



Management of the image of the city in urban planning: experimental methodologies in the colour plan of the Egadi Islands

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Accepted: 7 August 2022
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Abstract

The debate over the value of the image of a city, which since the 1960s has been gaining wider room for reflection, has arisen as a criticism against the reductionism of the Modern Movement and highlighted the value of the qualitative aspects of an urban landscape. The question asked is if urban planning can in some way govern the image of a city. An investigation into which tools and strategies are necessary to defend the narrative of a city, its identity and its *genius loci* against the homologating forces that are transforming contemporary cities. The article explores the theoretical principles and methods being experimentally used to qualitatively manage the urban environment. Research investigates the innovative experimentation being carried out in Italy that has brought about the compiling of colour plans, and questions what their characteristics should be, so as to be effective in the management of the quality of an urban image. In order to focalise these crucial aspects, the case of the colour plan for the Egadi Islands is presented, illustrating the methods elaborated for the individualisation of the characteristics connoting its local urban landscape and the strategies adopted to cope with the risks to which they are exposed.

Keywords Colour Plan · Egadi Island · Urban Design · Genius Loci · Cityscape · City Colour Management

Introduction

The interpretive and design criteria of a functional city promoted by the Modern Movement have met with profound critical revision since the second half of the XX century (Alexander 1979, 2002; Cullen 1961; Jacobs 1961; Jacobs and Appleyard 1987a; Lynch 1960). Wide international debate has highlighted how Modernist parameters miss the complexity of the city regarding its perceptive, relational and identifying dimensions, and its relationship with its geographic, social and cultural environment.

The observations on the outcomes of the postmodern city led towards an interdisciplinary approach that took into account studies on architectural phenomenology in its relationship with both its natural and built environment (Norberg-Schulz 1980), along with the psychology of its perception (Arnheim 1954) and urban sociology (Geddes 1915; Park et al. 1925; Weber 1958; Wirth 1938; Wolff 1950).

Reflections on the urban landscape as an inhabited, perceived and recognised space have triggered an important field of urban studies on the image of a city (Alexander 2002; Alexander et al. 1977; Cullen 1961; Jacobs 1961; Lynch 1960) that has recognised the value of those changing or permanent elements that unequivocally connote an urban space and make it an immediately recognisable place.

The recognisability of an urban environment, accounted for by the well-known concept of *genius loci* (Norberg-Schulz 1980) is also due to its material and chromatic characteristics that depend on the relationship that every human settlement has interwoven over time with the environmental context in which it is set (Kellert 2005; Lenclos 1976).

The mutation of design principles and the inclusion of new construction materials (mass production of architectural elements, use of chemical processes for the production of colours and mortars, introduction of plastics, prefabrication of materials and components, etc.) with which urban settlements are being transformed risks dissolving the authenticity of the historical urban fabric and, in general, of the urban *genius loci*. Since the 1980s, in Italy this problem has sparked a debate (AA 1986, 1988; Biscontin and Volpin 1990; Carbonara 1987; Cardilli 1990; Spagnesi 1988) on the need to prepare urban planning tools capable of safeguarding

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the legibility of the city in all its historical stratifications. Italy is, in fact, a country particularly characterised by the presence of historical architecture and historical centres of great value. The debate led to the definition of the theoretical and methodological principles for the drafting of colour plans, that is urban planning tools aimed at controlling the stylistic and chromatic qualities of the urban landscape.

From the first experiments, at the beginning of the XIX century, to today, colour plans have progressively become an urban tool capable of making a positive impact on the quality of urban transformation over time (Bini 1994; Brino 2009; Cerri 1984; Falzone 2001).

The article intends to argue that the validity of a colour plan depends above all on its ability to correctly interpret the sense of place. For this purpose, the theoretical assumptions and the methodology developed for the colour plan of the Egadi Islands are presented. In this archipelago there are three cities and some villages; although the cities are small because they are proportionate to the size of the islands, they have the same structure and characteristics typical of Mediterranean cities. These cities are particularly exposed to the risk of tourist pressure: here it is clearly seen that the transformations induced by tourism are seriously altering the image of the city and the landscape.

The case study highlights the need to safeguard the integrity of the urban landscape by protecting it from environmental and anthropogenic risks (in particular from tourist pressure) and preventing transformations incompatible with its historical identity. The municipal administration therefore decided to adopt a colour plan to preserve the *genius loci* of the urban landscape. The considerations that can be extracted from this case study are scalable in other urban settlements, with particular reference to small-sized and medium-sized tourist cities.

Theoretical background

Criticism of Postmodernism's stance on the city

Since the beginning of the XX century the Modern Movement, given to dictating rationalistic cannons for a universal architecture, has opened a relevant trajectory that even now conditions contemporary architectural and urban design. The purist aesthetics and minimalist preference of Modernist design have established independence from any local or geographic conditioning, giving preference to absolute spaces, as well as, mono-material and monochrome volumes. Since the early 60 s, the ideology of the Modern Movement, which disseminated the radical urban paradigms of the functional city through the *Congrès Internationaux d'Architecture Moderne* (CIAM), has come up against serious criticism (Jacobs and Appleyard 1987b; Shaftoe 2008).

Regarding the aspects relating to the concept of a city and urban design tools, Postmodern criticism was launched thanks to contributions by authors, such as, Gordon Cullen, Kevin Lynch, Jane Jacobs and Christopher Alexander. Reflections put forward by these writers all start from the observation of real cities so as to refute Modernist reductionism. All of them reached the same conclusion, a city cannot be reduced to its quantitative dimensions without running the risk of killing its urban vitality (Dovey and Pafka 2016).

The dimensions of a city as a perceptive phenomenon have been explored by Gordon Cullen who launched an important field of studies into the perception of urban space (Cullen 1961). He defined the concept of "townscape" as the art of giving visual coherence to the ensemble of buildings, streets and spaces that make up the urban environment. A city is not just the sum of its built parts and the spaces surrounding them; the perception of the urban landscape captures the relationships that develop between the components of the city and depends on the way in which we dynamically visualise the sequences of urban environments during our movement.

Kevin Lynch has developed further studies in the field of urban space perception and has deepened the method of urban mental mapping. To describe the perceptual dimensions of urban space and to create memorable and legible places for residents, he coined the words "imageability" (the quality of the elements of the city capable of evoking images in the mind of an observer) and "wayfinding" (the ability to know how to orient oneself within the city thanks to the readability of the spaces) (Lynch 1960). Most of his ideas had been influenced by aesthetics, particularly by the vision of a universal language of art by Kepes (1944), and by the psychology of the German Gestalt (Arnheim 1954).

Lynch's studies have been expanded over time by other authors. Among these, Wolfe (2016) has developed a methodology, which he calls "urban diary", to catalogue individuals' personal observations of urban space and make them available for urban planning. In fact, he argues that the tools of technical description of the city, such as maps, statistical data and digital representation, can find a valid complement in the direct observation of cities. Experiencing of urban space enable one to grasp the intangible aspects (relationships between inhabitants, neighbourhood dynamics, livability of places, aesthetic enjoyment, etc.) that characterise cities and bring scientific observation back to the real world.

The activist Jacobs (1961) brought a fundamental contribution to the criticism of Modernist thought. By asking the question about "the kind of problem a city is", she shifted the attention from town planning techniques to the search for the true essence of a city.

Her method was to approach reality through direct experience of the city; she inaugurated "urban walks" as a tool for verifying the effects produced by urban projects and urban



planning theories on people and the liveability of spaces (Pinder 2021). Her vision was that public spaces assume a central role in that they are privileged places in social–functional interaction and are shaped and modified constantly from daily use, thus escaping any rational predetermination.

Christopher Alexander also contributed to the themes on the subject under debate, his starting point being his criticism of the metaphor of a city hierarchically and functionally structured like a tree, put forward in the 1930s by Lavedan (1936) and Mumford (1938), recognising the incapacity of zoning and the overdetermination of modern urban planning to take into account the complexities of a city. He upheld that the city could not be conceived in hierarchical terms: “the city is not, cannot, and must not be a tree. The city is a receptacle for life” (Alexander 1965, p. 428). His observations brought him to sustain that it is in the public spaces that the values of society gather and that, in the final analysis, the city can be more fully understood when considered as a mechanism for supporting human contact.

