TIME-BASED DESIGN PARADIGMS

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edited by Anna Barbara, Silvia Maria Gramegna

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Introduction

by Anna Barbara, Silvia Maria Gramegna

The digital revolution that has taken place in the last 20 years is a revolution of time, which for the first time not only compresses and dilates space (as happened in previous revolutions related to mobility), but also bends it, allowing people to multi-presence, simultaneity, ubiquity. Above all, this multi-temporal dimension allows physical and digital spaces to be reformulated and made to interfere with each other.

The disciplines of design have been overwhelmed because this means admitting that most of the buildings we live in, are inadequate because they are oversized or underestimated. It is therefore an epochal moment in which to analyze and experiment with the potential that time allows for spaces, both in their forms and in their dimensions, qualities, performances.

The 21st century is the era of temporal revolution in design, architecture, transportation, but also in the memory of places.

The relationships between spaces and bodies also change, and the sense of 'place' itself is modified. Time has an impact on the ways of crossing, on the ways of being, on speeds, on distances and proximities. It changes the relationship between the memory we have with places, as well as the perspective of duration of the artifacts that decorate our spaces.

The ongoing digital revolution and the recent pandemic have shown that the temporal dimension of spaces is a horizon that has yet to be strongly explored. In the future it is increasingly likely that it will be the forms of time, rather than those of space, that will undergo the most interesting innovations and transformations.

Within this theoretical framework, the book explores the strong and mutual relationship intercurrent between time and the design of spaces. In particular, the authors investigate which forms of time will increasingly impact spaces: those of memory, of the everyday, of the extraordinary, of the future, of terrestrial and astronomical spaces, etc.

Moreover, the various chapters explore the concept of time through different perspectives and meanings: as measurements, adaptations/compositions, memories, machines and technologies, identities, narratives, sensitivities in an increasingly globalized and wrapped world.

The book begins with an overview by Postell, Borella, Mangiarotti, Scullica and Veronese on domestic spaces and its etymology, combined with an introduction of furnished spaces (focusing on European scenarios from Modernism to the post-pandemic present) and their human dimension. In fact, the first chapter explores the systemic relationships existing between furniture and domestic spaces, understanding furnished domestic space as identifiers of time and place. Societal values, human dimensions and design pillars are intertwined, and clearly identify how components like different uses, ways of living, proxemics, behaviors, multifunctionality and ethics are capable of shaping spaces, along with time.

In a similar direction, the experience gained during the recent pandemic, has brought new needs and new stimuli to re-question the ways of living in the domestic space. In particular, the compulsory stay-at-home condition that people experienced all over the world, led to a super-use of interiors, considering home as a place where 'to stay' instead of 'stationing'. Accordingly, Camocini and Gramegna, in the second chapter, try to interpret these fragmented, spontaneous, and temporary spatial interventions as elements of a broader process of rethinking the domestic environment towards the fulfillment of well-

being and performing demands, according to a new interpretation of time, as dense, virtual, and prolonged.

Furthermore, Barbara explores the role of senses and time, as key ingredients in the architectural design of places. In fact, spaces are not inanimate volumes fixed in time. When we live in a space, we stay with all the senses and we experience many times, not just the present. As designers, Barbara suggests that we have to learn how to analyze, to map and to design with time, reshaping the forms and writing systems of notation to describe the experiences, the rhythms, the duration of human experiences in the spaces. Accordingly, the author suggests designing new measurements tools, called chronotopes, to help designers to represent and express the qualities of time and spaces.

The concept of time and spaces could be addressed from different points of view. Accordingly, Yelavich explores the perspective of design studies and narratives. In her chapter, she proposes a reflection through the introduction of different narratives which offer a way of thinking about design that doesn't segregate the instrumental and the theoretical. Instead, such works synthesize the quotidian and the poetic yielding a wider tributary in the thought of things and places. Design's multifarious entanglements are examined within different temporalities and within three broad understandings of time: as deep, as immediate, as yet-to-be.

Moreover, Varanasi, in her chapter, explores deeply the concept of time, and how it shapes and characterizes the spaces we live, according to different behavioral patterns. In fact, time encounters different expressions to denote it, or to describe its passing. According to Varanasi, time has a cyclic nature, and it is strictly connected to habitat, food, and clothing which represent us as human beings, who react and create these fundamental constructs and narratives, which then define the 'culture', 'religion' and day to day lives.
Human beings design their lives in many ways, their daily routines are guided by 'time'; and their longer terms goals have a time frame. Varanasi suggests that architects and designers are constantly anticipating how others behave, how others will react and behave in

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the spaces they design; how other factors like the culture, festivities, climate, and context determine the outcomes. In her chapter, the author explores this continuous and beautiful interconnectivity, between time, culture and spaces.

In the sixth chapter Annalisa Dominoni explores the field of space architecture, in particular the physical environment of the ISS. The author proposes a perceptive and cultural 'shift' that presents the ISS as a time machine, in which the perception of space and time is altered by different conditions, including confinement and microgravity. In fact, time is a fundamental dimension of everyday life, that we cannot see, but that we can unequivocally perceive, and adapt our behaviour accordingly. In the particular context of the ISS, the role of design is to 'mitigate' the effects of the extraordinary environment lived in Space trying to enhance a condition of balance and increased well-being.

Lastly, Di Sabatino and Mastrantoni explore issues surrounding 'time' and 'time-based' design, analyzing how the concept of time and place, meant as presence, coexist and influence each other. This chapter proposes an excursus through various critical theories of place- and time-based design through the writings from selected seminal texts. These themes range from larger scale, broad-based issues, such as the relationships amongst the past, present and future to more specific, smaller scale aspects with the inclusions of topics pertaining to presence, memory, meaning, experience, storytelling, narration, movement, and ritual. Moreover, they are visually articulated through focused design work exploring the various themes and a specific location. Murano serves as a sort of ideal case study location for this exploration, which includes its physical properties, inhabitants, visitors, and its various tangible, quantitative aspects. This case shows how time can be made more plastic and elastic with a progressive approach to the possible continuum of past, present and future time.

7. Tradition and modernity / place and time
The island of Murano: past–present–future

by Peter A. Di Sabatino, Claudia Mastrantoni
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Thing, order, character, light and time are the basic categories of concrete natural understanding. Whereas thing and order are spatial… character and light refer to the general atmosphere of a place… Time, finally, is the dimension of constancy and change, and makes space and character parts of the living reality, which at any moment is given as a particular place, as a *genius loci*.

Genius Loci is a Roman concept. According to the ancient Roman belief every "independent" being has its *genius*, its guardian spirit. This spirit gives life to people and places…

(Norberg-Schulz, 1980, pp. 32, 18)

We have an innate capacity for remembering and imagining places. Perception, memory and imagination are in constant interaction; the domain of presence fuses into images of memory and fantasy. We keep constructing an immense city of evocation and remembrance, and all the cities we have visited are precincts in this metropolis of the mind.

(Pallasmaa, 2005, pp. 67-68)

… the city is a construction in space, but one of vast scale, a thing perceived only in the course of long spans of time. City design is therefore a temporal art… At every instant, there is more than the eye can see, more than the ear can hear, a setting or a view waiting to be explored. Nothing is experienced by itself, but always in relation to its surroundings, the sequences of events leading up to it, the memory of past experiences… Every citizen has had long associations with some part of his city, and his image is soaked in memories and meanings.

(Lynch, 1960, p. 1)

Abstract

This chapter creates a rhythmic weaving of various critical theories of place- and time-based design through the writings from selected seminal texts. These themes range from larger scale, broad-based issues, such as the relationships amongst the past, present and future to more specific, smaller scale aspects with the inclusions of topics pertaining to presence, memory, meaning, experience, storytelling, narration, movement, and ritual. More explicit themes, such as layering and sequencing, are developed in the text. Importantly, they are visually articulated through focused design work exploring the various themes and a specific location. Time, movement, and change manifest in many rich and associative manners... including how relationships amongst existing and new places, people, and things may co-exist and change over time.

This focused weaving, with a bias towards time-based references, gets further woven into a specific place: Murano, Italy. Murano serves as a sort of ideal case study location for this exploration. And it exhibits strongly that perhaps place and time manifest with the most resonance in the city and in nature, and that perhaps the most 'natural city' is an island-city. Also, the past, present, and future of Murano, including its fame and dependence in glass making and creativity, is explored, and design proposals are included to communicate opportunities of place- and time-based research and design. This work shows how time can be made more plastic and elastic with a progressive approach to the possible continuum of past, present and future time. This theoretical, locational, cultural, social, economic and ecological 'starter-yeast' that combines with the themes of place, time and presence has been research, explored, and transformed into design work on the island of Murano. The design work and the images produced, therefore, inherently merge Murano with these themes and with other important intentions. They manifest the *ideas and paradigms* into tangible, visual expressions and articulated examples; and they show how design can be transformative. The design work looks towards the future, while being steeped in the present and past. This work merges urban, spatial, interior, landscape, graphic, product, and system/service design.

Lastly, the chapter briefly touches upon issues surrounding the relationship between design and research. It includes the basic paradigm positioning "design as research and research as design" in and beyond the academy. It calls attention to the importance of words *and* images. And it tries to advance the widely accepted position that research, scholarship, and creative work are fluid, interchangeable, and integrated entities… or that scholarship is both research and creative work.

7.1 Introduction and methodology

Place and time are the focus of this book, and also of this chapter. To realize greater consistency and coherency, the chapter will bias towards issues surrounding 'time' and 'time-based' design, but place, presence, and other themes and issues will hardly be ignored.

Immediate prior work is intimately linked with this chapter and its work. That work and other past explorations and experiences serve as initial steps in the development of this body of investigation and work… as this chapter will serve as the next steps for future work.

Time is always with us. The focus is on time, place, and presence. Key voices, or perhaps key players (as if in a story plot, orchestra, or team), include significant authors and seminal publications. The authors include T. S. Eliot, Christian Norberg-Schulz, Kevin Lynch, Robert Venturi, Colin Rowe, and Juhani Pallasmaa. These historians and critics contribute to establish and articulate some of the ideas and themes of a "time-based design paradigm", and hence bring a critical facet to the over-arching, meta-plot, and put into play the relationships of the other key voices. The voices, and influences, of Italo Calvino, Antoine De Saint-Exupery and others offer qualitative additions of tone, depth and breath, and speak directly to a narrative sense of relationships and rites.

The second key voice or player is Murano, Italy. This, of course, includes it physical properties, inhabitants, visitors, and its various tangible, quantitative aspects. Murano's qualitative and intangible heritage are equally important, including the histories, stories, and rituals of its people, objects, and places found, often latently, in its rich past, present, and future states. Murano's contribution of providing an

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explicit and specific context into this investigation and exploration is critical. Additionally, the future of Murano, including its long-standing position with glass and glass making, creativity and innovation, is explored. Its future is not so clear and predictable; and it seems that Murano can no longer simply rest or rely on its past.

