



Design Through Body Memory for the Regeneration of Urban Areas

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Abstract. This contribution stems from a reflection developed in a field that lies between interior architecture and psychology and will touch on the relationship between memory on the one hand and perception, sensory experience, creativity, and the relationship between people and inhabited spaces on the other. Special attention will be devoted to the role of design in urban regeneration and its dialogue with the historic city. Lazzaretto Nuovo in Venice will be presented as a case study on which rearrangement concepts will be proposed, in the perspective of its possible reinterpretation through interior and spatial design.

Keywords: Memory · Body · City · Perception · Creativity

1 Introduction

In the cities of developed countries, where improved living conditions have led to a progressively ageing population, the worrying spread of dementia is associated to the loss of memory, a fundamental dimension of individual and community identity. Incredible as it may seem, observations carried out on Alzheimer's patients, who are unable to recognise their nearest and dearest, show how the musical memory that has accompanied their lives is safeguarded, thus enabling them to express their emotional and psychic state [1].

According to Bachelard [2], our development is strongly influenced by experiencing places, which produces values and attitudes toward the world and creates a close cultural connection, which is biologically based and geographically “embedded” [3]. This connection allows us to perceive a space as rich of meaning and to recognize it as a place [4]. Through our body, by physical actions or manipulations, by capturing the tactile characteristics of objects and architectures, we make sense of things. Actually, we are influenced by our surroundings on a physical basis even before we consciously enter into sense-making processes, which is the basis of *affective engagement* [5].

In the space of the contemporary city, where the boundaries between reuse and new construction are becoming increasingly blurred, architectural and interior design projects should weave a constant dialogue between past, present and future, focussing on the relational aspects of space and preserving the links with places [6]. The recovery of

urban areas should start from a design capable of pursuing a physical and psychological re-appropriation of space, extending our environmental commitment to all the sensitive data of our bodily relationship, not only visual, with space.

2 Memory and Reinvention

As we know, three quarters of Europe's population is concentrated in cities and by 2050 it is expected that more than 70% of the world's population will live in urban settings [7]. Living in a city activates a circular process: while the built environment influences the mental states of the inhabitants, reciprocally, the mental states of inhabitants affect the characteristics of spaces, both private and public. In the past two years, the rise of psychological disorders such as anxiety, panic, and boredom have become particularly acute because of the lockdown due to the pandemic [8]. Therefore, in national and European institutional policy agendas [9], safeguarding physical and mental well-being has become a top priority.

Through the body, we perceive the landscape of which we are surrounded, and our ecological relationship with the environment influences our well-being and the exercise of our minds [10]. On the other hand, built spaces also relate through memory, mediated through the senses, conveying meanings and atmospheres. The relationship with places thus has a perceptual, physical basis and a mental one; it has both a dimension of present and one of memory. In turn, memory consists of a complex experience involving the physical, emotional and mental levels [11].

Along with perception of climate and geography, nonphysical experiences such as dreaming and memory, fantasies and daydreams inspired by imagination, past and present, contribute to grasping through the body the intimate quality of a place. According to environmental psychology, among the characteristics that generate good emotions are not only light, colour, size or aesthetics, but also relational attributes, which allow us to develop a psychological relationship with space and feel it attractive, rich in stimuli, and capable of telling something new about the environment and ourselves.

A highly developed field of environmental psychology is the study of the effects of nature on our minds and bodies. A great deal of research has shown that exposure to natural landscapes produces positive effects on many levels, from cognitive and emotional development to individual health and resilience to trauma. Spending time in a natural environment or exposed to greenery would provide protection against a surprising range of illnesses through enhanced immune system functioning.

Another explanation of how this positive effect is generated involves the concept of fascination. The regeneration theory of attention considers that, in daily life, the attentional resource that we must continually employ toward activities that would not spontaneously attract us is not unlimited and tends to be depleted. This has a negative impact on some of the most important mental activities, such as problem solving, concentration and development of behavioral strategies. To activate resources that prevent these negative effects, fascination comes into play, that is, involuntary attention that requires no cognitive effort and is guided directly by the pleasantness of environmental stimuli or by leisure or autotelic activities [12].

Dwelling on the concept of fascination, i.e., effortless attention, we hypothesize that not only natural landscapes, but also historical artifacts rich in stratified memory, which are often decayed, abandoned, frayed, can promote reconnection with ancestral feelings, arouse strong emotional involvement and produce a state of psychophysical well-being [13].