Similar observations have been developed in Scandinavia by Gehl (1996), who underlined the opportunities that public places offer for both active and passive involvement to occur among people and the characteristics that encourage their continued use over time. With regard to this, one of Gehl’s most memorable quotes is: “a good city is like a good party – people stay longer than really necessary because they are enjoying themselves”.

The theories elaborated by these authors, while having by a long shot been overcome in some aspects, have confirmed the psycho-perceptive aspects and social values of urban spaces, posing the question of the quality of the public space as a prerequisite, as long as it can fully carry out its social aggregate functions. Studies on public spaces have been developed by numerous authors. Among these, Shaftoe argues that public spaces equipped to promote meeting and socialisation, which he calls “convivial spaces”, are the essence of urbanity (Shaftoe 2008). The challenge in creating and maintaining successful convivial spaces is to achieve an integrated approach, which includes design and management in the broader context of urban policy. He proposes a morphogenetic approach to urban design as a continuous and adaptive process, susceptible to adaptation to the disorder of life and to inevitable social evolution.

Furthermore, public spaces add enormous value both to the human experience, by stimulating our perceptive capacities, and to the potential of urban areas, in terms of economic, social and environmental benefits (Carmona 2019a, 2021). Indeed, since the 1980s, public spaces have increasingly become a key component of many regeneration and development projects around the world (Carmona 2019b).

The quality of urban spaces: the genius loci and its chromatic components

So, the question arises over defining what the quality of an urban space consists of. The essay *Genius loci* by Norberg-Schulz (1980) has provided a substantial contribution to this debate. The writer, although at first involved in CIAM’s Modernist theories, came to severely criticise the contemporary city: he observed that the obsessive repetition of modernist architectural models had caused isolated episodes, intentionally detaching it from its context, thus creating alienating urban environments.

To define the aspects that characterise the quality of an urban context in its entirety, Norberg-Schulz re-proposed the Latin term *genius loci*, referring to the awareness that in ancient times it guided settlement activities while respecting the characteristics of the localities. The *genius loci* (Fig. 1) is the spirit of the place, which is the conceptual landscape in which physical and psychological conditions meet. The sense of place is not determined only by environmental conditioning and functional implications; it also depends on the way we perceive a place, on the psychological implications, on the symbolic meanings we attribute. The *genius loci* is specific to each place, since different situations require different solutions to satisfy the physical and mental needs of the person. A place is a function of two components: the space, in which the individual orientates himself, and its characteristics, in which the individual identifies himself. A place becomes a dwelling when the environment is experienced as significant, that is, when the individual feels he belongs to a concrete place; dwelling is the development of a total relationship between the individual and the place.

In reflecting on the concept of ‘the spirit of place’, meant as a sense of satisfying and securing relations to one’s physical and cultural environment, the sociologist Stephen Kellert has elaborated a vision of *genius loci* in a biophilic key. According to Kellert, what makes a place special is the unique integration of culture with nature (Kellert and Wilson 1995), echoing Ian MacHarg’s ecological approach which uses the expression ‘Design with Nature’ to describe the appropriate combining of planning and development of human settlements with the physical, biological and ecological properties of a geographical area (MacHarg 1969). Particularly analysing the characteristics of vernacular architecture, Kellert observed that “building and landscape designs infused with the spirit of place resonate with cultural meaning. They are experienced as positively charged ‘emotional spaces’. More than inanimate wood, stone, glass, brick or mortar, these structures become life-like placeholders of a distinctive personality and important symbols of a region’s identity” (Kellert 2005, p. 169).

The vernacular style has been at the heart of the studies carried out by other authors in that it represents a testimony



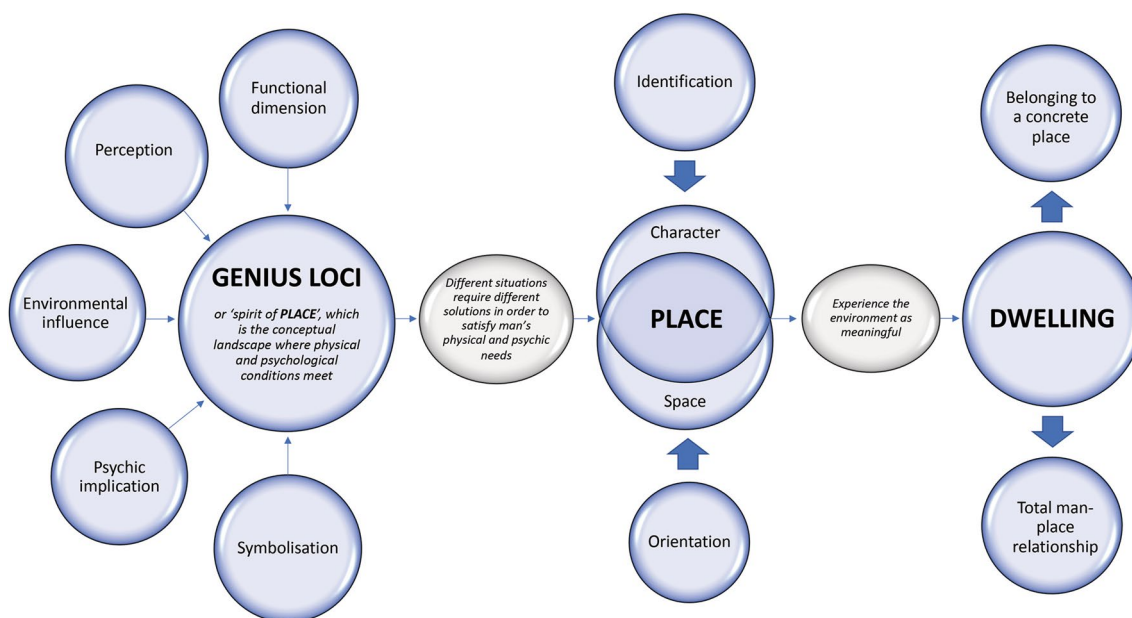


Fig. 1 Conceptual diagram of *genius loci*

to the method with which architectural styles and urban models have evolved in response to local conditions. Since the late 60s, Amos Rapoport, one of the founders of Environment-Behaviour Studies (EBS), has investigated how the environmental characteristics, the laws of physics and socio-cultural forces shaped primitive human settlements (Rapoport 1969). In the same way, he documented how the material resources available in situ conditioned the chromatic quality of the settlements.

Jean-Philippe Lenclos, also starting from the study of vernacular architecture, highlighted the close rapport between the geolithological nature of the soil and the architectural colours. He focuses his chromatic research on the traditional architecture present in the various regions of France, observing that the building materials available on site characterised the appearance of the urban landscape. Stone quarried from the land, pebbles and sand were the most common materials in traditional buildings and their colour dictated the dominant colour of the built areas. His method of analysis, defined as ‘the geography of colour’ (Lenclos 1976), has demonstrated that the chromatic palettes of various human settlements were determined by the geology, climate and light that characterised a specific place. The mortar, plaster and colours are the visual translation of the pigments of the local materials, which over time had created a close bond between the natural environment and the built environment (Lenclos and Lenclos 2004).

The study of vernacular architecture was also investigated by Alexander (Alexander 2002–2005); he was a staunch anti-modernist who found vernacular architecture more agreeable than contemporary architecture, which he found

aesthetically cold and soulless. In *The Battle for the Life and Beauty of the Earth* (Alexander 2012) he emphasises that it is necessary to orient architecture towards the construction of buildings and environments that evoke charm, comfort and joy. Architecture must express an intimate bond with nature and the order that sustains ecosystem balance; he writes that “our well being originates in large part in the spatial order of the world” (Alexander 2012, p. 382). For him, architectural quality must be sought in the ability to create adaptive structures rooted in the place, capable of enhancing local materials, craftsmanship, local construction techniques and that are able to support local integrity and forge a place with a unique character and atmosphere. In the fourth volume, *The Luminous Ground* (Alexander 2004), of his essay on *The Nature of Order* (Alexander 2002–2005), Alexander devoted an extensive reflection on the meaning of colour in nature and on the perception of colour.