While this falls within the general condition of towns currently facing declines in populations, economic activity, and overall sustainability, the particular historical and current conditions in Murano are specific, evocative, and palpable. Murano, as an island and historic center of creative production, where water and tides intersect work and play, serves as a perfect 'case study' location and typology in many ways.

The third key voice or player is the design and research work that is presented periodically through the text, and especially through the embedded images of the design work. The images contribute a particular voice and focused attention. They collectively share the individual acts of exploration, analysis, and synthesis of the themes, and of the design work within the *common* location of Murano. They provide a focused common point of reference and greater coherency.

Maybe they are a sort of visual anchor… or they provide visual markings, and a rhythmic beat for the chapter. They visually contribute to the investigation of the chapter, and towards a greater understanding and representation of how place, time, and presence may interact and become tangible. The design work was realized in a final graduate studio of the Interior and Spatial Design Master's degree program at Politecnico di Milano. Historical and present conditions were researched and explored (including direct, primary source research and experiences via site visits, interactions with glass foundry owners, workers, and the citizens), leading to particular proposals to stabilize and reverse declining trends, and enhance positive opportunities. This work was done analytical and creative work engaging various scales, processes, and typologies.

This included urban master planning at the larger scale, and specifically developed interventions at medium and smaller scales. At times, explicit 'touchpoints' were developed in a more comprehensive, rhythmic and tangible systems approach. New products were developed, along with new mobility and urban approaches. The work was inter- and trans-disciplinary, and included

urban, spatial, interior, landscape, graphic, product, system/service and environment/experience design. Ideas, strategies, and plans to create a more sustainable, progressive, open, and resilient Murano – and a future with creativity, innovation, entrepreneurship, well-being, and community at its core – were explored and manifested through the foundation of place – and time-based design.

However and importantly, this chapter's focus is not on that studio, nor teaching or education. The choice to use this work, rather than selections from established architects, designers, and artists is intentional, as stated above, and shall be touch upon through the development of the chapter, and within the final comments. And the final key voice or player is the co-authors of the chapter, acting as the collectors, conductors, and provocateurs that reveal and synthesize the voices and various elements.

They provide a degree of critical overview and coherency. Seeing, selecting, sequencing, applying hierarchy and volume are fundamental and transversal creative and critical acts. Perhaps like time itself, and certain approaches to time-based design, the chapter seeks a sort of sense of simultaneity and multiplicities, or of what might touch upon polyphonic and contrapuntal theories in music… a kind of nascent, polyphonic writing perhaps.

But, like the authors' voice, this is not the focus and is not incorporated heavily. T.S. Eliot calls for this sort of creative abstraction in authorship when developing the theme of the removal of the self (of the individual), and the importance of the focus on the work, when he writes:

> What happens is a continual surrender of himself as he is at the moment to something which is more valuable.
> There remains to define this process of depersonalization and its relation to the sense of tradition. It is in this depersonalization that art may be said to approach the condition of science. I, therefore, invite you to consider, as a suggestive analogy, the action which takes place when a bit of finely filiated platinum is introduced into a chamber containing oxygen and sulphur dioxide.

The analogy was that of the catalyst. When the two gases previously mentioned are mixed in the presence of a filament of platinum, they form sulphurous acid. This combination takes place only if the platinum is present; nevertheless, the newly formed acid contains no trace of platinum, and the platinum itself is apparently unaffected; has remained inert, neutral, and unchanged. The mind of the poet is the shred of platinum. The emotion of art is impersonal. And the poet cannot reach this impersonality without surrendering himself wholly to the work to be done. And he is not likely to know what is to be done unless he lives in what is not merely the present, but the present moment of the past, unless he is conscious, not of what is dead, but of what is already living (Eliot, 1989, pp. 52, 54, 59).

The writing of the chapter tries to express and fully integrate these voices or players, interweaving them while trying to link their specific facets or contributions into a greater, collective whole and synthesis. Additionally, this chapter tries to move beyond time-based design paradigms, or ideas about time-based design, through the inclusion of design work that articulates or manifests time and time-based design in direct, palpable, and provocative ways.

In the Book of Tea, Kakuzo Okakura gives a settled description of the multi-sensory imagery evoked by the simple situation of the tea ceremony… In Okakura's description the present and absence, the near and the distance, the sensed and the imagined fused together. The body is not a mere physical entity; it is enriched by both memory and dream, past and future (Pallasmaa, 2005, p. 45).

7.2 Tradition and modernity + place and time

As an artist I frankly write about what I like in architecture: complexity and contradiction. From what we find we like − what we are easily attracted to − we can learn much of what we really are. Louis Kahn has referred to "what a thing wants to be", but implicit in this statement is its opposite: what the architect wants the thing to be. In the tension and balance between these two lines many of the architect's decisions (Venturi, 1966, p. 14).

A bipolar diagram, expressing the spectrum of positions regarding the continuity and development, or the fracture and rejection, of 'tradition' or 'modernity' represents a fundamental sense of time, place, and attitude. To place one's self in this spectrum, it is required to take a critical position, or at least an attitudinal approach,

concerning the relationships towards time in general, and specifically on the type of relationship existing amongst the past, present, and future. This representation of the interplay of history, heritage, tradition, modernity, transformation, innovation, and invention may embody of one of the essential creative paradigms, and one of the meta positions regarding the possible fluidity, interchange, and overlap of time, or of its confinement and segregation. The question of where each artist and designer positions himself or herself in this spectrum is fundamental. This fundamental issue of time and positioning is addressed in T. S. Eliot's seminal essay entitled *Tradition and the Individual Talent*, especially in his writings concerning the 'historical sense':

> …the historical sense involves a perception, not only of the pastness of the past, but of its presence; the historical sense compels a man to write not merely with his own generation in his bones, but with a feeling that the whole of the literature of Europe from Homer, and within it the whole of the literature of his own country, has a simultaneous existence and composes a simultaneous order. This historical sense, which is a sense of the timeless as well as of the temporal, and of the timeless and of the temporal together, is what makes a writer traditional. And it is at the same time what makes a writer most acutely conscious of his place in time, of his contemporaneity (Eliot, 1989, p. 49).

Eliot continues in the essay to note that to become a part of any discipline, one must become fully versed in that discipline, which is a very core idea of a 'discipline' and of a profession. All of this takes time and great effort, and it is also about a fundamental *understanding* of time. From his point of view, as well as the authors, the apparent domains of past, present and future are not so fixed or completely separated from each other… there are overlaps and interchanges.

> No poet, no artist of any art, has his complete meaning alone. His significance, his appreciation is the appreciation of his relation to the dead poets and artists. You cannot value him alone; you must set him, for contrast and comparison, among the dead… The existing monuments form an ideal order among themselves, which is modified by the introduction of the new (the really new) work of art among them. The existing order is complete before the new work arrives; for order to persist after the supervention of novelty, the whole existing order must be, if ever so slightly, altered; and so the relations, proportions, values of each work of art toward the whole are readjusted; and this is conformity between the old and the new (Eliot, 1922, pp. 49-50).

Equally, it is vitally important to underline quickly and decisively the lack of blind or irrelevant adherence to the past, or to tradition.

With these relationships cutting across time, the relationship must be multidirectional, reciprocal, and open. So, for example, when Le Corbusier makes the Villa Savoye, the order of work (architecture in this case) shifts; the relationships, the positioning, rankings, and hierarchies of significance and contribution to the discipline adapt. And this is a continual phenomenon. The past shifts, and the future readies itself, due to an act in the present. Further, Eliot makes it clear that inappropriate conformity, or blind adherence to tradition and the past, would be a serious misstep for the creative.

> Yet if the only form of tradition, of handing down, consisted in following the ways of the immediate generation before us in a blind or timid adherence to its successes, "tradition" should positively be discouraged.
> …what happens when a new work of art is created is something that happens simultaneously to all the works of art which preceded it. The existing monuments form an ideal order among themselves, which is modified by the introduction of the new (the really new) work of art among them. The existing order is complete before the new work arrives; for order to persist after the supervention of novelty, the whole existing order must be, if ever so slightly, altered; and so the relations, proportions, values of each work of art toward the whole are readjusted; and this is conformity between the old and the new (Eliot, 1922, pp. 48, 50).

This overarching, primary idea of creativity over time, and of an ever-developing disciple and profession – of a body of work, theory and history – is not confined to Eliot. True creative work and significant authorship necessitate integrity and authenticity… as well as great effort needed to truly understand and respect the past, while one lives in the present, with an eye towards the future. This dynamic sense of time and work, and hence of place too, is also acknowledged by Norberg-Schulz:

> To respect to the *genius loci* does not mean to copy old models. It means to determine the identity of the place and to interpret it in ever new ways. Only then we may talk about a *living tradition* which makes change meaningful by relating it to a set of locally founded parameters. We may again remind of Alfred North Whitehead's dictum: "The art of progress is to preserve order amid change and change amid order". A living tradition serves life because it satisfies these words. It does not understand "freedom" as an arbitrary play, but as creative participation (Norberg-Schulz, 1980, p. 182).

To find the genius loci of a place, and then to understand it and work with it takes time and effort. Perhaps this is another reason why design work, and the engagement of its processes and products serve as excellent vehicles for research, as well as creative production.

Design here is a verb, it requires action, and therefore it requires direct and intimate engagement. It is also multisensorial and multivalent.

And, at least for the authors, it is best undertaken with a simultaneity of actions and issues, rather than a simple, linear progression. This complexity of issues, scales, and time allows many paths to open. It brings a dynamic sense of time and place and requires a very strong and sustained presence. Perhaps this liberal attitude towards time and place facilitated the research and design work that follows to also have the possibility to be woven into this chapter as a contributing voice, and in a relevant and revealing way that helps shift attention to more specific aspects and articulations of time and time-based design.

Threads: Co-dependency, co-production, transformation, landscape, natural and artificial systems, parks, gardens, and agriculture, greening, extension, growth, community…

Place and time merge strongly in the design proposal entitled Own Place. The research included first-hand, primary work attained by site visits, and by ongoing efforts to engage the inhabitants of Murano strongly and persistently. These efforts of engagement with the glass factories and the local citizens brought into focus the importance of co-dependencies and interrelationships amongst the furnaces, the community, and nature. The design work exploits the current waste of heat and energy being lost at the furnaces to create new and sustainable greenhouses and other initiatives to benefit Murano and its inhabitants, while also diversifying the business/production opportunities of the furnaces. This, and other designed initiatives located on the underdeveloped Sacca Mattia island, help to bring more nature, parks, and locally grown foods, plants and trees to green all of Murano over time, and to a foster a greater sense of community in Murano. Landscape architecture is inherently about time; it is a time-based discipline and profession. Plants and trees grow, and often transform

seasonally. The effect of the sun and seasons is profound on the landscape, and on people and places in general. More specifically, designed landscapes and gardens may have a built-in programming of natural, 'temporal rhythms'… such as the sequential blooming of flowers, the planned growth and transitions of plants and trees, the seasons of fruits and vegetables, etc.

