The case of plastic is representative: a widespread material abandoned in such quantities that has become a constant and threatening agent, with multidimensional negative impacts.[2] At a larger scale, plastic affects pervasively environment by generating new artificial islands in the oceans and, at a smaller scale, its micro-particles infect living organisms from the inside (Fig. 1) and contaminate raw materials. (Fig. 2)

How post-use materials can be considered future cultural assets? The first logical-conceptual step to no longer degrade them into waste is to recognize their mostly invisible double informational value. As Rathke's researches on Garbology[3] have demonstrated, waste have a "density" that goes beyond the material and visible way of understanding them.

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1 Marco Armiero and Massimo De Angelis, "Anthropocene: Victims, Narrators, and Revolutionaries", *South Atlantic Quarterly* (2017): 347.

2 European Commission, *A circular economy for plastics – Insights from research and innovation to inform policy and funding decisions* (Luxembourg: Publications Office of the European Union, 2019): 21.

3 William Rathje and Cullen Murphy. Rubbish! The Archeology of Garbage. Tucson, AZ: University of Arizona Press, 2001.

Fig. 1
A frame from "Plastic Paradise: The Great Pacific Garbage Patch" movie, Angela Sun, 2014. http://plasticparadisemovie.com

Fig. 2
Kelly Jazvak, "Plastiglomerate", Image: Jeff Elstone. *Setting Mind, January* 27, 2018. https://settingmind.com/humankinds-use-of-plastic-has-given-birth-to-a-new-type-of-rock-called-plastiglomerate/

It is useful to underline that no "objective" and "absolute" concept of waste exists. The value of objects and goods, as well as the definitions of "waste", are temporary agreements that individuals mutually establish in a certain time and context.[4] More literally, waste is information embodied into matter, and this informational value is far more exploited today thanks to Information Technology, Big Data analysis[5] and Internet of Things.[6]

Two web-based projects such as TrashTrack in USA (Fig.3) and Harvest Map in Europe (Fig. 4) have differently displayed in spatial form the informational value embodied into waste: these two initiatives have tracked, mapped and filed flows of trash and unused materials. Negative impacts and the extra-value still available are investigated and rendered through these tools, which furthermore are able to suggest alternative ways of managing, transporting or even re-buying things.

In a time of raw materials shortage, to better track value of matter and avoid its loss, architect and entrepreneur Thomas Rau proposes a new performance-based model built upon three key assumptions: materials are services, products are raw materials banks and buildings are depots. According to Rau's Universal Declaration of Material Right (UDMR)[7] scheme, a passport for materials is introduced, by which each materials has an ID that

4 Arjun Appadurai, *The social life of things* (Cambridge: University Press, 1988), 4.

5 Dietmar Offenhuber and Carlo Ratti. *Waste Is Information: Infrastructure Legibility and Governance* (MA: MIT Press, 2017), 2-3.

6 European Environment Agency, *Circular by design Products in the circular economy*, Luxembourg: Publications Office of the European Union, 2017, 24.

