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RESILIENCE, BUILT ENVIRONMENT, BUILT HERITAGE, CULTURE AND DESIGN IN THE ITALIAN CONTEXT

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ABSTRACT

For some decades the pure concept of resilience had been the only declination of a little-explored field of research. Nowadays the notions of urban and cultural resilience, socio-economic systems, adaptive circles are part of different academic languages, but their application to urban systems is still limited to a predominant environmental view. This text highlights a possible reading of the aforementioned concepts in the historical urban heritage and in the cultural legacy of the Italian context, taking as examples the protected built heritage and the traditional craftsmanship ability – lately evolved into ‘industrial design’. These fields, bonded among themselves, will be studied empirically in order to find tangible evidence of the resilient systemic dynamics and adaptive circles, setting up the basis for broad ranges of future researches.

KEYWORDS

urban resilience, cultural resilience, cultural heritage, design, Italy

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The starting point in the development of the study on the resilience is notoriously attributable in the literature on the studies on biology and materials engineering. The pioneer text (Holling, 1973) express resilience as measure of the persistence of systems and as ability to absorb change. Lately, the field of study has been highlighted by the author and other fellow researchers; in particular, decades of further consequent studies led to a differentiation between the engineering resilience, characterised by the ‘efficiency of function’ (factor related to a material’s recover capacity, for instance) and the ecological resilience, whose existence is influenced by the maintenance of its functions (Holling, 1996). The ecological resilience is a dynamic deeply influenced by actions and feedbacks within a context, and its survival can create new balances among a system. The ecological resilience is a framework which allowed the development of studies in numerous disciplines as «[...] technology, economics of innovation and competition, cultures, human psychology, history» (Gunderson and Holling, 2002, p. 13), and constituted a first step towards the academic definition of the existing bond between the ecological resilience and the social system, reached also through other studies that focused on the nature of complex systems and on their capacity to be ready to change (Folke et alii, 2010) under external solicitations. By definition, all resilient systems are capable to absorb shocks while maintaining functions (Holling, 1996; Gunderson and Holling, 2002): the value of these systems’ resilience is unfixed during time and changes under single or multiple perturbations (called shock or stresses). Perturbations reduce the resilient capacity and increase system’s ‘vulnerability’, a measure of exposure to the stress and of «[...] the sensitivity of people, places and ecosystems» (Kasperson et alii, 2005, p. 146) towards and in perturbations. Only recently the field of the urban-based disciplines included this measure into their domains and due to the network-based nature of the urban scenarios and their continuous exchanges among the parts. A well-known definition of urban resilience considers it as ‘theory, practice and analytical tool’ to understand and explain social behaviours in the city (Vale, 2014).

This transfer of concepts allowed different new research lines for the urban studies, such as, but not limited to, the relationships of the historical places with the cultural fragility of the touristic dimension (Cuccia, Guccio and Rizzo, 2016), the investigation on the cultural resilience among a context’s local people, their identity and their «[...] set of social-ecological relationships within which this identity was founded» (Rotarangi and Stephenson, 2014, p. 1). The further development on the studies on cultural resilience is part of this essay, in order to evaluate the deep bond between cultural resilience, built environment, cultural heritage and the products of craftsmanship and tradition.

Cultural Resilience | Cultural resilience is intrinsically a hybrid concept which reads under a resilient key how the permanence of cultural values and their relationships with the context work (Clauss-Ehlers, 2004). The concept is also defined as the ability

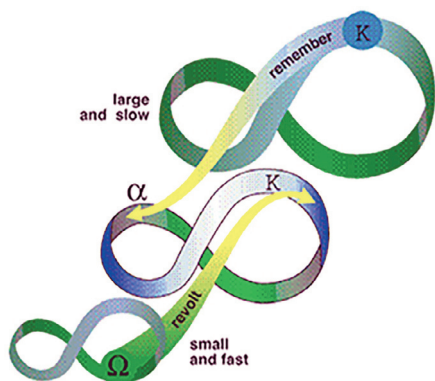


Fig. 1 | Panarchy's connections: linked adaptive cycles at multiple scales (credit: originally published in Gunderson and Holling, 2002; source: www.resilience.org/panarchy).