Light is not only the most general natural phenomenon, but also the less constant. Light conditions change from morning to evening, and during the night darkness fills the world, as light does during the day. Light, thus, is intimately connected with the *temporal rhythms* of nature which form a fifth dimension of understanding. The phenomena which distinguish a natural place cannot be separated from these rhythms… The temporal rhythms obviously do not change the basic elements which constitute a natural place, but in many cases they contribute decisively to its character...

In general we have to emphasize that *all places have character*... To some extent the character of a place is a function of time; it changes with the seasons, the course of the day and the weather...   (Norberg-Schulz, 1980, pp. 14, 32).

Gardens are fundamentally human constructs in close relationships with natural materials and processes. They also make us aware of time, and perhaps our lives, being cyclical rather than simply linear. Natural cycles and rhythms are more noticeable, and a part of our lives. *Own Place* brings these facets into play for the inhabitants at social and community levels in parks and gardens, and at the scale of agricultural production in two ways: of trees and plants to achieve the 'greening' of Murano, and in terms of 'consumption' at new local markets with locally grow produce via new community gardens and larger scaled production.

The weakening of the experience of time in today's environments has devastating mental effects. In the words of the American therapist Gotthard Booth, "nothing gives man fuller satisfaction than participation in processes that supersede the span of individual life". We have a mental need to grasp that we are rooted in the continuity of time, and in the man-made world it is the task of architecture to facilitate this experience. Architecture domesticates limitless space and enables us to inhabit it, but it should likewise domesticate endless time and enable us to inhabit the continuum of time (Pallasmaa, 2005, p. 32).

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Fig. 33 - Factory and greenhouse addition

Fig. 34 - Greenhouse interior

What, then, do we mean with the word "place"? Obviously we mean something more than abstract location. We mean at totality made up of concrete things that have material substance, shape, texture and color. Together these determine an "environmental character", which is the essence of place (Norberg-Schulz, 1980, pp. 6-7).

| first year | 20 years | 50 years |

Fig. 35 - Greening of Murano phasing diagrams

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developement

Different typologies of trees fill the space year by year making it colorful, reach of parfumes, and the clear evidence of the green developement of Murano. A process based on the community which in this specific case is 100 % involved in designing its own enviroment.

Fig. 36 - Community park – greening of Murano + extension of water

Images retrieved from the student's project:
Own Place, a smarter, greener future.
In their abstract they stated: "Own Place is where you feel at home. It is where you are free to be yourself. It is comfortable, welcoming and made by the community. You always take care of it. Own Place Murano gives a new social role to glass companies: cooperating, they will become first actors in the environmental improvement of the island. In the new eco - sustainable Murano, CO2 emissions are reduced, the water is clean, the electrical energy drives boats and the quality of locals' life gets better every year".
Students: Berilsu Cambaz, Aysu Kucuker, Ilaria Odoli, and Sara Valassina.

Threads: Water and landform, island, tides, layering, patina, transformation, new urban typologies, memory…

Murano is a 'true' island still. You cannot arrive to Murano in a car, bus, or train. You can only arrive onto Murano by the water that surrounds and defines it. This is an important and fundamental characteristic of an island. Its disconnection reinforces an essential characteristic, and an overriding sense of it as a place. Norberg-Schulz, like Lynch, highlights the importance of boundaries (edges) in the definition of place; and he writes "In the boundary, thus, character and space come together" (Norberg-Schulz, 1980, p. 15).

Venice, instead, has become more like a peninsula due to its direct connectivity to the mainland of Italy, and the way those 'land-based/bridged' connections are made. One only arrives and leaves Murano via private boat, water taxi, or the public transit 'vaporetti' system. Norberg-Schulz underlines the important of water and landform in the creation of place, especially in the case of an island.

> But water also generates particular kinds of spatial configurations: island, point, promontory, peninsula, bay and fjord, all of which must be counted among the most distinctive natural places. The island thus, is a place *par excellence*, appearing as an "isolated", clearly defined figure. Existentially the island brings us back to the origins; it rises out of the element from which everything was originally born. The word "peninsula" means "almost an island" and thus language expresses an important spatial structure (Norberg-Schulz, 1980, p. 39).

Water, and specifically the tides and increasing sea level changes attributed to climate change, were the most influential elements of the research and design studies for the design project entitled "Fenice". Murano had record setting flooding (second highest reached in recorded history) that was particularly violent and influential. Also,

the new "technological" system called MOSE (Modulo Sperimentale Elettromeccanico) that had been planned to resist increasing high tides and sea levels on the islands in the lagoon was still not functioning after years of construction and ongoing, large financial investments… and it will likely always have its vulnerabilities. Both factors were influential during the timeframe of the design work shown here.

Fenice takes an alternative direction and attitude towards nature. The project investigates, and the images articulate, what would happen if we stopped fighting nature, and allowed nature, and natural systems, to be a core aspect of living, and of design. This manifests in large-scale urban acts and in small details. For example, at the smaller-scale, the ebb and flow of the seawater also manifests itself in a material and visceral sense with the high-water levels becoming traced onto the corten steel at various locations in the project. Therefore, the sense of time and movement is always present and apparent.

This sense and presence of time exists in the built environment, and the degree of that sense and presence may be conscious and controlled depending on the intention, awareness, understanding, and ability of the designer, artist, or architect. Juhani Pallasmaa's speak directly to this opportunity when he writes about materials and their relationships to time.

Natural materials – stone, brick and wood – allow our vision to penetrate their surfaces and enable us to become convinced of the veracity of matter. Natural materials express their age and history, as well as the story of their origins and their history of human use. All matter exists in the continuum of time; the patina of wear adds the enriching experience of time to the materials of construction.

Buildings of this technological age usually deliberately aim at ageless perfection, and they do not incorporate the dimension of time, or the unavoidable and mentally significant processes of aging. This fear of the traces of wear and age is related to our fear of death (Pallasmaa, 2005, pp. 31-32).

The use of the corten steel establishing the traces of the water levels changing over the years and makes time evident in the design project and in the lives of the residents and visitors to Murano. It enriches their experience and understanding of both the specificity of place, and their place in the broader context of life, history, and time.

In English, 'Fenice' translates to 'Phoenix'… the Greek/Egyptian mythical bird that symbolizes rebirth or renewal. In this context, we may say that it represents a new future for Murano, a sort of progressive and transformative renaissance born out of a paradigm shift that seeks continuity with the past, and a new vision and form for the future, while fully informed by the present.

At the urban scale, the decision to work with nature – the fundamental paradigm in history – resulted in the need to re-think the city and the urban experience in Murano. Projected water level increases result in the almost continual submersion of the current ground floor of the island-city. Tidal fluctuations bring increased variations to the presence of water, and the marking of time. This results in the needed transformation of the layers of Murano, and exposes the theme of 'layering' as a principle articulation of time and time-based design. Further, the new, upper Murano, inspired to initially compensate for the 'loss' of what was known as the 'ground floor' – which becomes known as the 'water floor' – takes its urban orientation from the direction of the prevailing winds. This orientation was apparently the initial urban orientation for Murano, and may have assisted in the evacuation of water from the city with the help of the natural air currents.

So, we may have, in a sense, a *return* to a formal aspect of the *genius loci* of the place. And also, what may initial be seen as a radical proposal to build this new Murano onto the existing city, may not ultimately be seen as so 'new' or 'radical' when placed in a more reflective, and broader, sense of time. Isn't 'layering' a consistent urban, and natural, process? Haven't we, literally, as in this case and others, been building upon previous conditions, and civilizations, since the development of human settlements?

'Layering' is inherently an action, or process, that involves time. In nature, that timeframe may be quite long, as in geologic layers and geologic time, or rather quick, as in a volcanic eruption. It can be 'permanent' and very visible, such as the stratification in sedimentary rocks, or fleeting as in snowfall. The range and impact of the temporal aspect of time itself, and of 'natura' and 'artificial' processes and events, is wide and varied.

These themes can also appear in simple, quotidian objects… such as the new line of bottles produced by the glassmakers of Murano.

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They become portable memory icons that underline the gains and beauty discover by working with nature and with the patterns of time.

Or, maybe they are just simply beautiful bottles to be used in daily life that may occasionally bring a smile.

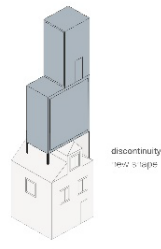*Fig. 37 - Approacing the new Murano + future masterplan*
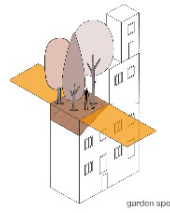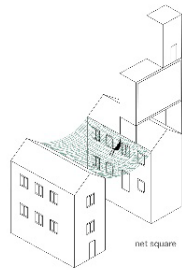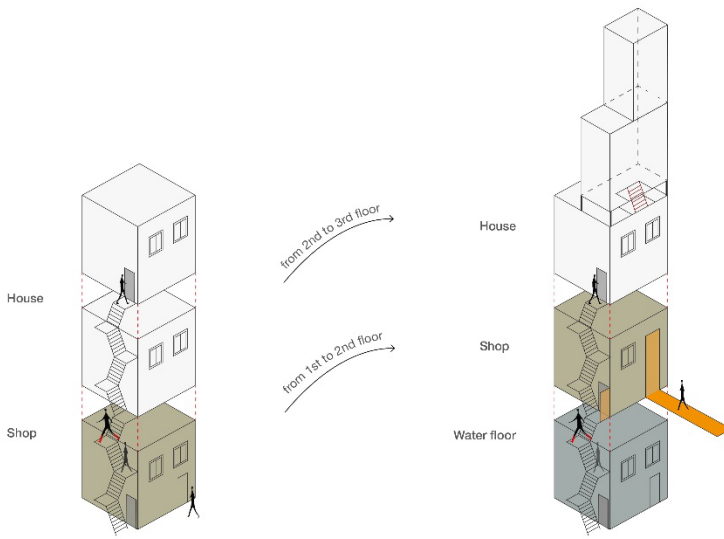
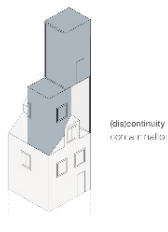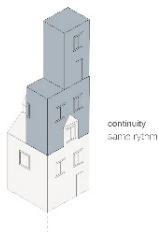Fig. 38 - New urban form – dist
Fig. 39 - Existing urban form – new urban form (with water floor)

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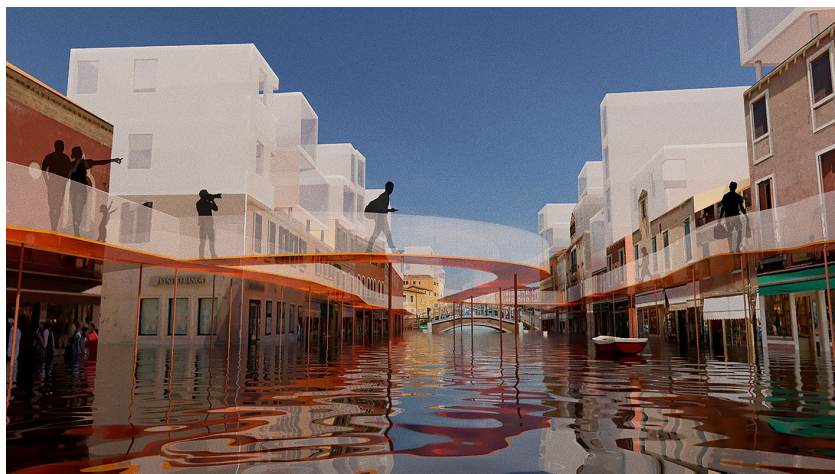
Fig. 40 - Fenice canal view - day

If the environment is visibly organized and sharply identified, then the citizen can inform it with his own meanings and connections. Then it will become a true place, remarkable and unmistakable (Lynch, 1960, p.92).