7 See: www.theuniversaldeclarationofmaterialrights.org

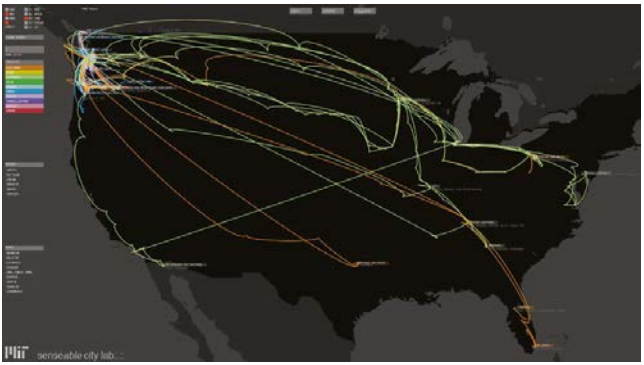

Fig. 3
MIT SENSEable City Lab, "TrashTrack", 2010.
http://senseable.mit.edu/

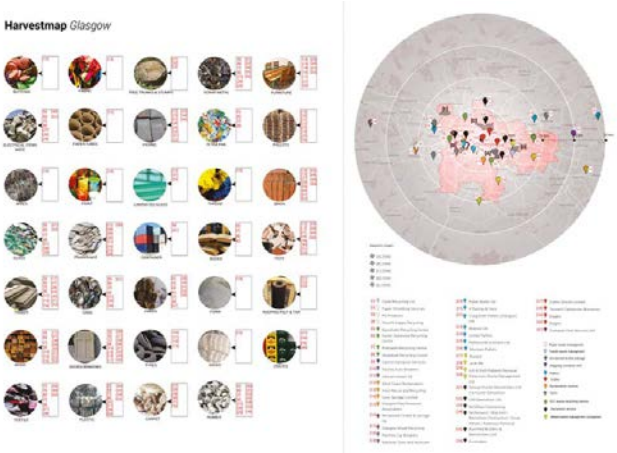

Fig. 4
Superuse Studios, "Harvest Map Glasgow", 2015.
https://www.superuse.org/story/harvest-map-glasgow-commons/

will track biographies of matters and objects. Using the passport will foster the designing of new open processes, products and buildings.

A matter of human agency and the way to commons

The take-make-dispose paradigm has left a widespread legacy of practices, habit and behaviors, which are based on negative externalities, interrupted connections between systems and a continuous loss of value. This unsustainable model requires a fundamental change of production systems and consumption pattern. This is possible by questioning the efficiency-based

Efficiency	Ecology
failure	sign of life
reduction	abundance
perfection	caos
machine	living system
resource	common good
extraction	exchange
negative	positive
quantity	quality

Fig. 5
Comparison between Efficiency and Ecology model. Author elaboration.

approach and replacing it with the ecological paradigm.[8] (Fig. 5)

Reducing consumption leads to a radical rethinking of human relations with things[9] and a greater waste prevention attitude. Given that the value of matter is both partially intrinsic and also socially determined, its new definition passes through:

- a different understanding of the agency of *anthropos*: a self-interested profit or utility maximizing individual, identified as *homo oeconomicus* (economic man),[10] is challenged by the one called *mulier activa* (active wife), driven by a sense of responsibility, collaboration and commitment towards the community;[11]

- a less passive human agency[12] and a more strengthen collective practices of *commoning*[13] expected to emerge and to be empowered;

- "surplus" is not a negative externality but rather a feed for another system.

Commons is here a lens used in order to propose a shift in the

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8 See: Sustainable Development Goal 12. Available at: https://sustainabledevelopment.un.org/sdg12

9 Arjun Appadurai, *The social life of things*, 26.

10 Mariarosaria Angrisano et. al.. "Towards operationalizing UNESCO Recommendations on "*Historic Urban Landscape*": a position paper", in *AESTIMUM* 69, 2016: 174.

11 Christian Iaione, "Le politiche pubbliche al tempo della sharing economy: nell'età della condivisione il paradigma del cambiamento è la collaborazione", in *Le politiche della condivisione*, ed. Emanuele Polizzi and Matteo Bassoli (Giuffrè Editore, 2016): 37.

12 Christophe Bonneuil and Jean-Baptiste Fressoz. *The shock of the anthropocene*. The Earth, History and Us. (London and New York: Verso, 2016).

13 Marco Armiero and Massimo De Angelis, "Anthropocene: Victims, Narrators, and Revolutionaries", 357.

way society understand cultural heritage, that would occur by fostering civic engagement, empowerment processes and collaborative management models.[14] Common-pool resources and their potential have been extensively examined by Ostrom, which has defined commons not just as resources but also as relational ecosystems that are collectively managed and are based on convergence.[15]

Thanks to an ecological ratio, the assumption that each surplus of a system can feeds another different system implies to reuse, readapt and transform post-use materials. Thus, pooling of post-use materials in the urban environment is reframed in spatial terms: surplus can offer a design opportunity to imagine a network of spaces for waste prevention. Moreover, shared-pools could become accessible and connected places where both producers and consumers can take care of things.[16]