The study of colour has been at the heart of Faber Birren’s research, one of the major experts in the psychology of colour. Birren highlighted that contemporary architecture (referring to Modernist architecture) has deliberately relinquished chromatic variables. Indeed, he observed that “colour is rarely found on the exteriors of modern buildings in modern cities. In ancient times colour was the rule rather than the exception” (Birren 1969, p. 52).

The progressive loss of chromatic traditions in the contemporary city

The intense relationship between the colour of nature and the colour of architecture is progressively fading in



contemporary cities. If prior to the XIX century the range of colours available depended on the raw materials, available on site or easily transportable, chemistry has made an almost infinite array of colours available, improving their stability over time. Marco Bini, in his essay on the relationship between the colour of an urban landscape and the environment (Bini 1994), observed that the advent of paints has brought about a real revolution: a built landscape that once upon a time was characterised by the colour of its local materials, has been progressively modified by the application of industrially produced, artificial colours that cover and substitute the colours of the materials themselves.

This different way of operating has profoundly modified the relationship with nature; humanity finds itself in an altered environment, even with regard to its chromatic structure. This concern had already been acknowledged in the middle of the 70s by Porter and Mikellides (1976, 2015) who observed how urban centres were becoming progressively artificial. They paid particular attention to the theme of colour in architecture, as they found that the introduction of new materials risked the definitive loss of an architectural and chromatic rapport with its geographical location.

Colour in urban planning: the Italian approach

The original symbiosis between architecture and nature, from which the material and chromatic characteristics peculiar to each settlement emerged, is gradually fading out in contemporary cities and with it, its *genius loci*. With the paradigm of the functional city nowadays abandoned, urban design pays more and more attention to the qualitative aspects of an urban space, reconsidering even the chromatic aspects as privileged components of identity.

In Italy, the vast architectural and historic urban heritage meant the necessity to define methodologies, practises and regulations in order to preserve and restore its style and chromatic characteristics.

The colour plan for Turin: a prototype

At the beginning of the 1800s, the systematic management of the colour of the building's facades by public administration was introduced in Turin; this is the first and most significant precedent where chromatic regulations were experimented using a colour plan. During the French domination of Piemonte, Napoleon Bonaparte had the *Conseil des Ediles* set up in 1808 in Turin, with the mandate to transform the image of the city, giving it a new and unitary face, testifying to, also for propagandistic reasons, the efficient organisation of the new regime (Brino and Rosso 1980). In this operation

of reordering and reforming, colour was recognised as having a key corrective and unifying role.

The methodology introduced by the *Conseil des Ediles* considered the chromatic management of a city as a single, compact and continuous organism; colour control was not only imposed on the noble and historic buildings, but extended to the urban fabric, no matter what the intrinsic value of a single property was. The entire city was designed using the urban instruments that guaranteed both qualitative and chromatic management in all its parts, from its oldest centre to hamlets in its outskirts.

The chromatic management of a city went into crisis in the second half of the 1800s, when the public sector's managerial function faded. The significant season of qualitative management of the urban landscape in Turin ended, and it was not in isolation. Finally, in the 1970s, a colour plan for Turin was relaunched (Cannella and Cupolillo 1996). Studies carried out by Giovanni Brino on documentary sources relating to the colour of historic buildings (Brino and Rosso 1980) was of determining importance and providing the scientific basis for putting together a colour plan (Cerri 1984).

Turin offers us the opportunity to assess the results that urban tools for chromatic management have achieved over more than the last two hundred years. The city distinguished itself for the quality of its public spaces and the correct use of colour creating a unifying image, respecting the individual history of each building, contributing to strengthening the *genius loci* of the city. Even though the colour plan requires considerable effort on the part of private owners (in particular, the colour plan regulation stipulates in art. 7 the obligation for all owners to keep the fronts of their buildings in good order and to provide for the maintenance and/or re-colouring of the facades at least every 20 years and for similar interventions in the arcaded rooms and galleries at least every 7 years), it has given positive results that have been achieved over time.

Notes on the evolution of the debate on colour plans in Italy

The theme of the colour of a city as a cultural and identifying factor became critical after the Second World War. During this period, Italy had to face the issues of post-war rebuilding, and sudden demographic growth, urban expansion and obsolete historic centres. Between the 50s and the 60s continued urban growth and the introduction of new building materials (such as plastic plasters, facade coatings, industrially produced colours, etc.) brought about profound changes in the image of a city. The accelerated modernisation—and homologation—process, overturned urban and building traditions, on one hand producing suburbs lacking in any *genius loci*, while on the other hand, the abandoning and decay of historic centres. In this process of growth



without development, the question of colour in architecture was progressively put to one side resulting in the loss of consistent aesthetic and chromatic values of an urban space.

The debate on urban colour arrived at some proposed methods that would fine-tune colour plans, making it clear that the question of colour needed to be faced, not only from an architectural point of view, but also from an urban one. The need to promote a disciplinary approach emerged that, diverging from individual architectural projects, took into consideration the entire urban structure interpreting it within its historic stratification. Starting out from the experimental experience activated by the colour plan for Turin and carried out on some cities with the characteristics of possessing an architectural and artistic patrimony (among them were Rome, Genova, and Venezia), some models of intervention were elaborated, and presented in a series of conferences and exhibitions on the theme (AA 1986, 1988; Biscontin and Volpin 1990; Carbonara 1987; Cardilli 1990; Spagnesi 1988).

Since the 80s, there has been a rapid and widespread diffusion of colour plans throughout Italy, elaborated for both large cities characterised by the presence of architectural structures and the small towns and urban areas characterised by vernacular architecture (such as the case of study of the small towns of the Egadi Islands, illustrated below). Comparing these plans (the list of these plans has been omitted to contain the brevity of this paper), which present different theoretical and methodological approaches, has allowed for a fine-tuning of the main critical points and to assess the effectiveness of the various experiences.

From the point of view of cogency, the following differences can be seen: while some plans have an enforcing imposition, others are articulated in a system of non-binding indications. Some plans provide detailed indications of colours for certain types of buildings, others offer a chromatic range within which the individual can freely experiment his choice. From the point of view of the criteria to be used to assess a chromatic quality, it can be seen that some plans have been worked out from a unifying perspective, privileging the homogeneity of the urban context, yet at the expense of the individual building's original history or image. Other plans have adopted a philological approach, privileging the chromatics of a certain historic era, flattening the urban landscape and cancelling the historic stratifications of the town. Some plans have adopted the historic rebuilding of the chromatic range as their starting point thanks to archived documents, while others were elaborated by first consulting social partners.

Over the last 50 years, the initial more restrictive approach has been progressively substituted by a more prepositive one, leading to possible planning choices relating to specific cases and placing more emphasis on technical issues. Some writers suggest substituting the expression

'colour plan' with 'colour project' (Falzone 2008), a concept that underlines the complexity of project procedures and specific technological choices for each intervention, whether we are talking about preservation, maintenance or recuperation (Galletti 2008).

Only from the twenty-first century, in Italy the debate on the chromatic quality of the urban landscape and the experiments started at the local level have been incorporated into national legislation. With the entry into force of the Code of cultural heritage and landscape, the Ministerial Decree n.42 of 2004, the obligation was established for public administrations to collaborate in the definition of guidelines and criteria for the protection, planning, recovery, requalification and enhancement of the landscape, directly making local administrations responsible (Baldi 1984). Also in 2004, the framework law on architectural quality, approved by the Council of Ministers, has as its guiding thread the theme of the image of the city: the document explicitly refers to the activation by local authorities of actions to promote the quality of the built environment.

The attention to the quality of cities and the landscape has also been sustained by the simplification of procedural iter: the agreement dated 20.10.2016 by the Government, Regions and Municipalities makes explicit reference to colour plans. The activating regulation in the agreement (D.P.R.n.31 dated 2017) stipulates that a number of structural interventions will be exempted from needing authorisation, as long as they are carried out in respect of any eventual colour plan.