Fig. 41 - Fenice canal view – night

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Fig. 42 - Fenice waterfloor interior – wet
Fig. 43 - Fenice bottles – new urban product
Fig. 44 - Fenice waterfloor interior – dry

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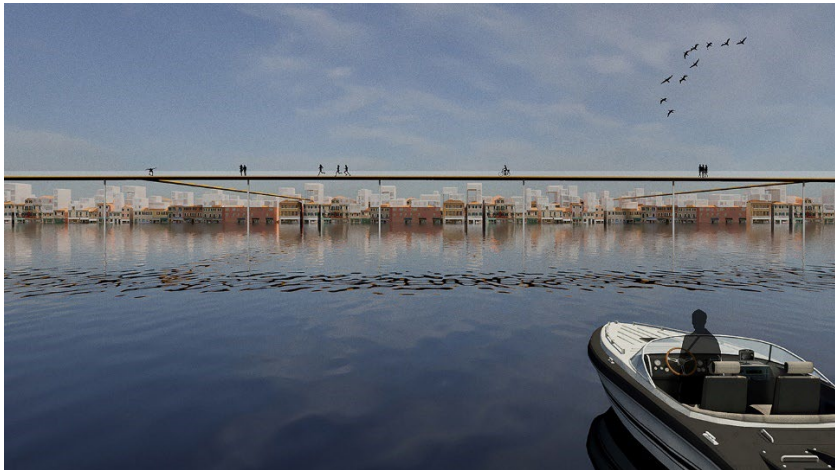
Fig. 45 - Fenice landart – internal view
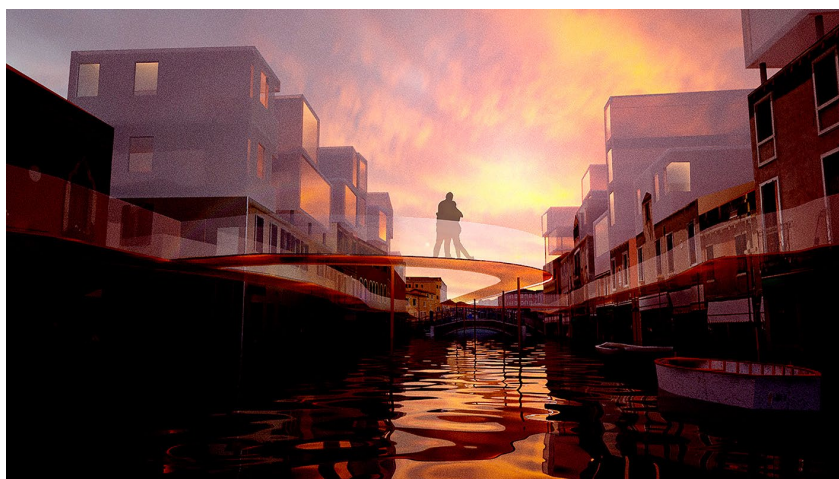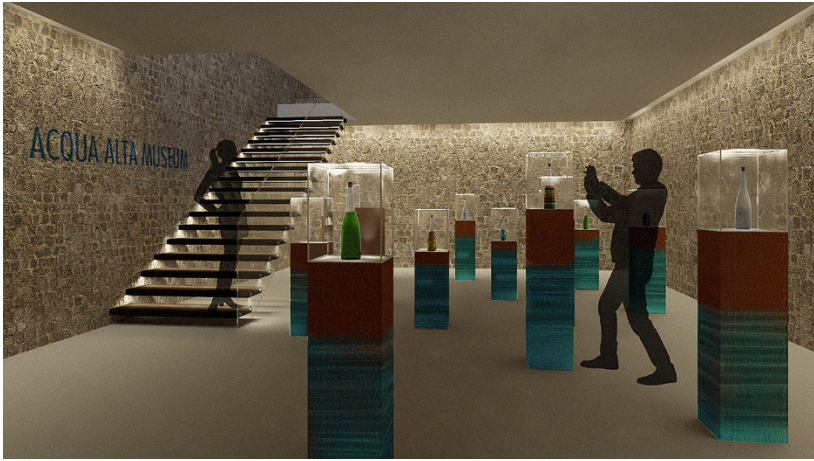Fig. 46 - Fenice overview from lagoon

Images retrieved from the student's project:
Fenice, towards a new rise, In their abstract they stated: "Fenice is what Murano needs right now. Due to climate change, the island is going to be underwater by 2100. The project starts from the idea that it is possible to coexist with water by leaving it its vital space. It determines the shift of the old city of Murano in height, creating new layers. This departure from water defines a reversed reality where people walk on the existing roofs and enter their houses from above. However, the connection with water is preserved through the 'water-level' and a land art installation. The former features different experiences to get people in touch with the ancient Murano. The latter aims to show that water needs its space and that it has to be respected".
Students: Cristina Brena, Martina Gorio, Mauro Magarelli, Samane Qashqaei

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Threads: Installations, movement and motion, perspective, sequencing, rhythms, systems…

Perception, perspective, sequencing, rhythms, movement, and motion are fertile threads and formal manifestation or opportunities when working with time-based design. These possible strategies and tactics become more noticeable and understandable through a series of built installations in the design work entitled Encoding. The movement and motions of water passing by, perhaps from a natural current, or from the wake of a passing boat… or from the rising and falling tides… or from the wind, the sun, the moon… or from reflections in the water or other materials employed… or from the window on a passing train heading to Venice… inspired and informed the research and design work.

The specific installations are precise in their intentions, placement, and configurations. Some relevant details that may contribute to the interweaving of ideas and applications include material, performative, and conceptual aspects. For example, SLOW is positioned to welcome arrivals to Murano on the vaporetti system, and while it plainly communicates the fundamental concept of the design project, it can only be clearly legible from a specific vantage point. Formal articulations of time-based design include the varying tidal levels obscuring or revealing the text, and, materially, its mirrored front providing ever-changing images and reflections. The kinetic planar wall of Komorebi is composed of colored Murano glass tiles that move by the winds and water, its actions over time also remind us of forces beyond us. The most distant installation from Murano is Shouganai, and while it shares many attributes with SLOW, it is more abstract, and perhaps serves as a kind of distant outpost or moon for Murano, as marker in the lagoon for travellers in boats, and as an opportunity for glimpses of Murano for those in passing trains to and from Venice.

These 'melodic' installations are subtlety centralized by a specific charged experience through Kalpa, a kind of human meridian, linking the individual to the collective and the cosmos, and the parts to the whole. Kalpa is located by the cemetery, and is the formal center point of the installation system… a system, or constellation, of installations orbiting around a central point that can be occupied by a person. It reinforces the concept of 'slow time' by not proving precise information on actual, normative time. These installations may be best

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woven into an except from Lynch that describes two basic modalities of serial elements in time. The passage presents the idea of a 'simple' and 'melodic' sequence regarding episodic, time- and place-based work. The installations in Encoding present a more melodic approach, while the path in Novo Ridotto, the next design project, may appear to be more of a 'simple' sequence.

Time Series: Series which are sensed over time, including both simple item-by-item linkages, where one element is simply knitted to the two elements before and behind it, and also series which are truly structured in time and thus melodic in nature (as if the landmarks would increase in intensity of form until a climax point were reached). The former (simple sequence) is very commonly used, particularly along familiar paths. Its melodic counterpart is more rarely seen, but may be most important to develop in the large, dynamic, modern metropolis. Here what would be imaged would be the developing pattern of elements, rather than the elements themselves, just as we remember melodies, not notes. In a complex environment, it might even be possible to use contrapuntal techniques: moving patterns of opposing melodies or rhythms. These are sophisticated methods, and must be consciously developed. We need fresh thought on the theory of forms which are perceived as a continuity over time, as well as on design archetypes which exhibit a melodic sequence of image elements or a formed succession of space, texture, motion, light, or silhouette (Lynch, 1980, pp. 107-108).