The missing link: waste and architecture

According to the circular economy (CE) strategy for waste avoidance released by European Commission,[17] disposal is discouraged and is proposed the gradual closure of landfills. CE is intended as a commitment to extend life and value of matters, through fundamental waste prevention actions such as collection, separation, transport, exchange, distribution, re-manufacturing, upcycling and recycling. (Fig. 6)[18]

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14 see: United Nations Human Settlements Programme (UN-Habitat), *World Cities Report*, 2016, 180 and Angrisano, Mariarosaria et. al. "Towards operationalizing UNESCO Recommendations on "Historic Urban Landscape": a position paper" *AESTIMUM* 69, 2016: 167-168.

15 Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge: Cambridge University Press, 1990): 90-91.

16 Josh Lepawsky, Max Liboiron, Arn Keeling and Charles Mather. "Repair-scapes," *Continent* 6(1-2017): 56-61.

17 See: http://ec.europa.eu/environment/circular-economy/index_en.htm

18 Iacovidou Eleni, Millward-Hopkins Joel, Busch Jonathan, Purnell Philip, Velis Costas A., Hahladakis John N., Zwirner Oliver, Brown Andrew. "A pathway to circular economy: Developing a conceptual framework for complex value assessment of resources recovered from waste". *Journal of Cleaner Production*, 168 (2017): 1281.

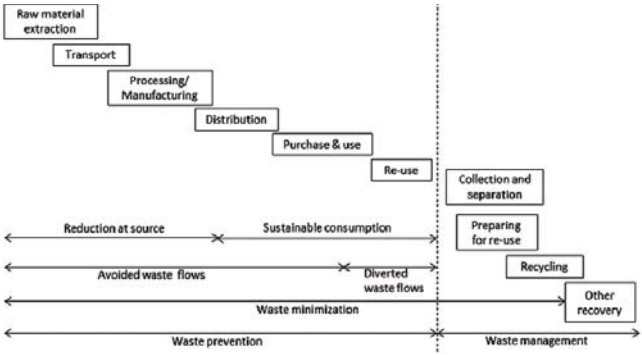

Fig. 6
Waste prevention strategy. Courtesy of European Commission, 2012.

Beyond regulatory requirements, fiscal policies and incentives to support CE, could architecture be supportive of the CE strategy and be representative of the future "circular society"?[19] What kind of physical spaces would host the above actions? Here is proposed to understand their impact on urban life by translating each one into physical nodes of a new network of spaces. The management of post-use materials as common-pool resources[20] would imply to imagine and to design spaces for the caring of materials to be placed into more accessible areas, towards a more radical and beneficial forms of coexistence with surroundings.

Waste prevention fosters urban sustainable development by combining proximity, self-sufficiency and environmental sustainability principles and by giving identity to a new-networked infrastructure within the existing urban settlements.

New small/medium-sized facilities must be able to catalyze and to couple existing flows, thanks to their positioning at interception points of different networks and streams, with the aim to create advantageous synergies between urban systems.

Hybridization and accessibility are among the main sustainability factors of such spaces. They counteract urban segregation and the NIMBY (Not In My Backyard) syndrome, helping

19 See: http://ec.europa.eu/environment/circular-economy/.

20 Christian Borch and Martin Kornberger (eds.). Urban Commons: Rethinking the City (New York: Routledge, 2015), 94.

to bring indirect positive contributions to the surrounding areas and to provide integrated services and intermodal connections.

Designing new spaces is required as much as reusing and/or upgrading existing ones; it would generate multiple tangible and intangible benefits thanks to lower costs, waste and carbon footprint reduction and the promotion of integration and coexistence.[21]

A cross-scale and incremental strategic approach is proposed in order to change the production/consumption patterns and to foster sustainable development. Public space is the common field of intervention, where proposals are made following three different time steps. Each step considers post-use materials as cultural assets by showing different potentials in terms of impact, value generation and partnerships.