The role of colour plans in safeguarding an urban landscape, seen as cultural heritage, is clearly sanctioned. Colour plans are also recognised on a legislative level as an urban planning tool with which private interventions can be guided (with regard to both pre-existing and new buildings) as long as they are compatible with the safeguarding and maintenance of the original character of the historic urban landscape.

Methodology, experiments and results

The colour plan for the Egadi Islands

We argue that the success of a colour plan depends primarily on the correct interpretation of the aesthetic value of a place, in other words, to know how to read the elements making up a *genius loci*, and consequently, prescribe exhaustive regulations that are easy to implement and sufficiently flexible. Its success also depends on how it is carried out and therefore, its ability to arouse engagement and appreciation by the locals who will be the beneficiaries.



Shortly, we will be examining the colour plan for the Egadi Islands (Badami 2018a, b) whose urban landscape, which still has a strong, easily recognisable *genius loci*, is running the risk of definitely losing its original qualities. Generally speaking, most of the minor islands are exposed to the same risk, above all due to the anthropic pressure of tourism. The methodological approach adopted for the colour plan of the Egadi Islands can provide a valid example that can be replicated in similar contexts.

The landscape, architecture and environment of the Egadi Islands

The archipelago of the Egadi Islands is 7 km off the western coast of Sicily and is made up of three inhabited islands—Favignana, Levanzo and Marettimo—, the isle of Formica where an old, no longer used, tunny fish factory sits, the Rock of Maraone and some rocky outcrops. There are 4300 residents, but during the summer season they are visited by over 250,000 tourists. The entire archipelago is listed due to its beautiful and distinctive landscape (Fig. 2).

The original environment of the islands had extremely harsh living conditions: there are no fresh water springs; they are exposed to strong winds; most of the terrain is unsuited to agriculture. Nonetheless, the islands have been inhabited since the Palaeolithic Age, exploiting its few, yet, valuable resources. The local economy was mainly based on the fishing and processing of tuna and on the quarries of bioclastic limestone (Fig. 3), a compact, resistant, light golden beige stone that can be easily worked, particularly suitable as a building material (La Rocca 1995).

Since the 1960s, tourism has gradually become the main economic sector, while tuna fishing has been abandoned and mining has ceased. This transformation of the economic base had a great impact on the urban landscape: the houses and workshops of fishermen and quarrymen were transformed to



Fig. 3 Favignana island. Detail of one of the limestone quarries. Extracted from the fifteenth century, the limestone was partly used locally for architectural constructions, but for the most part exported for the construction of numerous buildings in Trapani and Tunis, the reconstruction of Messina after the 1908 earthquake, the restoration of monumental buildings in the historic centre of Palermo (author's photo)

accommodate tourists, the craftsmen's shops were replaced by commercial and catering activities, the style of architecture vernacular was coated with new colours and new materials. However, the original appearance of the buildings is still perceptible and, more often than not, it is still intact under the new renovations.

Thanks to the availability of the limestone, the island developed a particular building tradition over time (Lentini 2011): the stone is extracted from the quarries and made into blocks of different shapes and sizes which are then used for buildings, vaults, staircases and decorative elements, such as, windowsills, balconies, capitals, rose windows, pilasters, beam and lintels. The limestone

Fig. 2 Favignana island. Landscape of the north port with the former Florio tonnara, now used as a museum. In the background, the castle of St. Catherine (author's photo)





Fig. 4 Traditional cityscape of the Egadi Islands. The buildings are built with the local limestone. The facades of some buildings are not covered with plaster, revealing the natural colour of the stone; in other buildings the facades are covered with plaster with additives of calcarenite powder. The resulting urban landscape is characterised by the light golden beige colour of the local limestone (author's photo)



Fig. 5 Rural landscape of the Egadi Islands. The dominant colour is the light golden beige of the limestone which recurs in the outcropping rocks, in the rural buildings and in the dry-stone walls that line the fields (author's photo)

dust produced when the blocks are extracted is used as an ingredient for mortar and paints—thus recycling the waste product; the smaller and irregular stones are used for the dry-walls skirting the fields.

The colour of the stone not only dominates the natural landscape, but also confers an indelible footprint on the built areas, creating a particular continuity between nature and culture, as well as, between the urban and rural environment (Figs. 4, 5) (Guarrasi 1990). The island's architecture is closely related to its natural environment and the light golden beige of the limestone constitutes the chromatic component prevalent in the *genius loci*.

The main factors of degradation

The main environmental degrading factors on the Egadi islands are atmospheric agents, such as wind, the marine aerosol and summer sun. The islands' building tradition was that walls were protected from corrosion by seasonal maintenance like whitewashing, glazing and painting using limestone dust as a base. Since the 70s, off-the-shelf industrial paints have been introduced and the traditional, seasonal maintenance has gradually disappeared. The new colours have not only modified the traditional chromatic palette, but are not suitable for the local masonry, because they inhibit natural permeability and transpiration of the walls.

Another degrading factor of the landscape has been derived from the progressive alteration of the local chromatic tradition. Some facades have been painted with colours that do not belong to the traditional ones, creating dissonance and chromatic disorder. Since the 70s white has been increasingly used together with light blue shutters; these colours were introduced to attract tourists by imitating the Greek islands whose tourism was growing during those years.

Even though tourism represents a great opportunity for the islands, in that nowadays it is the economic driving force, it also represents one of the islands' greatest risks. The refurbishment of residential homes, turning them into accommodation facilities is changing the historic, urban landscape with incompatible additions from not only a chromatic point of view, but also in form and style. The inspections carried out in the urban centres of the three islands, detected 46% of the facades of buildings had been recently renovated with the use of materials and colours extraneous to the local building tradition.

Method for the elaboration of the colour plan of the Egadi Islands

In 2017, the municipal administration of the Egadi Islands took the initiative to face the progressive transformation of the historic landscape by activating the creation of a colour



plan. The municipality contacted the National Institute of Bioarchitecture (INBAR) and the Architecture Department of the University of Palermo, in order to create a plan.

The particular characteristics of the natural and built environment, as well as, the factors contributing to their degradation were the starting point for the methods applied to creating the plan. The methods were divided into four phases: identifying the chromatic contexts, laboratorial and field studies, local participation and sharing, definition of the intervention rules and the elaboration of a colour abacus.

Identifying the chromatic contexts

The islands, while sharing the same cultural and constricting traditions, each has its own particular characteristics of *genius loci*. All the inhabited centres, in turn, are divided into zones characterised by specificity. So as to achieve a definition for the regulation of colour that would be valid, it was based on the different situations, or specific qualities of each context. The regulations were drawn up for minimum units of intervention identified as a chromatic context.

So as to identify the contexts, numerous perceptive, functional and representative factors were taken into consideration, referring to the concepts of townscape, imageability, wayfinding, urban diary, urban walks, geography of colours, etc.

The articulation of urban centres in chromatic contexts has allowed us to recognise the prevalent tones of colour, to

identify the most opportune colour combinations, to interpret the singularities and irregularities and to report any eventual dissonances to be corrected. Here follow as examples, some of the applications of the methods for chromatic contexts.

The fishing village of Favignana presents a conspicuous heterogeneity of vivacious colours due to the fishermen's tradition of painting the window frames of their homes with the same paints used to paint their boats and to paint the facades of their houses in bright colours that could be easily seen from a great distance (Fig. 6). In the other towns these colours are not to be found. Identifying the chromatic specificities of a context enables the drawing up of regulations regarding its specific colours, so as to safeguard the chromatic characteristics of the marine tradition.

Identifying the chromatic context by assessing the perspective as a whole allows for the relationship of the buildings—even if they are at times quite far apart—to visually relate to each other. The buildings on Levanzo, for example, are dotted around the bay; such interrelating conditions nonetheless, require regulations that contemplate the coordination of the treating of the facades as components of a unitary perceptual picture (Figs. 7, 8).