Lynch is correct that such work is full of opportunities for both place- and time-based design, and that additional "consciously developed" work is needed with new and open-minded thinking… and here we also quietly and quickly add 'design and creative actions' to the call for thinking.
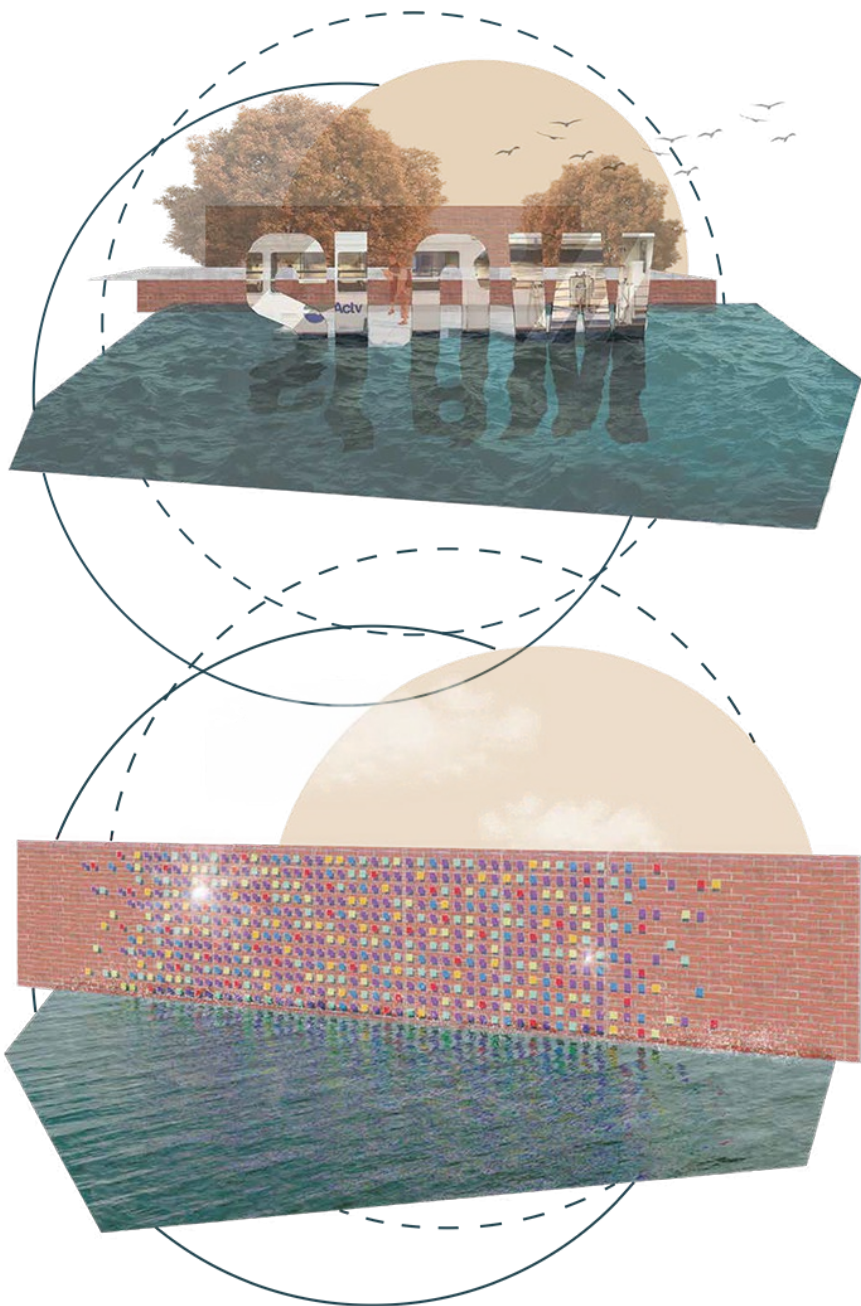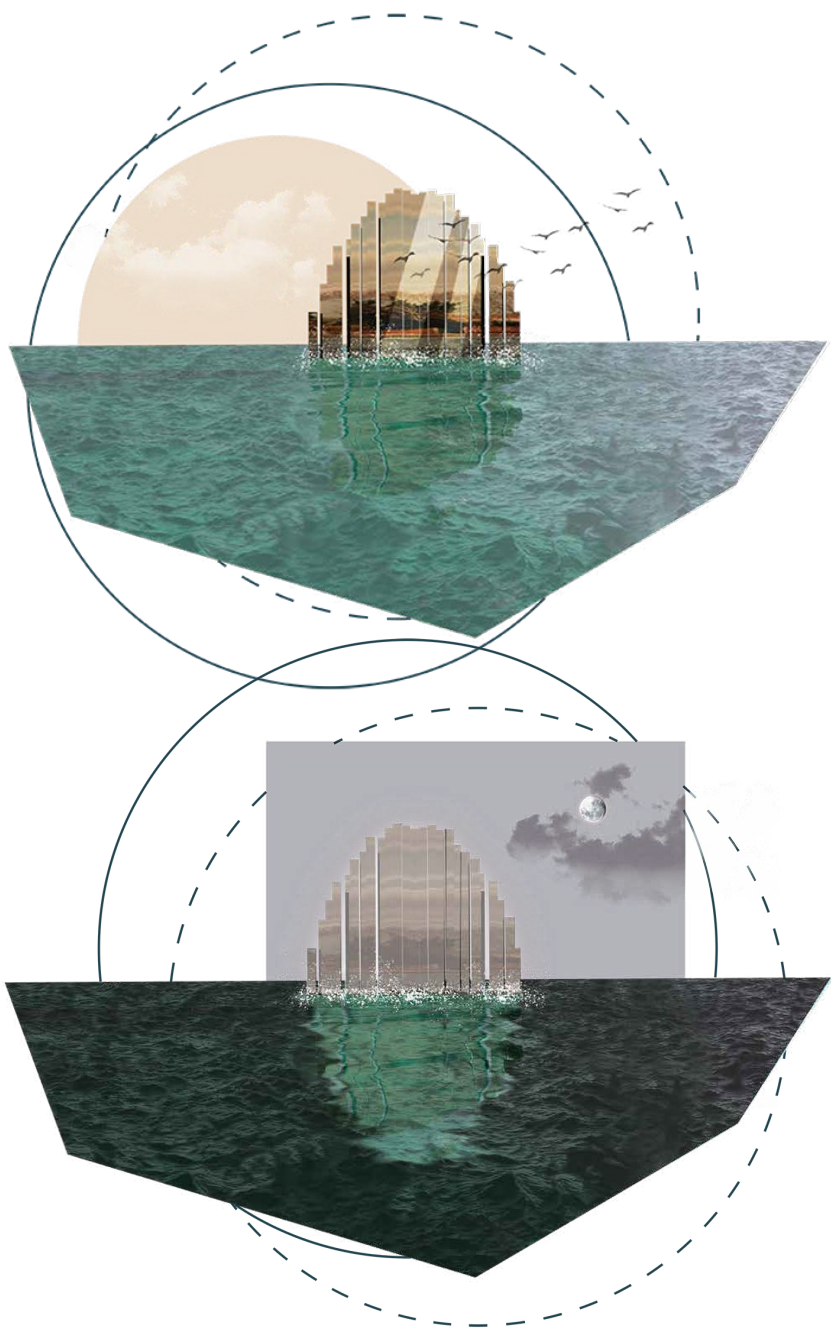
Fig. 47 - Slow and Komorebi (walls) Installations

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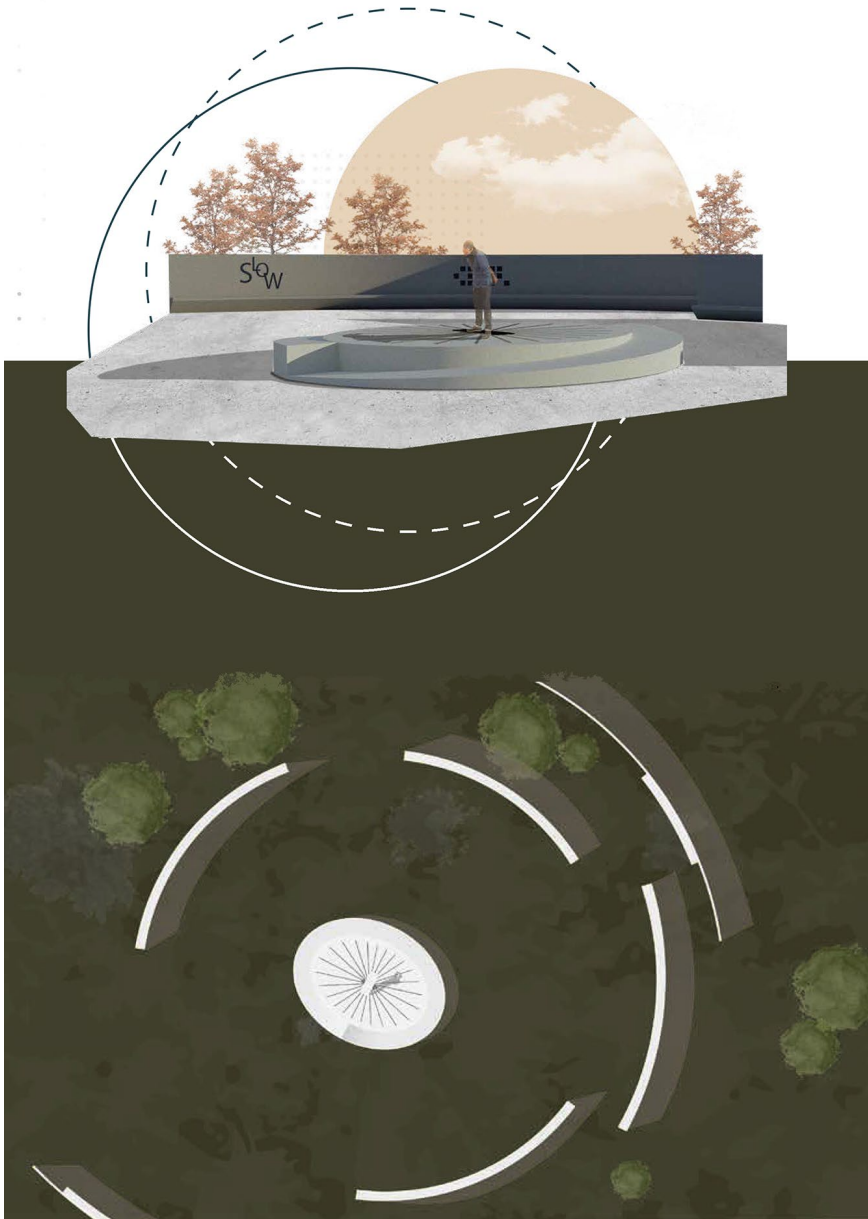
Fig. 48 - Shouganai (mirror) installation day and night

Fig. 49 - Kalpa (meridiana) Installation – with a person and plan

Threads: Sequencing, memory, ritual, transformation, community…

We must immediately recall Lynch's excerpt on "Time Series" quoted above; he wrote that "Series which are sensed over time, including both simple item-by-item linkages, where one element is simply knitted to the two elements before and behind it, and also series which are truly structured in time and thus melodic in nature (as if the landmarks would increase in intensity of form until a climax point were reached)" (Lynch, 1960, p. 107, emphasis added by authors).

While the principal path presented in Novo Ridotto may appear to be within the typology of a "simple sequence", the overall transformative sequence of the experience, including its 'starting' and 'culminating' points, seem more aligned to a melodic sequence. We must be careful of appearances and quick assumptions, and in either case, the path from the new campo created to the new thermal bath is anything but simple. The project employs time in many ways. In the new campo, the community has a place to gather and spend time together.

They can simply watch people bringing their small round glass balls, called 'doni' and which have been produced in the furnaces of Murano, for placement into the water basin of the campo. They know that this is the first step of the ritual that will transform those who enter into the path towards the thermal bath.

This path is punctuated rhythmically by arches, that also act as thresholds, and that provide heat from the furnaces in the colder months, and a cooling mist or ice layer for cooling in the hotter seasons. There are 'lockers' and places to disrobe (*devestitio*) and

leave your normal possessions while picking up the minimal essentials for the baths ahead. This slow, and gradually mounting experience allows time for, and prompts, the transformative ritual of removal, cleansing, relaxing, and regeneration. The apex is found in the Nudity Gallery where all is removed, and one is reminded of beauty in nature and across time. Eventually, one may collect a donum for another time, or for a memory.

Novo Ridotto researched the history, community, and physical context of Murano deeply, which allowed an evocative and responsive proposal to conditions and opportunities to emerge. It brings new life and new rituals, steeped in the past, and in memory, to the present and future of Murano. It strengthens community, renews an abandoned furnace and declining neighborhood, and provides a memorable, transformative experience for residents and visitors. Novo Ridotto's flexibility, transferability, or transgressions in and of time, present a dimension of work not typically seen in contemporary work. The blending, blurring, and merging of time and place through the use of historical figures allow for a provocative jolt to the present and to memory; and speak to a radical and conceptual shift of time in the guise of tradition. It allows the mind to wander and consider time-travel, or how one can travel in time, as well as in place. It is also strange, and at least somewhat magical, when there are coincidences and overlaps that resonate deeply, and bring a sense of both clarity and wonder, such as the following quote by Pallasmaa.