of the species «[...] to maintain livelihoods that satisfy both material and moral (normative) needs» (Crane, 2010, p. 1). Another definition implies its existence in a system whose factors are constantly mutating: cultural resilience is identified as a cultural process able «[...] to absorb adversity, deal with change and continue to develop» itself (Holtorf, 2018 p. 639). Under all definitions, it emerges the need to frame cultural resilience as a matter of 'actions' and 'feedbacks': the notion of social-ecological system (SES) supports this, altogether to transfer the resilience's theory in the urban scenario (Walker et alii, 2004). The SES is not a concept influenced by a sole factor, but by multiple ones: 'adaptability', 'transformability' and 'resilience'. Adaptability is the capacity of the actors of a system to manage and influence the resilience in a scenario, while the 'transformability' is a measure of the system's ability of creating new systems (also of different scales) during a change of the factors – ecology, economy, political, social, etc. The third factor is the 'resilience' itself, demarcated in turn by four interrelated components: 'latitude', 'resistance', 'precariousness', and 'panarchy' (Walker et alii, 2004).

The interactions among the first three components define the general degree of resilience of an SES; panarchy relates an SES's influence and connection among other SES in other scales. More specifically, latitude represents the maximum amount of change the system can stand before losing its ability to recover from stresses and gain again balance; the resistance indicates the amount of resistance to stand a perturbation; the precariousness is the current status or trajectory of the system, how close is it to the limit of impossible recovery of the system (Walker et alii, 2004; Gunderson and Holling, 2002). The relations of all these factors determine adaptive circles, which are 'useful metaphors' to understand how the levels of the overall resilience of an SES changes (Carpenter et alii, 2001) following a specific recurrent pattern – which doesn't tend to the equilibrium but to a continuous constant sequence of four phases (Gunderson, Holling and Light, 1995; Gunderson and Holling 2002; Fig. 1). The four phases have specific names and roles: 'rapid growth and exploitation' (r), 'conservation' (K);

‘collapse’ – or ‘release’, ‘creative destruction’; ‘renewal’ – or ‘reorganisation’. The last two phases are the moment where the profound changes occur: some value can be lost in the phase, while in the following phase, ‘novelty can arise’ (Carpenter et alii, 2001). With the (r) phase, the system is settled in a new equilibrium, longer but slowly in transition towards the end of the conservation phase (K). During these changes, the values of resilience, adaptability and transformability are in constant change.

The metaphorical nature of the adaptive circles’ mechanism allows this concept’s transfer into the field of the urban studies (Clarke, 2016). The knowledges of urban studies suggest from chronologically and spatially diverse perspectives how much the city is comparable to an adaptive system. Firsts in this direction are the remarkable 1960s American intuitions of Jane Jacobs on the power of the social relationships in the street level, altogether with Whyte’s pioneering studies on the social and physical dynamics of the placemaking. For the European contexts, are particularly influential the broad studies on the unificatory role of the Mediterranean Sea’s in the different coastal areas (Braudel, Matvejevic among others), capable of suggesting transnational and



Fig. 2 | The view of the Mediterranean common spaces and places in the Medieval Age (credit: The Catalan Atlas, 1959 digitalised copy of the Western side of the 1375 Atlas Catalán de Cresques Abraham, via wikicommons).

rooted deep connections with geography, anthropic tracks and history (Fig. 2). More recently, the role of the Mediterranean Sea had been investigated also in regards of the urban character of its territories (Bultrighini, 2013) and under its dwelling morphology, focusing on the similarities of the sequence of public/semi-public/private spaces among the different Mediterranean peers contexts (i.e. the North African's Kasbah, the Spanish pueblos, the hilly Greek villages, etc; Maricchiolo, 2015). In the Italian context are relevant in this logic Turri's investigations on the anthropic and historical dimension of the landscapes (Fig. 3), on the archaeological urban permanence and the urban transformation during the centuries of the built heritage (i.e. the well-known urban cases of the Roman theatres of Lucca and Verona, among all; Fig. 4). Lastly, are noteworthy in this systematic view also the various specific anthropologic and spatial-urban studies that were developed in the local or regional contexts in the previous century, as the geographic, anthropologic and territorial researches of Le Lannou and the architectural morphological research of Mossa (Fig. 5) in the island of Sardegna, for instance.