Some of the buildings, set within the urban fabric, have architectural traces of the Art Nouveau or Déco style. They bear witness to an important architectural era which had a colour scheme all of its own that is not to be found in the other buildings. In identifying these features opens up

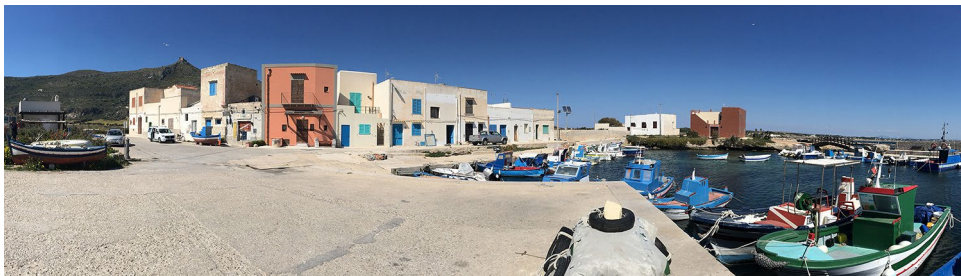


Fig. 6 Favignana, the seaside village. The colour language of the village is different from the other urban settlements on the island. For this context, the colour plan includes a specific colour abacus that

respects the fishermen's tradition of painting the window frames with the same paints used for their boats and colouring the facades with bright colours (author's photo)

Fig. 7 Levanzo island. The buildings in the urban centre are built around a gulf. The entire urban settlement is perceived as an overall picture (author's photo)



STRUCTURE OF URBAN SYSTEM



URBAN CONTEXTS IN VISUAL INTERRELATION

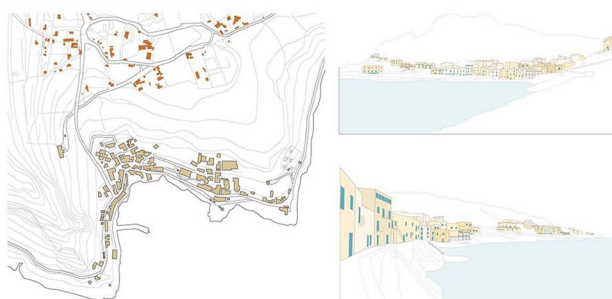


Fig.8 Studies for the colour plan of Levanzo island. Analysis of the structure of the urban system (left) and the visual interrelation of urban contexts (centre). All the buildings in the urban centre are linked together by intervisibility relationships because they are built

on a sloping ground around the gulf. These conditions of interrelation require the coordination of the colouring of the facades as components of a unitary perceptual framework (right) (author's elaboration)

PHOTO-STRAIGHTENING OF CURRENT STATE



ARCHITECTURAL AND CHROMATIC SURVEY



APPLICATION OF INTERVENTION RULES



COLOURS ABACUS

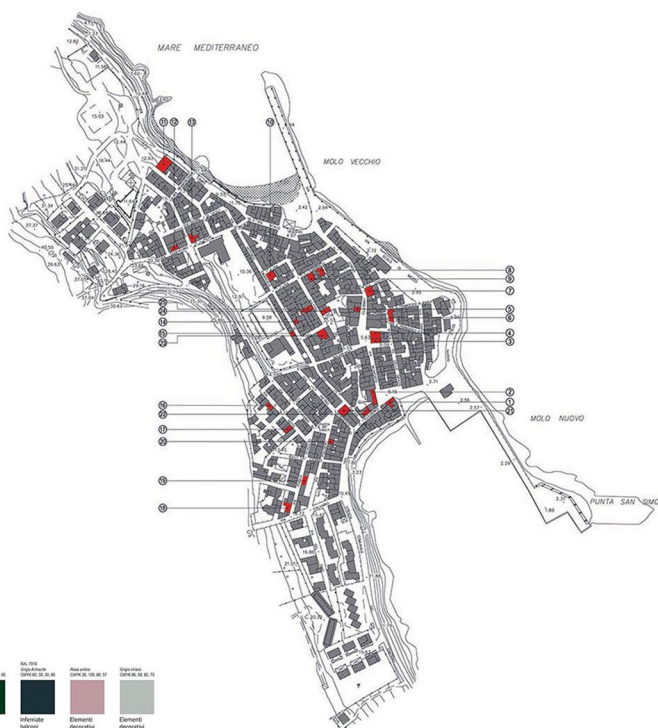
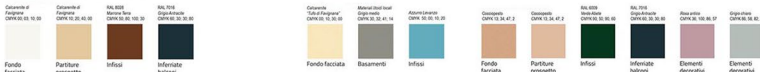


Fig.9 Marettimo island. Mapping of the Art Nouveau and Déco buildings (right). In many buildings, the architectural decorations have been repainted with the same colour as the background of the facade. The figure shows (left) three buildings analysed as a case study: above, the photograph of the facades in their current state; in

the centre, the architectural and chromatic survey; below, the simulation of the result that can be obtained by following the intervention rules and the colours abacus proposed by the colour plan (author's elaboration)

the need to introduce specific norms for the protection and maintenance of the colours and of these original decorative elements. In this way, the colour plan works in respect of the individual building's history, while at the same time

bearing in mind that it is part of a more complex urban setting (Fig. 9).



Experimentation both in the laboratory and on site

One of the principles at the base of the colour plan for the Egadi Islands is 'to build with nature', fully respecting the local architecture which wholly expresses its relationship with the natural environment. So as to make this principle sustainable, it was considered necessary to up-date and use the best performing building techniques, along with traditional materials. This is why collaboration with the building industry became indispensable (hence the collaboration with Heres, Treviso, a company specialising in producing mortar for the restoration of historic buildings, and with the Centre Materials Research, Vicenza, who carry out research on materials) for the preparation of the colour plan for the Egadi Islands.

Laboratory analysis was carried out on samples of plaster and paint taken from the islands and from the local raw materials available. By using the latter on site would result in eliminating any transport costs for materials being brought in and, at the same time, totally reutilise by recycling any resulting debris. Using the research data, a specific mortar made with the local calcarenite and sea water was developed (remember that on the islands there are no sources of fresh water and drinking water is imported by tankers; therefore, the use of sea water helps to limit construction costs).

The particular preparation of this technologically advanced mortar using nanotechnology, enables it to contrast the principle local risk factors: rising damp by using anti-condensation plaster with a base of hydraulic lime; solar irradiation by using heat reflecting paints; efflorescence inhibitors; resistance to wind erosion.

The mortar was tested on site. An exhibition of the test results was set up in a location that would be easily accessible to as large a public as possible. The mortar was used on parts of the social centre of Favignana, a place that is open to the public and frequented by all different age groups of the local population, from children to the elderly. Furthermore, it was considered of significant importance to involve detainees from the top security prison, which is based on the Favignana Island, in the on-site experiment. Very often ex-detainees having served their time remain on the island as residents. Their participation in the on-site experiment was considered as professional training for a possible future job in the local building industry.

Participation and sharing with the public

In order to create a good urban environment, people should feel that a part of the environment belongs to them, a part that they themselves can take responsibility for and care of, that they at least own (Jacobs and Appleyard 1987b). The colour plan as part of the transformation of the urban

environment should be able to favour to a certain extent a social involvement, political action and economic investment.

Between 2017 and 2018, the municipality of Favignana, with the scientific advice of the Architecture Department of the University of Palermo and INBAR, has organised various initiatives to meet and listen to the population.

The entire population residing on the three islands of the archipelago makes extensive use of social networks to keep in touch, especially in the winter months when naval connections are sometimes interrupted due to adverse weather conditions. Invitations to participate in the events were disseminated by the municipality offices through the institutional website and social networks, thus reaching the entire resident population.

The first meeting took place on 21/04/2017 at the former Florio plant of the Tonnare di Favignana and Formica (now transformed into a tuna fishing museum). The panel discussion was attended by 23 speakers (including representatives of the public administration, university professors, architectural restoration experts, colour plan experts, companies specialised in the production of plasters and building materials, artists, playwrights, poets and professional orders of architects, surveyors, engineers and geologists). The speakers explained the colour plan to the audience and showed how the plan can help protect and enhance the traditional landscape of the islands. The meeting was attended by numerous residents of the Egadi Islands (about 250 people of all ages) and professionals (architects, engineers, surveyors). The event was followed by a press conference with journalists who disseminated information in the press and on social networks (facebook, instagram, twitter, the official site of the municipality, etc.).