Human creativity, which includes representation as a direct consequence of perception, cannot disregard memory; it is always an activity of reinvention in which the present is not “caused” by the past according to a linear logic, but rather is influenced in an equally decisive way by the future, in the form of emotions, values and projects that attract and orient us [14; 15]. Our nervous system is made to be constantly active and productive; a characteristic of human consciousness is what Bergson calls the “urgency of creation”, which is also the basis of knowledge: “one can only know and understand what one can to some extent re-invent” [16]. This concept also applies directly to the dimension of dwelling, that is, the main relationship between people and space, which as such has ancestral origins. Dwelling begins with the possibility of re-inventing, even transiently, a portion of space [17].

Memory is also involved in our perception of space, which is characterised by simultaneity and the consistency of all its parts. In the perception of a large visual field, the parts of the space are progressively learnt as it is traversed by our receptors and the memory gives the newly identified elements a spatial meaning in relation to those already perceived [18,19].

3 Place and Memory: The *Lazzaretto Nuovo* in Venice

The recent epidemic, that has so profoundly affected our behaviour, has led us to investigate the existing relationship between space and collective memory, through reinterpreting the personal and social aspects of a physical example that originated in the past as a product of needs for protection and public hygiene that are also our own.

The focus was on one of the most significant structures conforming the city of Venice, that of *Lazzaretto Nuovo*. Built through a long and articulated process, at the end of the 18th century, the *Lazzaretto Nuovo* lost its primary function as a sanitary institution and at the beginning of the 19th century was destined for exclusively military purposes; in 1975 it passed under state protection and finally to the private sector. Within the perimeter of this ancient complex there are two 16th-century gunpowder stores, one of which is used as a Library, the impressive *Tezon Grande*, a building of about 2,000 square meters originally used for the purging of suspicious merchandise and presently devoted to permanent and temporary exhibitions, and the original delimitation of the ancient boundary wall, partially reconstructed in the 19th century (Fig. 1).

3.1 Research Objectives

Within the current architecture of *Lazzaretto Nuovo*, a study has been carried out, trying to highlight the aspects that have defined its physical and functional image both in the past and presently, through the filter of memory, of human presence understood as the corporeity of inhabited space, in the perspective of its possible reinterpretation through spatial design and social reintegration of marginal urban fragmentations.

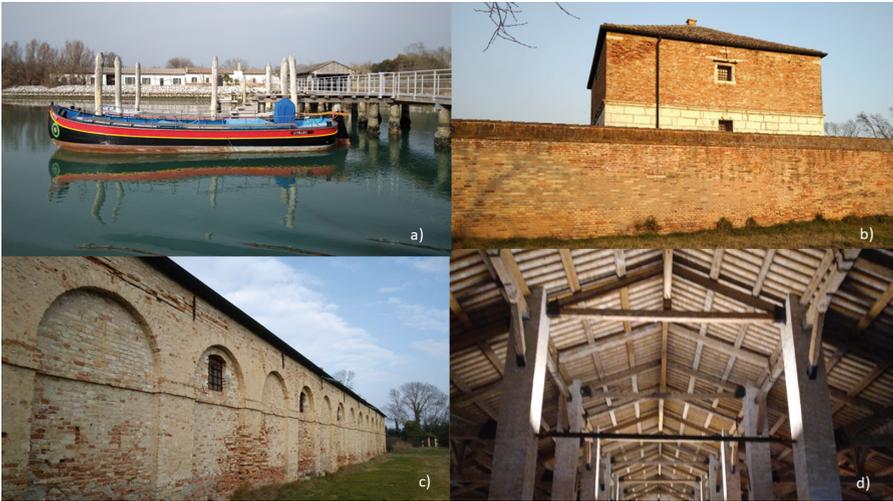


Fig. 1. The Lazzaretto Nuovo Island, a) access pier; b) ancient gunpowder store; c) Tezon Grande, exterior; d) Tezon Grande, interior

3.2 Methodology

Traditional methods were used such as those of historical research and cartographic and iconographic reconstruction of the different developments of the factory. This was followed by various direct approaches through a photographic documentation of the current state, a verification of the geometric survey and a filing of building materials by types and functions.

The aim of the study was to propose a collection of concepts to rearrange the *Tezon Grande* and the other buildings of the complex through a multimedia project that involved the senses through chromatic-perceptual, acoustic and olfactory values. Special attention was also paid to the relationship between the architecture and the natural surroundings, such as the characteristic *Sentiero delle Barene* and salt marshes, unique lagoon ecosystems.

3.3 Results

In the Lazzaretto Nuovo Island, which is characterized by a strong relationship with the natural environments and gives an unusual image of the city of Venice, out of the main touristic routes, three different concentric areas were identified, corresponding to the path for walking the island itself.