All these mentioned sources suggest the existence of an intense system of interrelations among the layers which constitute the urban scenario. Considering the Italian cultural context as a unique SES (notwithstanding and acknowledging the regional and local differences), it is possible to evaluate empirically in the Italian context the presence of an urban and cultural resilience system through two specific different manifestations of cultural assets: the physical transformations which occurred in the historical urban scenarios and the role of the artisan and manufactural activities in the applied arts. Both correspond to diverse adaptive circles.

Cultural resilience effects on the Italian context | We can perceive the cultural resilience, in the focus of this research, as bonding agent on different cultural, physical and conceptual processes on given places, the Italian historic centres¹. In these areas, there is a deep bond between two separate set of values: the urban and the cultural values. In those areas, protected by the laws, they are still visible and survive.

The urban values display common traits among them. The scale of the built environment is minute, and the urban fabric is mostly made by aggregations of cellular units built with traditional materials of diverse qualities (Fig. 6); the ground floors are occupied by traditional craftsman workshops (often hereditary family-businesses) or commercial activities of modest sizes, constrained in their dimensions by the constructive metric of the previous centuries (Fig. 7) and limited in their expansions by a set of conservative law bodies (of National and local frameworks). This fabric is interspersed by a limited number of contemporary buildings (seldom related to a dynamic of demolition-reconstruction), and by the old built heritages, symbols of the past religious and temporal powers. In many cities, these represent the landmark and identity of the town itself: the Church, the Cathedral, the Town Hall, the Tower, the Port, the Dome, the monument (Fig. 8), etc. Frequently, these places represent the social, representative, economic centre of a whole province or region; often, in and around them,



Fig. 3 | Overlapping of agricultural, productive, sacred, built and archaeological landscapes in Sardinia (credit: photo by the Author, 2016).

Fig. 4 | External view of Arena di Verona's iconic Ala [Wing], the only remanent part of the third outer ring of the monument; note the urban layout of the neighbouring street, which follows the circular shape (credit: photo by the Author, 2016).



there are public spaces recognised by the local daily routines and by society's behaviour (i.e., shores, sea-sides, walls' passageways used as public streets, squares, porticoes, etc; Figg. 9, 10). There is diffused attention to the context in terms of social bonding and care to the context's relationships; often the areas are subject to demographic/social shifts, with even complete substitution of the social-ethnic context.

The cultural values are deeply related to this. As expression of human's productive activities, they will be studied in this essay considering the link between the Italian historical political-historical backbone, the hand-made production of the manual craftsman labour. This had been stated by many renewed designer (like Mari, among others), it had been identified organically (Brusatin, 2007) and showed in extensive researches with case studies (Filippini, 2013). According to these authors, the origins of the industrial design in Italy are the artistic classic culture and the old craftsmanship tradition and legacy (Figg. 11, 12) – rather than the technical or manufacturing industry of the XIX century, as happened in other European Countries (Baroni, 2011). The typical different categories of industrial design (anonymous, authorial, anonymous authorial, as defined in Bassi, 2007) explain further how the daily, common and shared diffused knowledge and production have deep connections with the fine applied art and the artistic production system of the 'bottega artigiana' [craftsman's workshop] that characterised all the artistic production from the Middle Ages through the fruitful Renaissance Age until today. The so-called Made in Italy, the well-known world brands, contemporary cultural products, art and design production, industrial design activity, fashion and style industry, agri-food products normatively protected by various labels (DOP, IGP, IG – as per Italian reception of the EU Quality Scheme's laws) are born from the tradition and the background of small-scale artisanal artistic dimensions or territorial know-how. Mostly this happened throughout a centuries-old

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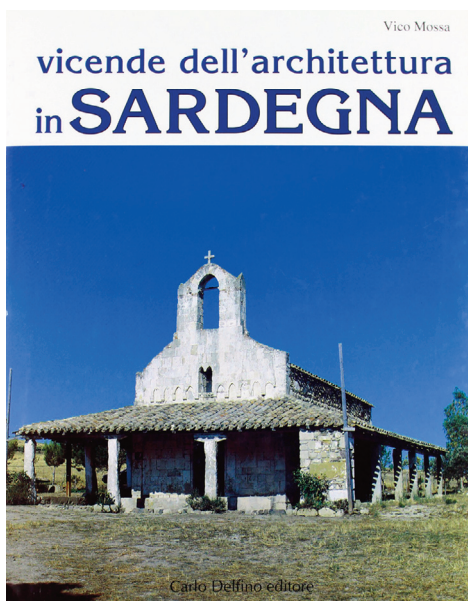


Fig. 5 | Cover of Vico Mossa's *Vicende dell'Architettura in Sardegna* [Events of Architecture in Sardinia], 1994 (credit: C. Delfino Editore).