> The incredible acceleration of speed during the last century has collapsed time into the flat screen of the present… As time loses its duration, and its echo in the primordial past, man loses his sense of self as a historical being, and is threatened by the "terror of time". Architecture emancipates us from the embrace of the present and allows us to experience the slow, healing flow of time. Buildings and cities are instruments and museums of time. They enable us to see and understand the passing of history, and to participate in time cycles that surpass individual life.
>
> Architecture connects us with the dead; through buildings we are able to imagine the bustle of the medieval street, and picture a solemn procession approaching the cathedral (Pallasmaa, 2005, p. 52).

In their direct research including observations and conversations, and reinforced by secondary and tertiary research (the 'Ridotto' was a place where people would gather and spend time together),

opportunities were found that could be addressed through a multi-layered design and provocative images, and that would bring about positive ecological, economic, social, and cultural results.

Threads: Circular economy, circular time, geometry, movement, motion, mobility, waste, research, innovation, part and whole, aggregation, services, systems…

N.E.M. (New Ecosystem of Murano) creates a new hybrid geometry for the expansion of the city based on the foundation of the existing geometries discovered in the analysis of the islands.

It also uses the existing waste and debris of Murano to create innovative new products, new research activities, and a new research and educational district. Murano becomes something like a city found in Calvino's Invisible Cities.

It creates its own future from the rubble and detritus of its present and past conditions… ever changing, developing, growing, producing, and reproducing in new and innovative ways, including new circular economies… and perhaps a new sense of circular or spiral time. Motion is prevalent, and the world, with perhaps you on it, floats by, in new and non-linear ways.
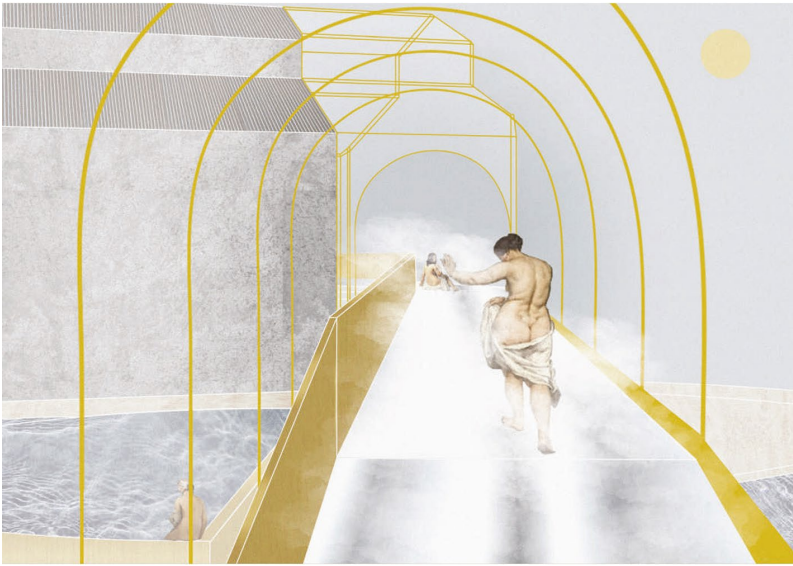
We are presented with not only a new ecosystem, but also new systems and services for living, working, creating, playing, and relaxing.

Figs. 50 and 51 - New communal Campo and entry to the path of the Thermal Bath

Figs. 52 and 53 - Path to the Thermal Bath and points of exchange / transformation

Figs. 54 and 55 - Thermal Bath - Nudity gallery and "Doni" collecting place.

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Images retrieved from the student's project:
Novo Ridotto. Create new rituals
In their abstract they stated: "The aim of Novo Ridotto is to create new rituals, both sacred and profane, as the real soul of Murano; to stimulate people to get rid of their ordinary life, opening to a new extraordinary possibility, in order to build the sense of community between inhabitants and tourists. In this gradual intensification of the experience people become lighter and lighter, starting with a mental purification that leads to a process of physical purification, which ends in the Thermal Bath, located in the renewed abandoned furnaces in the promontory of the island. Guests get closer and closer to their own and others' nudity, meant as a celebration of nature, beauty, and art. Novo Ridotto wants to offer an experience to visitors and to inhabitants to rediscover their own fragility and sensitivity, contributing to grow a profound sense of community".
Students: Elnaz Amiri, Sofia Dalmonte, Alice Lonardi, Sabina Elena Quocchini

As Lynch's 'Time Series' quote expressed a theme that was woven into more than one instance of articulation through design work, so too does his quote on the possible motion of city elements, of mobility through the city, and participation.

Moving elements in a city, and in particular the people and their activities, are as important as the stationary physical parts. We are not simply observers of this spectacle, but are ourselves a part of it, on the stage with the other participants. Most often, our perception of the city is not sustained, but rather partial, fragmentary, mixed with other concerns. Nearly every sense is in operation, and the image is the composite of them all (Lynch, 1980, p. 2).

As we see from the images of N.E.M., the continually produced platforms join the vaporetti and other boats and barges in the water-based system of movement around and through Murano. The new platforms also carry people and goods, but they also provide new services, carry new ideas, and create new urban forms and districts.

They are a mobility of ideas and experiences, allowing the body and mind to wander over place and time. They offer an intellectual and conceptual mobility.

They are innovative, made of waste, and intended to help generate a new Murano, with new parades, parties, and rituals… and new forms of production and consumption. And perhaps they offer a new sense of time. We pass into Norberg-Schulz again and find within his writings, interwoven with Heidegger, the fundamental importance of *things* and *making*.
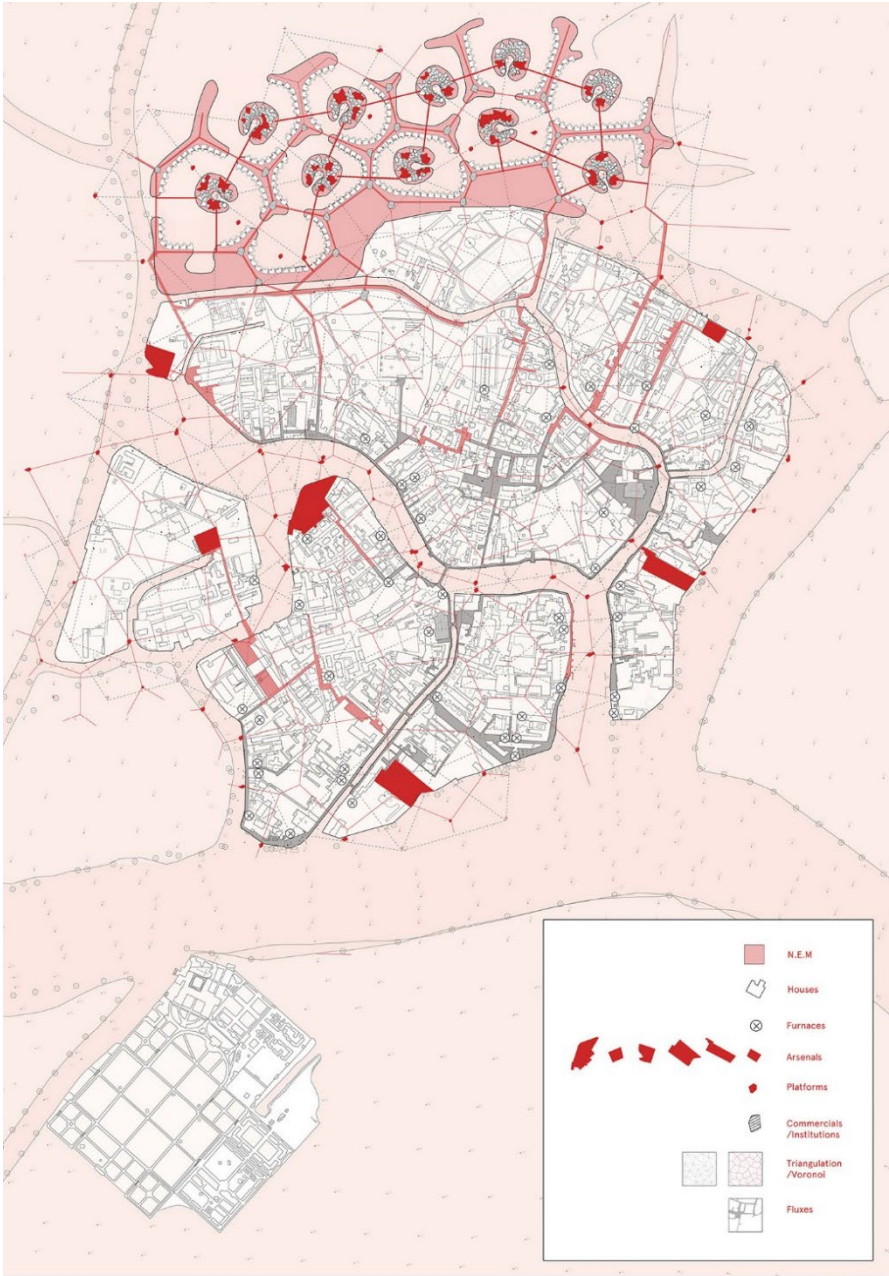
To fulfill their function, these spaces ought to contain all those "things" (buildings, monuments etc.) which make manifest the meanings gathered by the place. Thus Heidegger says: "…the things themselves *are* the places, and do not only "belong" to a "place".

We have to be able to "see" the meanings of the things that surround us; be they natural or man-made. Things always tell several stories; they tell about their own making, they tell about the historical circumstances under which they were made, and if they're real things, they also reveal truth. The ability of a thing to reveal truth depends upon how it is made, and the next thing to learn is therefore *making*. Seeing and making are united in inspiration and concretization. Thus, Louis Khan said: "Inspiration is the moment of possibility when what to do meet the means of doing it" (Norberg-Schulz, 1980, pp. 176, 185).

The platforms and their systems provoke additional possible themes, and touch upon foundational design principles and basic principles and processes in urban design. The platforms can be viewed as a unit, as a part to the whole. This brings us to the process of aggregation… to grouping, collecting, and assembling over time… to growth. We see from the diagrams that follow that the platforms, the units and parts aggregate to form a new whole. Hence we have a direct relation of part to whole, and a continuum of creation. Like layering and stratifications, and other themes and processes explored, this is not so 'new' either; rather it is a common pattern and process. One can think of the beehive in nature, for example, and early Roman town planning where the courtyard housing, with its solid perimeter and central void is basically the same as the urban block, and as the void of the piazza is similarly formed by the mass of the blocks creating its perimeter. There is a continuum, a pattern, system, and rhythm. We are reminded again of Lynch's mention of the relationship between notes and melodies when he wrote above that

we remember melodies, not notes (Lynch,1960, p. 107).

but, of course, we would not have melodies without notes.