The first outer ring coincides with the *Sentiero delle Barene*, a 1 km long sandbank path immersed in the nature lagoon, which can be seen capable of expressing the theme of a mental as well as a physical travel. The unique territory of the Venice lagoon suggests enhancing a very subjective dimension for experiencing time and space. Slender structures that dialogue with the surrounding vegetation can allow to enjoy the open space, breaking the pattern of the traditional nature trail and still preserving a highly instinctive experience (Fig. 2a).

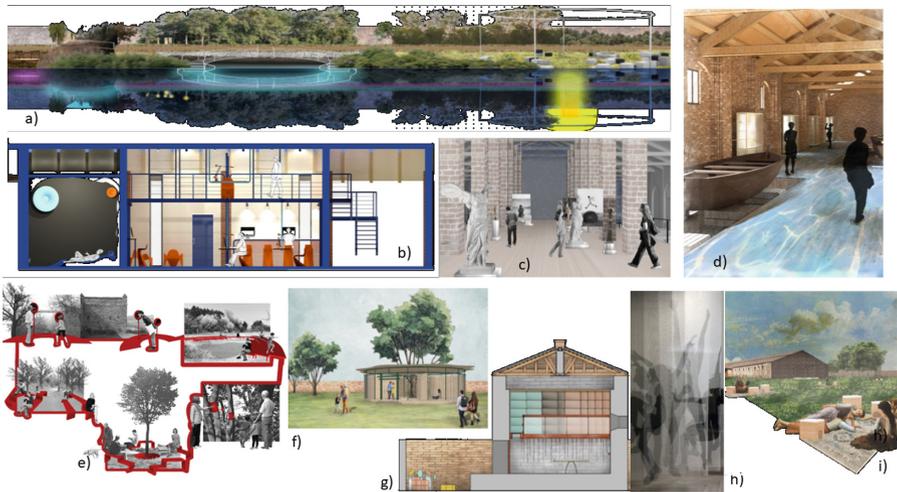


Fig. 2. Lazzaretto Nuovo Island, collection of exhibit design concepts (Drawings by Agostini Perrone M., Andreoli S., Arrichetta S., Bertozzi B., Bosello G., Brignoli M., Brusaferrri M., Cassano S., Cattaneo E., Ceccaroni S., Cester A., Chieppa S., Cianci M., Citella G., Cosentino F., Cozza P., Creanza C., D’Alessi S. G., D’Assisi G., De Angelis G., Dell’Erba M., El Mehdi S., Federici G., Forino F., Galeppi S., Gori S., Jeong E., Macciò F., Maiocchi A., Manzoni F., Marchetti V., Mavilla C., Mirarchi M. A., Motta A., Nocerino A., Oliveto F., Pace M., Panizzi A., Pedretti G., Pellini A., Perra A., Rasella M., Romano C., Ruffo S., Sattolo G., Sconza G., Semeraro P., Stahl N., Tomasotti L., Varuolo R., Vezzoli E., Viscardi J.)

Body can become the link through which the island is known both on the surface and in depth, discovering its history and its past. Different installations can suggest actions which invite users to get closer to the different facets composing the island. The elements are designed in sustainable materials obtained from plastic waste coming from the ocean or local brambles after a recovery process (Fig. 2e).

With the idea of giving voice to nature, away from the main Venetian canals, an experience was imagined which does not interfere with what lives on the island, but adds to it, taking the form of small theriomorphic beings. A key part of the trail is the *Laguna Living Lab*, a space that introduces to the island and is dedicated to a lofted work area, with equipment and archives for workers and scholars and to an immersive space for video projections (Fig. 2b).

The second inner area is included within the boundary wall and is occupied by a garden characterized by the presence of ancient trees, archaeological remains and two 16th-century gunpowder stores. According to the Japanese philosophy discussed in Jun’ichirō Tanizaki’s (1886–1965) *In Praise of Shadows* [20], an environment so much acquires value and beauty as it shows the signs of time and lets its past shine through imperfections. This approach characterized a concept aimed to highlight, aesthetically and functionally, the environment of the Lazzaretto for its historical importance, based on a careful analysis of its climatic and spatial components, on non-invasive interventions, temporary structures, recyclable materials. The materials chosen – oak, larch, fir wood and rope – were selected for their high resistance to moisture, wear and tear. In

addition, all materials are available locally and can be reused by small, historic venetians cooperatives of artisans who, culturally, are involved in the recovery of nautical ropes and wood from the Venice canals (Fig. 2f).

The recognition of a dual nature in the city of Venice, where there is a city above the water level, and a veritable forest of pillars fossilized by the effect of the sea below it, led to imagine the water level as a filter between the elegance of the facades and the strength of the foundations. Reality as it appears to us loses any value, the moment we realize that it is not the same for everyone, and the absolute hides behind a filter (Fig. 2g).