Fig. 6 | Aggregations of residential and mixed-used buildings in Otranto's city center (credit: photo by the Author, 2015).



process embodied in the actual historical built heritage of the city centre or also in the landscape's productive activities. However, the transition from the so-called 'bottega artigiana' to the actual SME (Small-Medium Enterprise) and the delocalisation of it in the cities' peripheral productive zones have to be acknowledged, whereas it is excluded from the purposes of this essay.

These urban and cultural resilient assets proper of the Italian context can be inter-related in a unique resilient system which can consequentially be read under the resilience framework previously mentioned. Within it, the life and the mutual interrelation of the aforementioned factors result in different adaptive circles which mutate the values of the resilience and its key factors (transformability, latitude, precariousness, resistance). This system is characterised by high levels of adaptability and lower levels of transformability because during the centuries the built heritage was experienced different events and stratifications. The permanence and the overlapping of events in the forma urbis were always oriented towards conservation over demolition, modification and implementation over total alteration, conservation over transformation (Fig. 13). Last decades' dynamics (in terms of abandonment or renewal of the centres, urbanization of the surroundings) allowed the rediscovery of some lost assets, experience and valorisation of the cultural heritage – following the principle of the recognisability/restoration over loss of identity/reconstruction.

Another general resilient feature is the latitude, present in high values. The reason is related to the small-scale's physical fabric of the urban cultural context, which allowed a strong social mutual control in these contexts (Fig. 14). This balance of private and public spaces and relationships is common in the Mediterranean City; this process had been pointed out (Braudel, 1987) as spontaneous and natural condition until the XX century. Conversely, urban laws and regulations are often seen as limitation of this spontaneous appropriation and participation to the public space by its citizens. The value of resistance is high for similar reasons. World War II physically threatened the urban historical structures, but the subsequent post-war requalification coincided with the deliberate edification of the peripheral areas of the cities and a general loss of identity (Fig. 15). The population displacement in these new areas and the successive abandonment of the historical 'old' centre has created in some cases minor losses than a maximum-profit logic of total demolition and reconstruction. This guaranteed the transmission of the built heritage to the future.

Precariousness: the civic life of the historical centres is still existent, with some particular good-practices of identity's creation, quality of life, world-wide fame quality-fame. Nonetheless, the success and the worldwide recognition reached negative critical effects in many cities, with situations close to the limit of collapse. However, the touristic vocation itself can be a measure of precariousness. Precariousness level stands at a critical point: in those contexts, material and social conditions' improvements are deeply auspicated especially in regards of the onerous physical maintenance of the heritage, the relationship with the private stakeholders and especially in the ap-



Fig. 7 | Bari's old city center: semi-private street and a mix of residential, commercial and handicraft activities (credit: photo by the Author, 2015).



Fig. 8 | Visual, cultural, architectural, historical and urban landmark: view of Brunelleschi's Dome in Florence (credit: photo by the Author, 2015).

proach to it. The public and civic values of the heritages – as established by the normative framework (Settis, 2012; Montanari, 2015) are usually left aside by phenomena of commercialisation and real estate-based dynamics, touristic exploitation and only rarely by the creation of a new paradigm of heritage discovery – which can be intended as an indicator of the panarchy in the system. The role of the panarchy can be seen in this framework as the factor able to create other and new resilient systems of different dimensions, entity, nature. An example of this previous point can be the differentiation of the touristic offer in terms of parallel itineraries, new routes, other discovers, slow and sustainable tourism, etc, which can coincide with the birth of new adaptive circles (Fig. 16).

The system delineated is not fixed and static by definition, but also because external factors can be issues. These issues are called perturbations and they – with their different speeds (Walker and Salt, 2006) – request alternative approaches. Practically, the nature of the perturbations is anthropic or natural (or combined) and it has different levels of traumatic effects. Extremely well-known physical perturbations are the

deep destructions in the physical layout of the historic built environment that occurred in the earthquakes of 1981, 1997, 2009, 2016. An indirect perturbation which affected the physical dimension of the urban layout is the Covid-19 pandemic scenario, whose medium-long term physical effects are still unknown. However, the structured study on the perturbations and their effects go over the scope of this essay.