The second meeting took place on the island of Favignana from 30 June to 1 July 2017. An international conference was organised to present to the public the design principles on which to set the colour plan for the Egadi Islands. The focus of the conference was the discussion on the concept of quality, not just visual, which defines the identity of a place: the values, ideas, symbols, traditions on which it is convenient to leverage so as to build a recognisable and performing environment.

The topic was addressed by Italian and foreign scholars (in total 46) and a debate was opened with the public in which the questions of the population emerged. The event was supported by the Architecture Department of the University of Palermo, the Design Department of the Milan Polytechnic, the University of Ferrara, the Academy of Fine Arts of Catania, the Bowling Green State University (USA), the Raffles Institute of Hong Kong, Basile Archive, Livia Titi Basile Foundation, MDA (Association for Mediterranean Design) and ADI (Association for Industrial Design). The conference was sponsored by the company I Colori



della Terra Natural Paint and the training organisation IDEA (Innovation and Dissemination for Economic and Environmental Development).

These seminars were organised to present to the public methods and techniques for the conservation of the local historical landscape and to explain how a colour plan can contribute to the qualification and maintenance of the spirit of the place.

After this information phase addressed to the public, some locals (in total 58) were interviewed, including the so-called "local sages" (elderly and highly educated people who have knowledge and memory of local history); school teachers; local entrepreneurs; the last living workers who worked in the limestone quarries; the architects who had designed or restored houses on the Egadi Islands; the masons who had built those houses. In particular, the information received from the eldest masons was of the greatest importance in order to learn about the manufacturing processes of the building material, the construction techniques and the secrets of the craftsmen. The latter are, in fact, the last living custodians of the local building tradition, handed down from generation to generation, and still retain the knowledge and wisdom to make the best use of local materials.

The student population was also involved in the drafting of the colour plan. Not only is it essential to involve and raise awareness among young people on the theme of the city seen as a common product and heritage, but the new generations represent the true recipients of the colour plan whose effect will be visible in the years to come. 151 students took part in the work (university students, high school and middle school pupils). They were divided into groups based on the objectives to be achieved, making the territory a living laboratory, the school a socially useful research tool and the profession a means to transform research into an operational reality.

From 10 to 21 October 2017 a workshop was held on the Egadi Islands with students involved in various activities. The colour plan was explained to Favignana middle school students (in total 44, aged 10 to 13) through the narration of a fairy tale that struck their imagination. They were then given a task: they were asked to choose a familiar or symbolic place on the Islands and to draw it twice, once in its current state and another time as they wished it to be. 88 drawings were collected. The awareness of the deterioration of the urban landscape emerged from the drawings produced by the school children. Their wishes for a more beautiful city have provided many interesting insights for the colour plan, for example, using the colours of vernacular architecture, increasing play areas, growing plants in the city, increasing the permeability between public and private spaces, creating places for socialising, etc.

High school students (in total 65, aged 14 to 18) were entrusted with the task of surveying some of the architecture of the islands: the students of the Artistic High School drew

the Art Nouveau and Déco architectures from life, while the students of the School of Surveyors created the geometric and chromatic reliefs of the chosen architectures. This made it possible to create a data archive on the characters of traditional architecture useful for the colour plan.

The university students of the Faculty of Architecture (in total 44) elaborated the chromatic projects for the chosen architectures and produced the colour abacuses for the archipelago of the Egadi Islands. This made it possible to have a preview of the effects of the colour plan.

All the students' works were presented to the public from 14 March to 14 April 2018 in an exhibition set up in the town hall of Favignana. On the occasion of the inauguration of the exhibition, a public event was organised on 14 April 2018 to promote community participation. On this occasion, local residents were sent copies of the project developed by a team of experts and some samples of the materials that had been tested in situ. Participants were invited to express their opinions and to write their suggestions, even anonymously (234 posts were collected with comments from participants in this event), which were then taken into account in the next phase of the plan. The totality of the posts turned out to be in favour of the colour plan; the residents understood the benefits of the plan well. Some messages made project proposals: some (most) preferred the use of traditional colours, while others (a few) made the proposal to use different and bright colours. All the messages expressed the desire to have more orderly public spaces, equipped for social and meeting activities (at present, the plan is being developed and will be based on the inputs received).

The definition of the intervention rules and the colour abacus

The previous phases had allowed for the acquisition of historic, technical and experiential knowledge of the archipelago's-built landscape. Based on these premises, building regulations will be drawn up bearing in mind the specific characteristics of each of the identified chromatic contexts. There will be rules for the maintenance and transformation projects of the buildings overlooking the urban spaces, elements of urban furnishings, rural buildings, and the urban and rural road networks.

The regulations will be accompanied by an abacus of colours reproducing a chromatic range of reference for each context. The colour plan puts this abacus forward as a reference within which lies the project itself (be it maintenance, freshening up, or new building). The most appropriate colour must be chosen based on the historical-architectural style, the characteristics, the setting and the context of the intervention (Fig. 10).



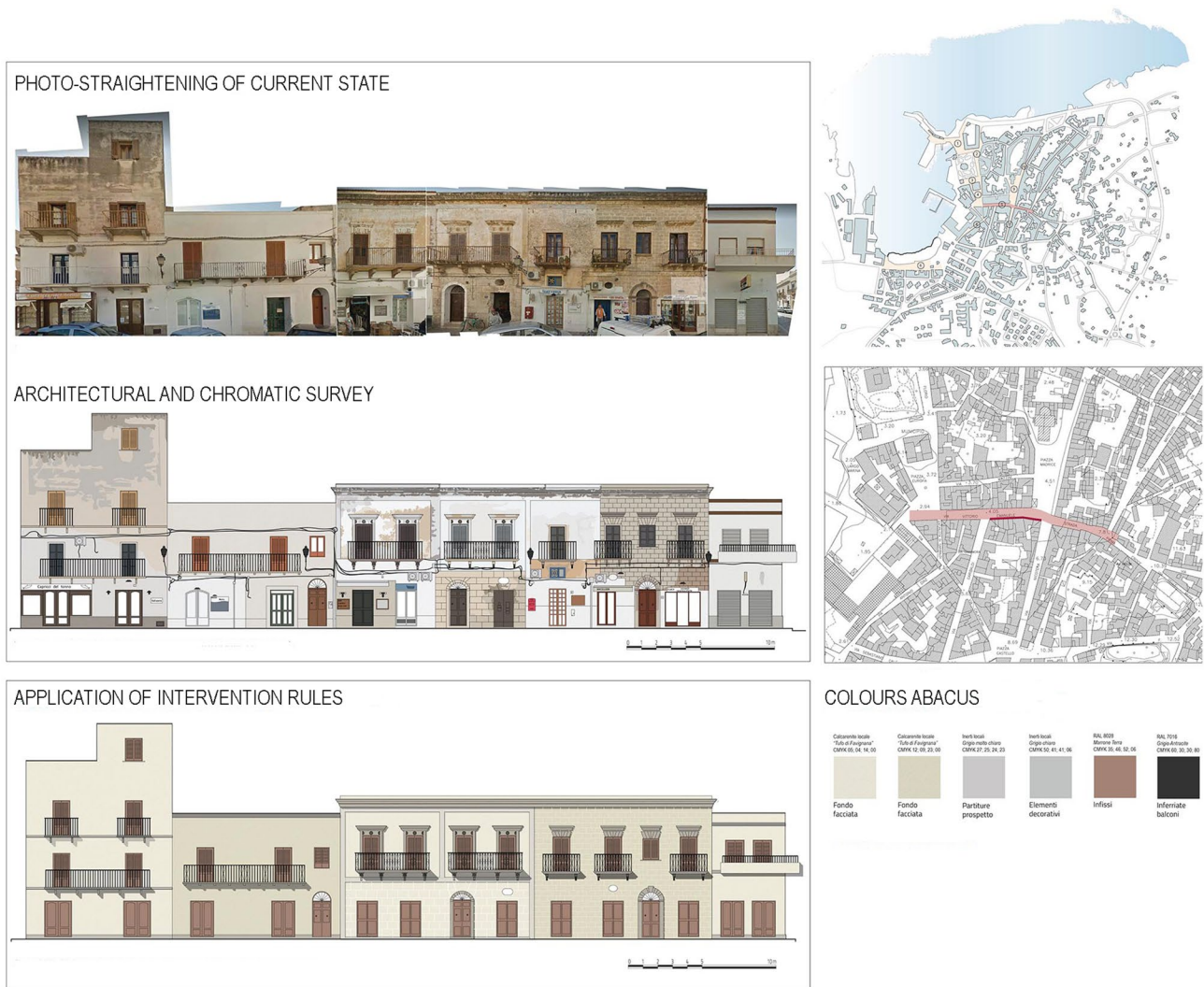


Fig. 10 Example of colour abacus for the "Via Roma" context of the historic centre of Favignana. The map, at the top right, shows the location of the street in the historic city centre. The map, in the centre right, shows the location of the block analysed. Left, from above: photograph of the current conditions; architectural and chromatic

survey; and, simulation of the result obtained following the intervention rules and the colours abacus proposed by the colour plan. Bottom right, the abacus of the colours selected for the context of "Via Roma" (author's elaboration)

Conclusion

The starting question of whether urban planning, given the recognised importance of the qualitative and perceptive aspects of the city, can have some degree of control finds an affirmative, albeit partial, answer in the Italian experimentation that led to the colour plans.