The first step aims to find connections between existing streams proposing small-scale solutions within a short-term scenario. Education is considered a key driver in order to raise awareness, to establish strategic partnerships and finally to propose waste as a cultural asset for urban transformations. The mix of education and art applied to the building sector (one of the most waste productive) is the key feature of the French artist Stefan Shankland's research. In 2012, he began to accompany the expansion of the Ivry-sur-Seine waste treatment plant in Paris with a temporary pavilion within the workshop site, as a pretext for experiencing the city's metabolism. (Fig. 7, upper photos) Then, construction and demolition waste from the building site were recovered to finally shape a large slab installed in Place de Gaulle – Ivry. (Fig. 7, bottom photos)

Selection and collection of post-use materials are increasingly becoming relevant and they can be more effective if synergistically combined with other actions. Looking at street waste bins,

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21 Esther Yung and Edwin H W Chan, "Implementation challenges to the adaptive reuse of heritage buildings: Towards the goals of sustainable, low carbon cities", *Habitat International* 36:3 (2012): 353.

Fig. 7
Stefan Shankland, "Trans365" and "Marbre d'Ici", Paris, 2012. http://stefan-shankland.com/

Fig. 8
Multipurose kiosk. Stefano Boeri Architetti, 2018. Source: ATLAS. Nuove pratiche per una migliore gestione dei rifiuti, pag. 180.

they can be integrated into a kiosk newsstand (Fig. 8) together with other services (charging points for mobile devices, WiFi connection, bike sharing stations). In this way, post-use materials is a "design opportunity" that help daily places - like traditional newsstands - to innovate their aesthetics, to strengthen social potential and to increase revenues in contrast to sales decline.

In the second step the aim is to establish new relations with residential and commercial buildings on a medium-term, in order to consolidate a more entrenched network of waste prevention spaces. Beyond small hidden equipment installed into

Fig. 9 - 10
E.M. Sanitation Cordoba, Ecopuntos, Cordoba, 2011.
https://www.abc.es/Media/201312/05/64618454--644x710.jpg
https://cordobabue-nas-noticias.com/wp-content/uploads/2014/10/Ecopunto_Sadeco.jpg

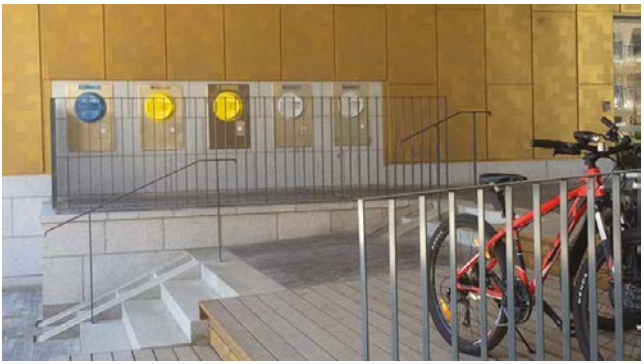

Fig. 11
Envac Group, Stockholm's Royal Seaport, Stockholm, 2012. https://www.envac-group.com/content/uploads/2018/12/672-NDS-1.jpg

every apartment's kitchen, collection and transfer of waste can be made visible by designing spaces, interfaces and prosthesis of connection between buildings and public spaces.

Moreover, basements could be part of a more complex "groundscape" and also be better connected with street life and vehicular flows. Embedding waste sorting and collection equipment into buildings increase free public space, ensure greater safety and improve street cleanliness. (Figg. 9-10-11)

An effective example is found in a mixed-use residential complex, located in Ménilmontant neighborhood in Paris (Fig. 12), which includes a recycling center and a relay point for bulk collection. The 15,000-square-foot hub aggregates truckloads of bulk materials picked up by appointment from local collection routes.

Household organic waste is a pivotal resource that can be reused for proximity neighbor farming. Gardens and tanks are connected with housing complexes through pipe collection systems, as shown by the proposal for circular utility facilities in Rotterdam.

(Figg. 13-14) This project shows also the way to build a reverse logistic chain by adding new functions, services and spaces to existing supermarkets and food markets. (Fig. 7)

Finally, the third step of this strategic approach aims to upgrade urban infrastructures and it requires more time to be replicated and to produce a relevant impact.