Practical effects and problematics | The focus of the article is on several relevant practical misinterpretations of the concepts of the resilience which act as perturbations themselves. The first, the main one, is about the role of the resilience and its positioning in the scientific debate. Urban resilience is at present a structural theory in different levels of policymaking (International, National, Regional, Local and even Urban). Present in the UN Sustainable Development 2030 Goals, also the European Union's Cohesion Policy (Policy Department Structural and Cohesion Policies, 2014) promoted the inclusion of the resilience in the local frameworks, specified lately in further studies as capacity of urban systems, businesses and various stakeholders to «[...] recover maintaining their function in case of shock or a stress, regardless its impact, frequency or magnitude» (Frantzeskaki, 2016, p. 6). All the European States consequently refer to this framework, indicating urban resilience mostly as practical tool to define and solve the contingent need of cities and territories to cope with natural tragic perturbations as earthquakes, floods and other calamities in their city plans or programs (Italian's geographical fragility as expressed on Trigila et alii, 2018).

This approach became diffused also in the Italian academic scene (Moccia and Sepe, 2015), canalising several energies on a unique plan of discussion characterised by the need and the contingency of some practical solutions for cities and territories. Consequentially, the cultural role of the historical built heritage and the possible future scenarios shift to the background. Limiting the analysis only on the UNESCO numbers in Italy (The Organisation features in its lists 55 sites and 12 immaterial cultural assets; UNESCO, 2020, 2019), the presence of museums and their concentration in terms of inhabitants and geographical diffusion on the National territory (4,908 muse-



Fig. 9 | Public-access terrace in Castel Dell'Ovo, Naples (credit: photo by the Author, 2015).



Fig. 10 | Genoa's porticoes in the Port area (credit: photo by the Author, 2017).



Fig. 11 | Paolo De Poli in his 'bottega artigiana' (credit: Filippini, 2013; original from APV, De Poli, archivio foto).

Fig. 12 | Detail from Carlo Scarpa's layout for the Galleria in Castelveccchio, Verona: between design, tradition, architecture, craftsmanship knowledge (note the use of the red Venetian 'stucco' and the metal bent iron), history (credit: photo by the Author, 2016).

ums, 1 every sqkm 50 and every 6,000 inhabitants, with the 93% of the Municipalities have at least one cultural heritage good – moveable or unmoveable – in their territory; ISTAT, 2019), we have the weight of this historical cultural legacy in Italy. The historical centres and the protected heritage represent an extremely limited surface of the national territory (ANCSA and CRESME, 2017) but they contain the majority of these heritages and the historical irreplaceable core of the whole tradition. The different local public and private institutions committed on the cultural heritage and on the cultural assets are operating among between the two main National Constitutional concepts of the cultural heritage: 'protection' and 'valorisation'. Hence, some problems connected to the cultural resilience in those two main fields are expressed.

Protection. The physical action of preservation of the built heritage is a complex matter, carried out with numerous degrees of normative and technological support: with the actual National framework, The Ministry of Cultural Heritage, Tourism and Activities and The Ministry for Environment, Land and Sea Protection have shared competences in the topic in their local offices, but the responsibility in terms of buildings is formally held by The Ministry of infrastructure and Transport. In addition, at each territorial level there is a varied degree of control: regional level typically involves the territorial planning and land use; provincial level is strongly depowered nowadays, but still involves mainly the maintenance of services of the rural areas; city levels and Metropolitan Areas involve the urban planning, the use of the spaces and the executive level. Besides this issue, after the physical permanence of the built heritage after the post-war reconstruction, the richness of the cities, the chronic national lack of unity (legacy of the old historical territorial divisions) caused different diverse



Fig. 13 | Protective structures outside 'E. De Amicis' Primary School in L'Aquila. Its full heavy temporary preservation occurred as per the normative framework – besides the extreme damages suffered after the 2009 earthquake – and lasted unmodified for almost a decade after the event (credit: photo of the Author, 2018).



Fig. 14 | Social balances, social control: youth and elderly together outside Ardara Romanesque Cathedral, local landmark for the Logudoro area of Sardinia (credit: photo by the Author, 2017).

situations along with the Country. Some Italian historical centres report high grades of residential density and have the 7.5% of estate vacancy, while others reach 52% (ANCSA and CRESME, 2017). This significant factor corresponds to a broad and diverse mosaic of the Italian historical built heritage, correspondent in diverse degrees to the original National cultural purposes of urban protection and valorisation – represented legally by the Cultural Heritage law framework and symbolically by the values and the purpose of the Carta di Gubbio [Gubbio's Charter], 1960.