However, the question remains an open field of reflection because it should be remembered that the colour plan, acting as an urban planning tool, is not exempt from the risk of a schematic reductionism. The colour plan must give specific and adaptive indications, capable of going beyond the generalising and typologising urban planning rules that tends to standardise what most of the times had been born

in a different way and which has been marked by historical events that have made it unique and unrepeatabe (Carbonara 2007). This does not mean that we need to give up from the outset on planning, above all in the face of a progressive loss of aesthetic values in the contemporary urban image. Against the risk of typologising reduction, it is necessary to confirm the role of architectural projects so as to interpret and translate the regulations respecting specific cases: it is only through architectural design that it is possible to identify and enhance the unique qualities of each building and its relation to its context (Falzone 2001).

Bernard Secchi's thought on the relationship between regulation and project underlines that the regulations for the approval of a plan are nothing more than "the part of



the plan through which the administration defines and suggests to the public, in a concrete, precise, non-rhetorical or ephemeral way, his idea of the quality of living. (...) The project finds in the norms a resistance, a limit, a comparison theorem, not an impediment. (...) The history of art is full of illuminating examples of this confrontation. (...) The city project is not born from regulations, nor is it killed by them. (...) The legal scheme and the organisational scheme (...) have the task of guaranteeing legality and efficiency, thus keeping anchored the imagination of the place and its history, of society and its material bases, of the available resources and of the common idea of morality, but they also have the much more difficult task of ensuring that between these dimensions of urban planning also that of design develops, which is perhaps the only one able to get us out of the present " (Secchi 1993, pp. 8–9) (author's translation).

The colour plan of the Egadi Islands proposes a new approach compared to the other existing colour plans. As we have seen, the plan places particular emphasis on the concept of *genius loci*, while the other colour plans are based on archival documents or on colour samples taken from buildings or fixtures. The methodology of analysis to focus on the *genius loci* of the islands (method of chromatic contexts) is based on two complementary processes: on the one hand, the process for reading the urban landscape was adopted by referring to the vast literature on the image of the city; on the other hand, an intense collaboration with the local population was sought, in order to verify theories and principles of intervention and arouse the appreciation of the public.

The search for the *genius loci* led us to discover the close link between nature and the architecture on the islands; the colour plan therefore suggests using local materials and natural colours (colour abacus) to respect this symbiosis.

The plan also addressed the issue of the comparison between tradition and innovation (intervention rules): the construction techniques were updated thanks to the collaboration with specialised companies and scientific research centres on materials. New building materials have been developed that are capable of responding to aesthetic and functional needs and that can be produced with materials available on site.

Based on these reflections, the role of the colour plan cannot be reduced to being just a colour management system, or the cleaning up of buildings. Chromatic surfaces are not only connected to the individual architectural structure, but must be seen as a factor for the realisation of an urban scale and an identifying element of technical, cultural and social progress earned by a community in its territory. Seen as such, colour becomes once again a constituting element of the shaping of public spaces and identifying value of a city's image (Cannella and Cupolillo 1996).

Louis Khan, in the last years of his life, stated that the city is a place where a child walking around discovers what he would like to do when he grows up (McCarter 2013) and, as such, the city has a civil responsibility to create emotions that allow that child to imagine a different future, to dream of becoming a city designer using tool of synesthetic understanding. Therefore, colour plans should trigger—and become practice—constant civic planning of the city's image, respecting its historic stratifications and its relationship to nature, in the daily challenge of its future.

Acknowledgements The colour plan of the Egadi Islands is a project of the Municipality of Favignana, Egadi Islands, Trapani, Italy: G. Pagoto (mayor); F. D'Amico (Special Office for Productive Activities - Single Desk for Digital Building); L. Ceraulo, I. Galuppo, N. Serra, G. Monteleone, P. D'Angelo, L. Di Bella, L. Santamaria, A. Azzaro, L. Mellina, G. Sammartano, Matteo Ernandes (staff).

Studies of the colour plan of the Egadi Islands were conducted by the Department of Architecture of the University of Palermo: A. Badami (urban design); A. Mami, G. De Giovanni (architecture technology); V. Garofalo (reliefs); A. Angelico, S. Giunta, M. Marsala (architectural project).

The Istituto Nazionale di BioArchitettura (INBAR - National Institute of Bioarchitecture) (Trapani Section) collaborated in this research: S. Cusumano, G. Pizzo, G. Bertini, L. Nacci, F. Iannello (architects).

Thanks to the 151 undergraduate and graduate students who participated to this research, to the school Deans and to the tutors: First Grade Secondary School "Antonino Rallo", State Comprehensive Institute of Favignana (TP): G. Armetta, R. Domingo (tutor); Art School "Rosina Salvo", State Institute of Higher Education of Trapani (TP): G. Ingrassia, S. Rappa, F. Anselmo (tutor); Institute for Surveyors "Girolamo Caruso", Technical, Economic and Technological Institute of Alcamo (TP): V. Mione (dean), E. Cottone, G. Saracino (tutor); Institute for Surveyors "Duca Abruzzi-Libero Grassi", Higher Institute of Palermo (PA): C. Corselli (dean), F. Pecoraro, E. Capobianco, G. Torcivia (tutor); Urban Planning Laboratory 2, Master's Degree Course in Architecture, Department of Architecture, University of Palermo (PA): A. Badami (tutor).

Thanks to the Superintendence for Cultural and Environmental Heritage of Trapani: E. Caruso (superintendent); G. Fontana, A. Mazzara, P. Misuraca (staff).

Thanks to the "Giuseppe Barraco" Prison of Favignana: R. Persico (director); E. De Martino (staff). Thanks to the Heres Company of Treviso: M. Vanin (owner); A. Neri, C. Cardinale (staff).

We thank the citizens of the Egadi Islands for their precious collaboration, in particular to the scholars who collaborated in the research: G. Guarrasi, M. Modica, M. Grillo, L. Guarino, Vito Vaccaro, Michele Ponzio, Maria Guccione, Vito Torrente, L. A. R. Manuguerra, A. Gambino.

The author greatly appreciates the valuable comments and suggestions of the anonymous reviewers and the support of the editors.

Funding Open access funding provided by Università degli Studi di Palermo within the CRUI-CARE Agreement.