The legends about ghosts and vampires that populated the Island of Lazzaretto Nuovo at the time of the plague epidemic in the 12th century, the magical and esoteric traditions of a mysterious Venice that still survives today have inspired a concept aimed at enhancing the metaphysical atmosphere of the green enclosed within the walls of the Lazzaretto Nuovo. The result is a space that has maintained the *genius loci* and is converted back into a place for exhibition, research, creative and social activities, artistic performances, usable to the widest and most diverse possible audience (Fig. 2i).

The third concentric area corresponds to the *Tezon Grande*, a space historically devoted to the treatment of suspicious merchandise and now place of permanent and temporary exhibitions. The architectural essentiality of Tezon is characterised by an interior space which is totally open, free of partitions: this allows a fluidity in the use of the space, which can be very flexible, letting to maintain a permanent exhibition and to modify the exposition routes as desired, depending on the use, even momentary, and the design sensation that wants to be conveyed.

The *Tezon Grande* is the heart of the place; it symbolizes the human intervention in the island and stands out as a built element in contrast to the nature around. This is the arrival point, the destination of the visitor who gets off from the boat and experience the place by walking from the *Sentiero delle Barene* through the Garden, to the gates of the building. Crossing its threshold, visitors are transported elsewhere, to a dimension apart, independent and undefined. Atmosphere, temperature, exposure to light, humidity, acoustic perception, materials: everything changes with respect to the outside.

The *Tezon* was historically a place of transit, which locked the hosts in a physical and indefinite temporal dimension, in the hope of being readmitted to life in the city. With the aim of proposing an experience of journey and transition, a place where certainties fall and nothing is static and defined, a concept was characterized by a semi-dark inner atmosphere where the visit is guided by lights, sounds and transparencies (Fig. 2h).

The idea of creating a set that can host a series of events, exhibitions and temporary installations that could range from more classical art forms, such as painting and sculpture, to some more modern ones, namely audio-visual projection shows, led to conceive special display cases and panels that can be used in different ways (Fig. 2c).

Two coexisting exhibitions can be displayed in the *Tezon* that, in different ways, lead the visitors to perceive the flow of water. The space is fluid, adaptable and immersive, but at the same time essential and primitive, in order to preserve and enhance the history and the intrinsic character of the structure. Two exhibitions are placed along the first two aisles, leaving the third to a multipurpose space: the permanent exhibition houses the artifacts that are already on the site, including boats, amphorae and other small objects.

At the end of the path, a relaxation zone allows to watch different projections and have the sensation of being underwater (Fig. 2d).

4 Role of Design

In a historic phase characterized by an ecological crisis, reflections on the anthropic and cultural values of Lazzaretto Nuovo takes a particular relevance, since the island can be seen as a paradigm of Venice and its relationship with nature; in turn Venice, echoing Settis' well-known essay *If Venice Dies* [21], can be seen as a paradigm of the historic city, and the latter as a paradigm of the future of the planet. At present the cities, and Venice is no exception, appear as uninterrupted systems of interior spaces available to a continuous renewal of functions and image, where the difference between interior and exterior spaces is less and less obvious [22]. According to Crespi [23], our century is fated to measure itself against temporariness and precariousness, also in terms of aesthetic practices. Having ceased their cycle of expansion over the territory, cities have moved into an intensified use of the existing architectural heritage, and a new functional interpretation of urban voids (streets, squares and parks) [22].

Both as a practice that can match the needs due to climate change and energy shortage and as an evolutive strategy that human culture has always adopted to understand reality, reuse is being progressively re-discovered [24]. Within an eco-systemic perspective, reuse can be considered a sustainable approach to design, an opportunity to exploit the potential of existing buildings and a tool to take care of people and the planet (avoiding land consumption). A strategy that we all apply in our daily lives, and which belongs to the project tradition in architecture, design, art, cinema, literature and music - the re-contextualisation and re-functionalisation of pre-existing elements to create something that was not there before is practically the history of 20th century music [25]. What Crespi denominates "design of the unfinished", involves the use of a figurative language which goes beyond the simple re-purposing of space and is representative of the reinvention of its memory content.

Considering natural and built environment as a unique ecosystem, characterized by complex relationships that develop at different levels and involve individuals and communities in a multi-sensory experience, design culture could promote an innovative view which use body memory as a knowledge process, pursuing a dialogue with the *genius loci*, enhancing the symbolic significance of places. A new frontier in interior design is to take advantage of historical structures dense of stratified memory, often characterized by decayed surfaces, frayed spaces rich of tactile qualities, to boost temporary functions, organised through reversible devices adapted to rapid changes of use, whose quality can promote reconnection with ancestral feelings, arouse strong emotional involvement and become a driver of urban requalification.

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