Valorisation. The cities and the built areas seem under very diverse indicators to have a deep tie with the weight of this heritage. The number of touristic visits of the main monuments, the role of the mass tourist in fragile contexts (i.e. Verona's City Centre or the case of Venice) created by reaction a broad supply of touristic services (also in form of digital shared-economy systems, i.e. Airbnb). The side effect of these decades-long dynamics of the demand had been reflected in a competition among the centres to maximise the share of the incoming tourists. This also helped a strong differentiation of the internal National touristic competitiveness: is recent the differentiation of parallel itineraries to discover territories, heritages, landscapes, tradition. Consequentially, the touristic offer tried to expand itself, reduce the density and providing different tourist offers throughout the year. This played in favour of minor and peripheral realities, often equipped with fewer human and economic resources to be allocated to enhancement, growth and research. The technological side and the challenge for the digitalisation are a new frontier of development, whereas the global pandemic scenarios and the limit of the physical contact threatened in a serious manner.

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Fig. 15 | Pier Paolo Pasolini's reflection on Orte's post-World War II urban development (credit: A. Zanioli and P. Brunatto).



Fig. 16 | New adaptive circles and the re-invention of the tradition in a different key: the symbolic image of Parma's admission in UNESCO Creative City Network's as World City of Gastronomy in 2015 (credit: en.unesco.org/creative-cities).

Conclusions | The cultural adaptive circles' discovery in the built environment is at its initial stage: this broad paradigm of interpretation of cultural and built resilient assets can develop new research fields. Systems and adaptive circles, with their different phases, are a tool able to oversee and to explain urban, social, cultural and economic dynamics that happens in the common space of the city. More specifically, future studies of these cycles can help to frame invisible patterns of survival, transformation, death and rediscovery of places, habits, traditions, customs proper of the historical built environment and the traditional craftsmanship's knowledge (which evolved lately into the design). These two main elements which the research looks at are related in their origins and meaning. Nonetheless, they are the two faces of the historical evolutions of times, habits, knowledge. The particularities of the Italian context, the codification of the Made in Italy system, the importance of the stratification in the Italian physical built environment and the cultural relevance of the Italian design's canon in the second half of the XX Century are a complete and exhaustive set of data, facts and topics to research in the future. Consequentially, many and diverse can be the possible future research outcomes.

One practical outcome is related to economic weight of the contemporary production of design, culture, art. New economic paradigms can bring renovated economic

turnover or further business assets for the SMEs considering to look in the tradition to find new ways of expressing the heritage, the knowledge and the roots of their activities into a more culturally sustainable, resilient and aware sphere of existence. The most evident theoretical outcome is about the digitalisation and the dematerialisation of the processes proper of the contemporary situation: it should be taken into account; it shouldn't be separated to the practical application of the technologies to the cultural heritage. This loss of the physical dimension can allow further unexpected scenarios able to improve, strengthen, highlight and making the cultural features more resilient, while expanding the shared knowledge of the heritage, aiming possibly at the same time towards the civic values of the shared common cultural heritage.

Note

1) These zones are intended to be the zones which uphold historical relevant value; consequentially, as working hypotheses, these zones correspond with all the 'zona A' as established by the National zoning fundamental laws (Italian Law 765/67 and DM 1444/68) altogether with all the areas identified as 'patrimonio culturale immobile e paesaggistico' [cultural immobile heritage and landscape] as stated in the art. 2 of the 'Codice dei Beni Culturali e del Paesaggio' (Italian DLgs 42/2004 ss.mm.ii.), the National Law on the Cultural Heritage.