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References

- AA, V. 1986. Intonaci, colore e coloriture nell'edilizia storica. *Bollettino d'Arte* 35–36(I–II).
- AA, V. 1988. Il colore nell'architettura italiana: ricerche e restauri. *Bollettino d'Arte* 47–48(IV).
- Alexander, C. 1965. A city is not a tree. *Architectural Forum* 122: 58–62.
- Alexander, C. 1979. *The Timeless Way of Building*. New York: Oxford University Press.
- Alexander, C. 2002. *The Nature of Order*. Berkeley, CA: Center for Environmental Structure.
- Alexander, C. 2004. *The Nature of Order. The Luminous Ground*. Berkeley: Center for Environmental Structure.
- Alexander, C. 2012. *The Battle for the Life and Beauty of the Earth: A Struggle between Two World-Systems*. Oxford: Oxford University Press.
- Alexander, C., S. Ishikawa, and M. Silverstein. 1977. *Pattern Language: Towns, Building, Construction*. Oxford: Oxford University Press.
- Arnheim, R. 1954. *Art and Visual Perception: A Psychology of The Creative Eye*. Berkeley: University of California Press.
- Badami, A.A. 2018a. Architectural Representation: a Tool for Urban Regeneration. The Colour Plan of Egadi Islands. In *World Heritage and Knowledge, Representation | Restoration | Redesign | Resilience*, ed. C. Gambardella, 573–582. Roma: Gangemi International.
- Badami, A.A. 2018b. The Colour Plan of Egadi Islands. *Dwelling on Earth* 46–47: 56–59.
- Baldi, P. 1984. Il restauro, il colore e la normativa urbanistica. *Bollettino d'Arte* 6.
- Bini, M. 1994. Colore e ambiente. In *I Componenti del Paesaggio Urbano. Colore*, ed. M. Balzani. Maggioni: Rimini.
- Birren, F. 1969. *Light, Color & Environment*. New York: Van Nostrand Reinhold Company.
- Biscontin, G., and S. Volpin. 1990. *Scienza e Beni Culturali. Superfici dell'Architettura: Le Finiture*. Padova: Atti del convegno di studi.
- Brino, G. 2009. Italian City Colour Plans (1978–2007). In *Colour for Architecture Today*, ed. T. Porter and B. Mikellides, 30–35. London: Taylor & Francis.
- Brino, G., and F. Rosso. 1980. *Colore e Città. Il Piano del Colore di Torino 1800–1850*. Milano: Idea.
- Cannella, N., and E. Cupolillo. 1996. *Il Piano del Colore. Dipingere la Città. L'esperienza pilota di Torino*. Torino: Umberto Allemandi & C.
- Carbonara, G. 1987. Ancora sul colore di Roma. Note in margine ad un colloquio sul trattamento dei prospetti degli edifici storici. *Studi Romani* XXXV (1–2): 92–103.
- Carbonara, G. 2007. Architettura, restauro e colore. *L'architetto Italiano* 21: 80–86.
- Cardilli, L. 1990. Coloriture e trattamenti degli edifici storici a Roma. *Quaderni di AU*.
- Carmona, M. 2019a. Place value: place quality and its impact on health, social, economic and environmental outcomes. *Journal of Urban Design*. <https://doi.org/10.1080/13574809.2018.1472523>.
- Carmona, M. 2019b. Principles for public space design, planning to do better. *URBAN DESIGN International*. <https://doi.org/10.1057/s41289-018-0070-3>.
- Carmona, M. 2021. *Public Places Urban Spaces. The Dimensions of Urban Design. ebook*, 3rd ed. New York: Routledge.
- Cerri, M. 1984. Il colore a Torino tra Seicento ed Ottocento: una esperienza di metodo sul 'Nuovo Piano Regolatore del Colore.' *Bollettino d'Arte* 6.
- Cullen, G. 1961. *Townscape*. London: Architectural Press.
- Dovey, K., and E. Pafka. 2016. The science of urban design? *URBAN DESIGN International* 21 (1): 1–10. <https://doi.org/10.1057/udi.2015.28>.
- Falzone, P. 2008. *Colore Architettura Ambiente. Esiti, Problematiche, Conoscenza, Conservazione e Progetto delle Finiture Dipinte e del Colore, nella Città Storica e nella Città Moderna, in Italia e in Europa*. Roma: Kappa.
- Falzone, P., et al. 2001. *Il Progetto del Colore*. Genova: Erga.
- Galletti, M. 2008. Recupero e restauro delle superfici decorate e dipinte. Il nuovo aspetto teorico e normativo della tutela. In *Colore Architettura Ambiente. Esiti, Problematiche, Conoscenza, Conservazione e Progetto delle Finiture Dipinte e del Colore, nella Città Storica e nella Città Moderna, in Italia e in Europa*, ed. P. Falzone, 310–312. Kappa: Roma.
- Geddes, P. 1915. *Cities in Evolution. An Introduction to the Town Planning Movement and the Study of Civics*. London: Williams & Norgate.
- Gehl, J. 1996. *Life Between Buildings: Using Public Space*. Copenhagen: Arkitektens Forlag.
- Guarrasi, V. 1990. Le forme della pietra. In *Le Forme del Lavoro. Mestieri Tradizionali in Sicilia*, ed. A. Buttitta. Flaccovio: Palermo.
- Jacobs, Allan, and D. Appleyard. 1987a. Toward an Urban Design Manifesto. *Journal of the American Planning Association*. <https://doi.org/10.1080/01944368708976642>.
- Jacobs, A., and D. Appleyard. 1987b. Towards an Urban Design Manifesto: A Prologue. *Journal of the American Planning Association* 53 (1): 112–120.
- Jacobs, J. 1961. *The Death and Life of Great American Cities*. New York: Random House.
- Kellert, S.R. 2005. *Building for Life. Designing and Understanding the Human-Nature Connection*. Washington: Island Press.
- Kellert, S.R., and E.O. Wilson. 1995. *The Biophilia Hypothesis*. Washington: Island Press.
- Kepes, G. 1944. *Language of Vision*. Chicago: Paul Theobald.
- La Rocca, T. 1995. *Gli Indistinti Confini*. Palermo: Medina.
- Lavedan, P. 1936. *Géographie Des Villes*. Paris: Gallimard.
- Lenclos, J.-P. 1976. Living in Colour. In *Colour for Architecture*, ed. T. Porter and B. Mikellides. London: Cassel & Collier Macmillan Publishers.
- Lenclos, J.-P., and D. Lenclos. 2004. *Colors of the World: The Geography of Color*. New York: W. W. Norton & Company.
- Lentini, R. 2011. Favignana: il "calatu" dei "prirriaturi." In *Favignana tra Mare e Terra*, ed. M. Modica, 9–14. Fondazione Ignazio Buttitta: Palermo.
- Lynch, K. 1960. *The Image of the City*. Cambridge: MIT Press.
- MacHarg, I.L. 1969. *Design with Nature*. New York: The Natural History Press.
- McCarter, R. 2013. *Louis I Kahn*. Paris: Phaidon.
- Mumford, L. 1938. *The Culture of Cities*. London: Seker and Warburg.
- Norberg-Schulz, C. 1980. *Genius Loci: Towards a Phenomenology of Architecture*. Rizzoli. <https://books.google.it/books?id=FIYkAQAAMAAJ>.
- Park, R.E., E.W. Burgess, and R.D. McKenzie. 1925. *The City*. Chicago: University of Chicago Press.
- Pinder, D. 2021. "You've got to get out and walk": Re-imagining and Re-making Urban Planning on Foot. In *Mprovisasjon: Byliv*



- Mellom Plan Og Planløshet*, ed. J. Pløger, A. Førde, and A.L. Sand, 191–210. Oslo: Scandinavian Academic Press.
- Porter, T., and B. Mikellides. 1976. *Colour for Architecture*. London: Cassell & Collier Macmillan Publishers.
- Porter, T., and B. Mikellides. 2015. *Colour for Architecture Today*, 2nd ed. London: Taylor & Francis.
- Rapoport, A. 1969. *House Form and Culture*. Englewood Cliffs, NJ: Prentice-Hall.
- Secchi, B. 1993. Per un'urbanistica di spazi aperti. In *Casabella*, 597–598.
- Shaftoe, H. 2008. *Convivial Urban Spaces*. New York: Taylor & Francis.
- Spagnesi, G. 1988. *Il Colore della Città*. Roma: Treccani.
- Weber, M. 1958. *The City*. Illinois: Glencoe Free Press.
- Wirth, L. 1938. Urbanism as a Way of Life. *The American Journal of Sociology* 44 (1): 1–24.
- Wolfe, C.R. 2016. *Seeing the Better City*. Washington, DC: Island Press/Center for Resource Economics. <https://doi.org/10.5822/978-1-61091-776-6>.
- Wolff, K.H. 1950. *The Sociology of Georg Simmel*. Illinois: Free Press.

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