Figs. 56 - NEM masterplan

Cycles

2020 2022 2024 2026 2028 →

M6 — I C
M5 — II C
M4 — III C
M3 — IV C
M2 — V C
M1

Glass waste
Glass fabrics
Glass therapy
Glass food
Digital glass

Every two years cycles based on glass waste will drive a series of social events related to a specific topic.
Every parade will end with a re-birth by creating a new community related to the same topic.
Than the cycle is finished, a new one will start.

Arsenals

Platforms

Hubs

1st   2nd   3rd

Project scales

Fig. 57 - Phasing and cyclical diagram

Furnaces   Arsenal   Platforms   Community
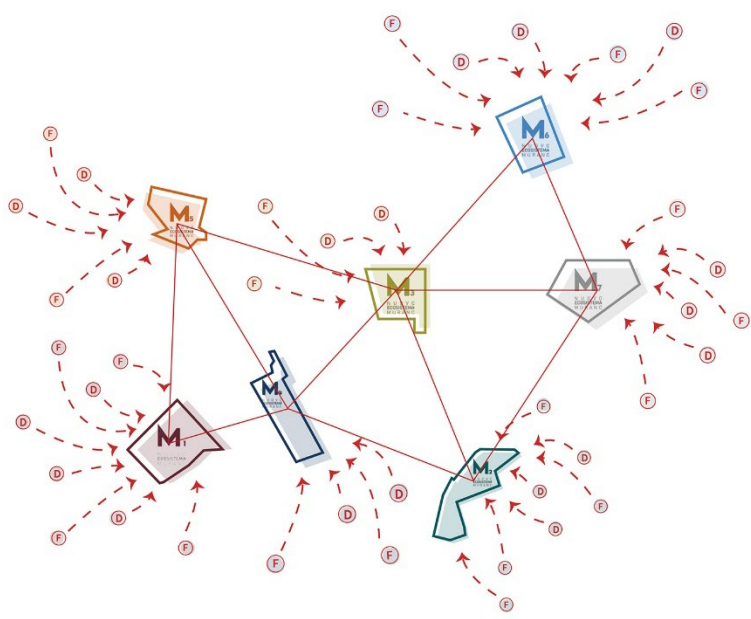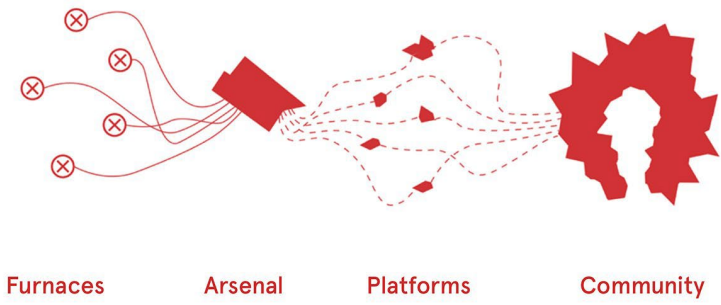
Fig. 58 - New Urban components and aggregate forms
Fig. 59 - Parts to whole and aggregation diagram
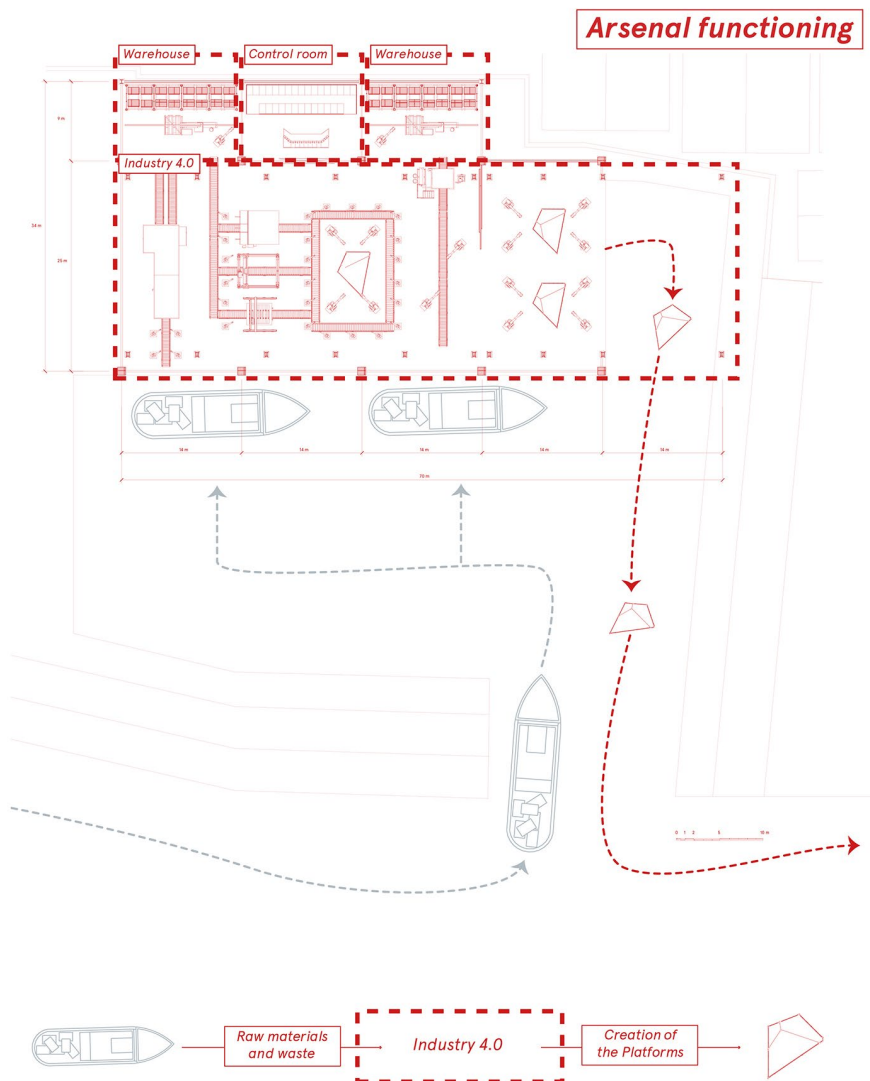
Fig. 60 - NEM arsenal recycling and production diagram

Fig. 61 - NEM platforms - day
Fig. 62 - NEM platforms - night
Images retrieved from the student's project:
N.E.M. New Ecosystem of Murano
In their abstract they stated: "Designers and furnaces collaborate together in a 4.0 industry setting up floating platforms for temporary events to create glass waste products. These platforms will be connected to build up advanced research hubs and new communities in order to establish a circular economy for the new ecosystem of Murano".
Students: Mattia Barrile, Giovanni Bettinelli, Andrea Escudé, and Simone Salcuni

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Denouement

'What does 'tame' mean?' (asked the little prince)
'It is something which is too often forgotten", said the fox. "It means to establish ties..".
'One can only understand the things that one tames,' said the fox.
(Saint-Exupéry, 1943, pp. 76, 78).

… we need an environment which is not simply well organized, but poetic and symbolic as well. It should speak of the individuals and their complex society, of their aspirations and their historical tradition, of the natural setting, and of the complicated functions and movements of the city world. Such a sense of place in itself enhances every human activity that occurs there, and encourages the deposit of a memory trace (Lynch, 1960, p. 119).

The chapter has tried to interweave ideas, themes, and images into an exploration of place, presence, and time. Time and 'time-based design' have been *present* in research and design work by the chapter authors over many years, and have been discussed in countless studios and projects. But, with the *focus* on time-based design and time-based paradigms by the book editors, things have shifted, and a more precise point of view was embraced by the authors. This prompted a fresh review of some of the seminal texts by authors on place, environments, and design… and time. However, it should be clearly stated, that the vast majority of quotations used here are being used for the first time in this chapter by the authors. Of course, they existed in the original pivotal texts, but they were hardly the focus of them, their bias was towards place and other things. So, the chapter authors did not come to the texts with the same perspective. The shift of perspective, with a bias towards time, facilitated the excavation of the texts and the 'finding' of the quotations. The texts include some significant nuggets on 'time' as well; but these jewels are somewhat scattered about, and typically overwhelmed by the focus on place and presence. You have to be looking for them, and have a place for them, a relationship, ties… they need to be tamed.

It seems that there were maybe three 'taming' devices and processes. The imposed focus of the book, Murano, and the design work of the students from the studio in general, but specifically and importantly, from their images. The images provided the clearest and

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sharpest focus in the rereading of the seminal texts. They helped tame the texts, and assisted the authors of the chapter to find quotations linked to the articulations of the images.

This is also why it is important to use the work from the studio in this chapter. To begin with, it is respectful to that work, and acknowledges the work. It is also an act of honesty and transparency.

The students' images and the work of the studio informed the making of this chapter[1]; and the authors of the chapter learnt things from the studio and Murano along with the students. And, as previously mentioned, the studio work and these images, contribute an inherent relationship to Murano and the interweaving being attempted here. But also very importantly, the studio work and images provided a limited boundary and scope for the chapter. Like an island, like Murano, its boundary is critical to its definition and focus. The studio work and images created a focused context for the chapter, and for the first step in this more structured and constructed exploration of time.

Of course, this chapter is not a book, and so, some constraints and limitations are important. If we go beyond the bounds of the work from the studio, we can start to discuss the palimpsest and the Japanese technique of kintsugi, where gold is used to mend a broken object. Both of these have strong and important histories and meanings; and both are incredibly beautiful and visually rich. And both have broad application, and in fact have been used in design and studio work by the authors previously. This touches on the future, as well as the past.

A following next step from this chapter is to further excavate this work and include a broader domain to create a more comprehensive and structured exposition of time-based design. This has been slightly initiated in this chapter with the inclusion of the 'threads' above, and as only an early, minor step. A more comprehensive publication could also include a specifically designed matrix that could organize, classify, and cross-reference the types and characteristics of themes

1. In fact, the studio had the working title of The Place of Glass_Murano: Past_Present_Future. The faculty included Frank Clementi, Barbara Di Prete, Peter Di Sabatino, and Monica Mazzolani. The teaching assistants included Althea Gailli, Nicoletta Intrepido, Claudia Mastrantoni, and Savina Radeva. We were assisted by Christian & Maurizio Mussati, the founding partners of WonderGlass, and our collaborators who introduced us to several key people and businesses in Murano.

and manifestation. The matrix becomes a sort of periodic table for time and time-based design. Perhaps it also becomes organized in terms of ideas/paradigms, themes, strategies, tactics, and techniques. The authors directed the creation of a matrix for the conclusion of a five-day workshop a few years ago. It not only helped bring the individual group work together as a collective image of the intensive workshop, but it organized and collated the work in a systemic way.