Urban and suburban infrastructures (viaducts, railways, rivers, etc.) often generate an anonymous minor landscape made by urban voids, unused areas, overpasses, etc. For such wasted spaces, streams of post-use materials can be drivers of synergies between various systems, under the notion of *infrastructural ecology*. Accessibility and connectivity of infrastructures makes possible for a wide range of cultural, economic and productive activities to be plugged in. It happens in the case of the Porte de Pantin recycling and sorting center in Paris, (Fig. 15) where a dismissed space below the Peripherique ring-road is redesigned and enveloped by an elegant curtain made of staggered white brickwork and glass bricks.

One more time, the city of Paris proposes an effective and systematic example of managing post-use materials in order to create new places for communities and to valorize existing minor heritage.

Fig. 12

Atelier Nadau Lavergne, MÉNIL-MONTANT, Paris, 2016. https://vincent-lavergne.eu/

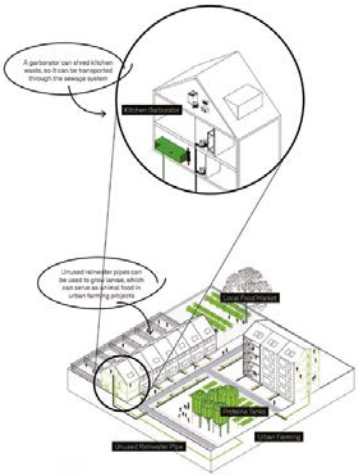

Fig. 13
FABRICations, "Circular utility facilities for Rotterdam", in *Urban Metabolism, sustainable development of Rotterdam*, by AA.VV. (Mediacenter Rotterdam, 2014), 89

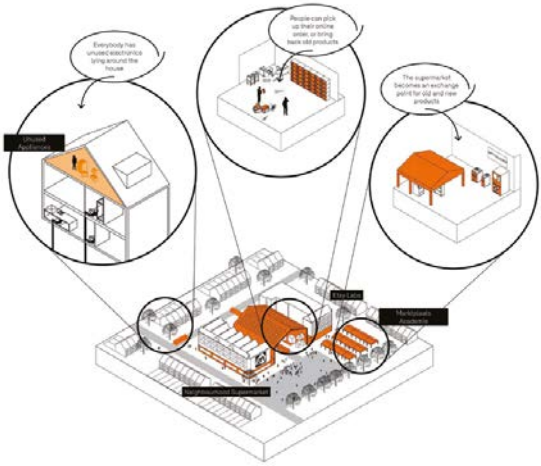

Fig. 14
FABRICations, "Circular utility facilities for Rotterdam", in *Urban Metabolism, sustainable development of Rotterdam*, by AA.VV. (Mediacenter Rotterdam, 2014), 90.

Conclusions

This paper states that the multidimensional status of post-use materials refers to its embodied feature, its usage value and its relations with urban environment. In order to reframe human relations with waste, a conceptual framework based on a relational perspective, a less passive human agency and a commons-based management of shared pools is assumed.

Surplus is intended as a design opportunity that requires the setting of an architectural agenda which should consider the conversion of the European hierarchy for waste avoidance into space, coherently with European Union Circular Economy Strategy and United Nations SDGs.

Through project examples, it's underlined that the integration of multipurpose civic spaces for waste prevention within urban fabric and their coupling with other systems and services can have a positive impact on urban life quality. Designing these spaces as welcoming places for communities could determine more systemic benefits compared to industrial facilities located in suburban or rural areas. Moreover, embedding these urban equipments into existing buildings programs would reduce negative impacts and rigidities such as noise pollution, bad smells, perception of degradation, lack of pedestrian routes, regulated access, etc. A further analysis and systematization of these factors, both as design constraints and opportunities, is required.

In order to face the multidimensional status of waste, innovative services, business and governance models shall be provided within the design of spaces. According to that, proper management tools, indicators and criteria are necessary to make operational the general strategy.

Fig. 15
Centre de tri Porte de Pantin, Paris, Data Architectes, 2016

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