References

- ANCSA and CRESME (2017), *Centri Storici e Futuro del Paese – Indagine Nazionale sulla situazione dei Centri Storici*. [Online] Available at: cresme.it/doc/rapporti/Centri-storici-e-futuro-del-Paese.pdf [Accessed 10 December 2020].
- Baroni, D. (2011), *La Forma del Design – Rappresentazione della forma nel linguaggio del Basic Design*, Zanichelli, Bologna.
- Bassi, A. (2007), *Design Anonimo in Italia – Oggetti comuni e progetto incognito*, Electa, Milano.
- Braudel, F. (1987), *Il Mediterraneo – Lo Spazio, la Storia, gli Uomini, le Tradizioni*, Bompiani, Milano.
- Brusatin, M. (2007), *Arte come design – Storia di due storie*, Einaudi, Torino.
- Bultrighini, I. (2013), "Paralia kai Mesógeia – 'Coastalness' and 'Inlandness' in the Ancient Greek World", in *CHS Research Bulletin*, vol. 1, issue 2. [Online] Available at: research-bulletin.chs.harvard.edu/2013/10/17/coastalness-and-inlandness/ [Accessed 11 November 2020].
- Carpenter, S., Walker, B., Anderies, J. M. and Abel, N. (2001), "From Metaphor to Measurement – Resilience of What to What?", in *Ecosystems*, vol. 4, pp. 765-781. [Online] Available at: doi.org/10.1007/s10021-001-0045-9 [Accessed 11 November 2020].
- Clarke, J. (2016), "From maladaptation to adaptation – Towards a resilient urban planning paradigm", in Chandler, D. and Coaffee, J. (eds), *The Routledge Handbook of International Resilience*, Routledge, London. [Online] Available at: doi.org/10.4324/9781315765006 [Accessed 11 November 2020].
- Clauss-Ehlers, C. S. (2004), "Re-inventing resilience – A model of culturally-focused resilient adaptation", in Clauss-Ehlers, C. S. and Weist, M. D. (eds), *Community Planning to Foster Resilience in Children*, Springer US, New York, pp. 27-41. [Online] Available at: doi.org/10.1007/978-0-306-48544-2 [Accessed 11 November 2020].

Crane, T. A. (2010), "Of Models and Meanings – Cultural Resilience in Social-Ecological Systems", in *Ecology and Society*, vol. 15, issue 4, article 19, pp. 1-16. [Online] Available at: ecologyandsociety.org/vol15/iss4/art19/ [Accessed 6 November 2020].

Cuccia, T., Guccio, C. and Rizzo, I. (2016), "The effects of UNESCO World Heritage List inscription on tourism destinations performance in Italian regions", in *Economic Modelling*, vol. 53, pp. 494-508. [Online] Available at: doi.org/10.1016/j.econmod.2015.10.049 [Accessed 13 November 2020].

Policy Department Structural and Cohesion Policies (2014), *The role of cities in the cohesion policy 2014-2020*. [Online] Available at: europarl.europa.eu/RegData/etudes/STUD/2014/529075/IPOL_STU%282014%29529075_EN.pdf [Accessed 14 November 2020].

Filippini, A. (2013), "Paolo De Poli Artigiano Imprenditore Designer", in *AIS/Design Storia e Ricerche*, n. 7, pp. 1-25. [Online] Available at: aisdesign.org/aisd/paolo-de-poli-artigiano-imprenditore-designer [Accessed 10 November 2020].

Folke, C., Carpenter, S. R., Walker, B., Scheffer, M., Chapin, T. and Rockström, J. (2010), "Resilience thinking: integrating resilience, adaptability and transformability", in *Ecology and Society*, vol. 15, issue 4, article 20. [Online] Available at: ecologyandsociety.org/vol15/iss4/art20/ [Accessed 11 December 2021].

Frantzeskaki, N. (2016), *Urban Resilience – A concept for co-creating cities of the future*. [Online] Available at: urbact.eu/sites/default/files/resilient_europe_baseline_study.pdf [Accessed 14 November 2020].

Gunderson, L. H. and Holling, C. S. (eds) (2002), *Panarchy – Understanding Transformations in Human and Natural System*, Island Press, Washington DC.

Gunderson, L. H., Holling, C. S. and Light, S. S. (1995), *Barriers and bridges to the renewal of ecosystems and institution*, Columbia University Press, New York.

Holling, C. S. (1996), "Engineering resilience versus Ecological resilience" in Schulze, P. C. (ed.), *Engineering with ecological constraints*, National Academy, Washington DC, pp. 31-43. [Online] Available at: nap.edu/read/4919/chapter/4 [Accessed 6 July 2020].

Holling, C. S. (1973), "Resilience and Stability of Ecological Systems", in *Annual Review of Ecology and Systematics*, vol. 4, pp. 1-23. [Online] Available at: doi.org/10.1146/annurev.es.04.110173.000245 [Accessed 14 November 2020].

Holtorf, C. (2018), "Embracing change – How cultural resilience is increased through cultural heritage", in *World Archaeology*, vol. 50, issue 4, pp. 639-650. [Online] Available at: doi.org/10.1080/00438243.2018.1510340 [Accessed 14 November 2020].

ISTAT – Istituto Nazionale di Statistica (2019), *L'Italia dei Musei*. [Online] Available at: istat.it/it/files/2019/12/LItalia-dei-musei_2018.pdf [Accessed 16 July 2020].

Kasperson, R. E., Dow, K., Archer, E. R. M., Caceres, D., Downing, T. E., Elmqvist, T., Eriksen, S., Folke, C., Han, G., Kavita, I., Vogel, C., Wilson, K. A. and Ziervogel, G. (2005), "Vulnerable peoples and places", in Hassan, R., Scholes, R. and Ash, N. (eds), *Ecosystems and Human Well-Being – Current state and Trends*, vol. 1, Island Press, Washington DC, pp. 143-164. [Online] Available at: researchgate.net/publication/234154407_Vulnerable_Peoples_and_Places [Accessed 13 November 2020].

Maricchiolo, L. (2015), *Fenomeni di resilienza dello spazio pubblico di Rabat-Salé – Dall'habitat di Michel Ecochard al progetto contemporaneo*, Dissertazione finale per il Dottorato di Ricerca in Architettura – Teorie e Progetto, XXVII ciclo, Università di Roma 'Sapienza'. [Online] Available at: arcl.uniroma1.it/dottoratocomposizionearchitettura/Dissertazioni/27MaricchioloLuca_FenomeniDiresilienzaDellospaziopubblicoRabat-Sale.pdf [Accessed 13 July 2020].

Moccia, F. D. and Sepe, M. (2015), "Infrastrutture blu e verdi, reti virtuali, culturali e sociali", in *Urbanistica Informazioni*, vol. 263, special issue, pp. 13-14. Available at: urbanisticainformazioni.it/

263-special-issue-.html [Accessed 16 July 2020].

Montanari, T. (2015), *Privati del Patrimonio*, Einaudi, Torino.

Rotarangi, S. J. and Stephenson, J. (2014), “Resilience Pivots – Stability and Identity in a Social-Ecological-Cultural System”, in *Ecology and Society*, vol. 19, issue 1, article 28, pp. 1-10. [Online] Available at: [dx.doi.org/10.5751/ES-06262-190128](https://doi.org/10.5751/ES-06262-190128) [Accessed 12 November 2020].

Settis, S. (2012), *Paesaggio Costituzione Cemento – La battaglia per l'ambiente contro il degrado civile*, Einaudi, Torino.

Trigila, A., Iadanza, C., Bussetini, M. and Lastoria, B. (2018), *Dissesto Idrogeologico in Italia – Pericolosità e fattori di rischio*, ISPRA, Rapporti 287/2018. [Online] Available at: isprambiente.gov.it/files/2018/publicazioni/rapporti/rapporto-dissesto-idrogeologico/Rapporto_Dissesto_Idrogeologico_ISPRA_287_2018_Web.pdf [Accessed 13 November 2020].

UNESCO (2020), *Properties inscribed on the World Heritage List, Italy*. [Online] Available at: whc.unesco.org/en/statesparties/it [Accessed 16 July 2020].

UNESCO (2019), *Patrimonio Immateriale*. [Online] Available at: unesco.it/it/ItaliaNellUnesco/Detail/189 [Accessed 13 November 2020].

Vale, L. J. (2014), “The politics of resilient cities – Whose resilience and whose city?”, in *Building Research and Information*, vol. 42, issue 2, pp. 191-201. [Online] Available at: doi.org/10.1080/09613218.2014.850602 [Accessed 14 November 2020].

Walker, B. and Salt, D. (2006), *Resilient Thinking – Sustaining Ecosystems and People in a Changing World*, Island Press, Washington DC.

Walker, B., Holling, C. S., Carpenter, S. R. and Kinzig, A. (2004), “Resilience, Adaptability and Transformability in Social-Ecological Systems”, in *Ecology and Society*, vol. 9, issue 2, article 5, pp. 1-9. [Online] Available at: ecologyandsociety.org/vol9/iss2/art5/ [Accessed 6 July 2020].