Fig. 63 - Studio Matrix from PSSD design workshop, 2019: Salone Del Futuro - Connecting Commerce; Palazzo Turati, Milan. (Di Sabatino, 2020, pp. 347-349)

The design work from the studio that is included here is also linked to the LEM (Landscape, Environments, and Mobility) section of the Design Department at Politecnico di Milano. Ultimately, the work and images touch upon all of the facets of the Department at the School of Design, and hopefully this will also amplify the possibilities of incorporating the opportunities of time-based design further into our fabric and work. As the book editors mention in their abstract, there seems to be a gap of focused explorations.
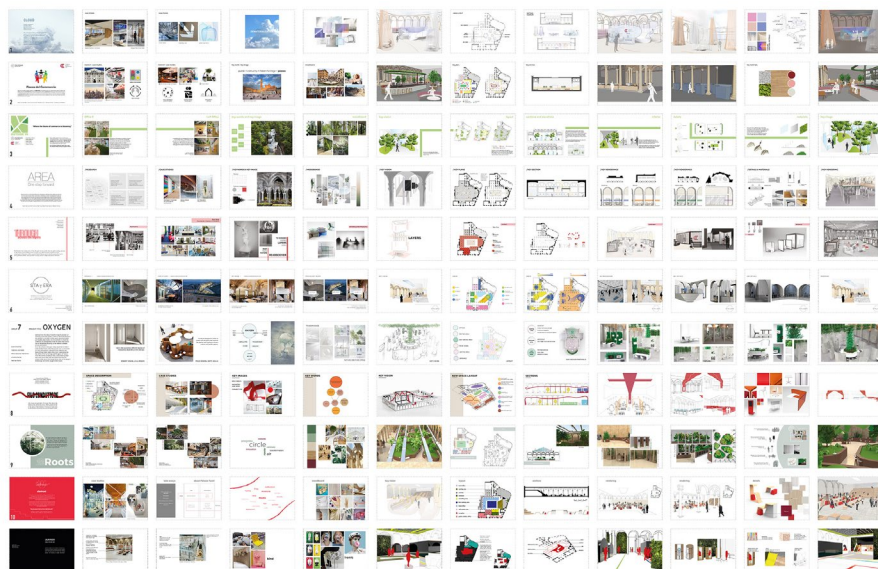
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Fig. 64 - Studio Matrix from PSSD design workshop, 2019: Salone Del Futuro
- Connecting Commerce; Palazzo Turati, Milan. (Di Sabatino, 2020, pp. 347-349)

And lastly, this all circles back to design itself, and its recognition, understanding, and valuation. As mentioned in the abstract, this brushes up to ongoing discussions and perspectives about the relationship between design and research, and about the often agreed upon, but hardly universally accepted, positions that support "design as research and research as design" and that scholarship, in the academy and beyond, includes both research and creative work. And while this is not the focus of this chapter, it is linked. For example, it is important for everyone to understand that the use of student design work does not automatically connote work on teaching or education. It is design work… but if design work is not fully valued, and fully recognized as important work that contributes to the discipline, profession, and beyond – like other acceptable research and scholarly work – we all miss an important opportunity that represents an important aspect in all of our lives. In *Design Research*, Peter

Downton opens his book with: "Design is a way of inquiring, a way of producing knowing and knowledge; this means it is a way of researching" (Downton, 2003, p. 1). As we consider time, and as we reflect on the importance of voice, hopefully we could provide the time for additional conversations and actions of everyone's contributions to the advancement of our disciplines and the betterment of our world.

"Memory's images, once they are fixed in words, are erased", Polo said. "Perhaps I am afraid of losing Venice all at once, if I speak of it. Or perhaps, speaking of other cities, I have already lost it, little by little" (Calvino, 1972, p. 87).

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Epilogue

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In the summer of 2019, I had a study tour to Milan and Florence with dozens of students at Tsinghua University. When we arrived at Bovisa, Politecnico di Milano, Prof Barbara gave a lecture on "Time-based Design", which was very enlightened to all the Tsinghua group. After coming back from Italy, a group of s build up a more comprehensive presentation of the due layer dome of Santa Maria del Fiore Church. Finally, I found the students previewed the tour by playing "Assassin's Creed" (a game of Ubisoft Entertainment) and used the virtual experience overlapped on their site visit to support the presentation. That summer was a really nice experience for every visitor.

Besides an electronic game, I think people more often tend to explore the destination through google maps before the tour to the site. They use various App to book hotel room, tickets, and restaurant, or find a path to some destination. "Media have become indispensable tools for creating a sense of closeness at a distance, aided by simultaneous, non-deferred interaction. Asynchronous media have a lower degree of engagement than sharing media, of the experience embedded in the space of places" (Castells, 1989). Navigation App now offers a time saving route based on calculation, with integration of all kinds of geographic, environmental, spatial information and all sorts of transport media and service, tries to offer convenience but also

effect user's self-thinking, behavior, and connection with space in a comprehensive way. For an instance, navigation App uses voice instructions to replace the user's visual interaction between eyesight to the landmarks during the trip. Focusing on the voice instruction, users intend to have less connection with the environment along the planned route. "Through this connected presence, all the places we pass through are imbued with a sense of intimacy, but also a sense of separation from context and absence" (Perry, 2001).

Smartphone becomes a sort of organ extension of human body, and "places and moments of disconnection are increasingly rare: everything you can do online is open 24/7" (Barbara, 2012). People go shopping while working at office, they social in either cafe or toilet all by phone. (An US survey in 2013 showed that 75% informants used their phone while they were in toilet). Space and function are not fixed any more. Although modern static space design tries its best to carry the characteristics of mobility, communication and sharing, but as digital technique traversed the space in 'no time', made the space has far more less constrains and effects to human's actions, and subsequently loses its "strategic value". According to George Simmel's saying, "valuable is determined by the difficulty of acquisition", Zygmunt Bauman declared the "Near-instantaneity" of software time predicts the devalue of space. "As time multiplies, transforms, and empowers, on the contrary, there is a sense of the inadequacy of the real estate market and the real spaces in which we live. They are static spaces, unsuitable for the new forms of living that the revolution of technologies now allows" (Carpo, 2017).

The Pandemic and the blocked promoted comprehensive spatial intrusion of network technique into individuals and private space, and the residence has become an extension of urban space. My friend Zhang Qi shot a short film, reflecting the living condition of a small family of three in a blocked city in China. Their small apartment was forced to transform into public functions such as classrooms, offices, conference rooms, as the agenda of students(son) and employee(husband). Thus, housewife lost her boundary at home and finally affected her living condition. Space "invades" private territory,

causing the confusion of mixed-use and unclear boundaries between public and private original space fields. Under the pandemic, space is forced to make a flexible reflection of time. The film ends with the hero and heroine having sex in a car in an empty street during the mid-day, naming the dislocation of time and space, public and private.

When the physical space is blocked and dissolved during the Pandemic, the art works showed in the virtual world blurred the boundaries of reality, and even expanded the real space. Chinese art group RaidenINST recently organized an art exhibition called *Coordinates Shift*, which is based on Cryptovoxels technology in a gallery on Meta-verse. My short visit experience of this exhibition on Meta-verse was that the virtual identity, prelude before the exhibition and space jump, and immersion exhibiting environment changed the five elements of time in the book the *History Identity, Movement, Duration, Rhythms and Nodes*. We more often consider the risk of losing the meaning of static physical space and the invasion of virtual space into physical space, but in fact the virtual world is growing and closing independently, and it is also required further exploration and research.

Besides the development of data and media technique and the pandemic, capital flow dynamic changes the relationship between time, space, and people. If information era is more breaking through the division of personal and social space, globalization with capitalism is more focused on the macroscopic spatial and temporal changes of countries and regions.

As one of the first areas to start the trial of Economic Reform of China in 1984, Shenzhen must be a point with intense gravity. The inburst capital finally changes the small seaside village into a metropolis with 17.6 million population which eventually brought China into the world's economic system. Benjamin Franklin's famous saying "Time is money" was adopted by Shenzhen as a slogan.
Supported and affirmed by Deng Xiaoping, this slogan had even become one of the most crucial slogans and directions for China's reform in the last century. Shenzhen had the most density of Fordism

factories in both the country and the world at that time, which made Shenzhen the fame of world factory. Fordism enterprises, as described by Daniel Bell, were powerful hotbed/fortress/prison factory which established a strict separation of *inside* and *outside*. Big and comprehensive scale implies efficiency, advanced and sophisticated. "With the rise of capitalist society and wage labour, the home began to take on the exclusive role of dwelling, where therefore living is constituted as a 'separate' and valued function (Tosi, 1994).

This is where the functional separation between the domestic living sphere (inside the home) and the productive sphere (outside the home) began. It was also during this period that the functional subdivision of rooms became established" (Banali, 2015). Living and production, work and leisure, function and form, is dialectical division from that time.

The ungraded version fordism factories are owned by the big brands based in US and Europe and the production also designed for the market of these areas. While these brands might have even larger scale but are distracted by small volume and numerous departments around the globe. The *inside* and *outside* are no longer that clear. Global transportation network and Internet linked the factories with the brands and the markets, and also reduced space resistance and compressed the space. In the process, Shenzhen's successful use of time as a tool, connecting China and the world more closely, set up a significant "time-based design" module, while the value of time continues to rise the value of space based on distance continues to decrease.

The XIX Century was the era of "an empire could be only defined by another empire". Space self-production realized by capital beyond the limits of space and the wealth and power were rooted in the expansion of space brought about by maritime embargo. The transformation of space and time lay on the allocation and connection of raw materials, manufacturers, and markets. In the globalization era, as capital accumulation, space, and time are shaped by money which flowed around followed the gravity of profit, exactly like matter fell in twisted space which created by gravity. When power acquired the ability to acquire and process information quickly enough, it will turn

more likely to support the cyber space. With the rotation of value from land to capital, and then to information, the meaning and value of its real place will be constantly dissipated, and new scales will inevitably emerge. more and more nomads will put their lives in virtual space and leave their body in static physical space, the meaning of reality and virtual will be exchanged.

Virtual space will not be virtual forever. Instead, it may be more realistic.

Essays in the book make a great effort to discuss the changes of space and time in multiple perspectives of globalization, poetics, space travel, architecture, interior and furniture and other dimensions which are both inspired and foresighted. This remind me what Geoffrey Scott stated in *the Architecture of Humanism-A Study in the History of Taste*, "Not only do we inherit the wreckage of past controversies, but those controversies themselves are clouded with the dust of more heroic combats, and loud with the battle-cries of poetry and morals, philosophy, politics, and science. For it is unluckily the fact that thought about the arts has been for the most part no more than an incident in, or a consequence of, the changes which men's minds have undergone regarding these more stimulating and insistent interests".

The book, *Time-Based Design Paradigms*, brings important and especial meanings at the time of pandemic, and the discussion came right at the time.

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The book *Time-Based Design Paradigms*, from the LEM_ Design International series, explores the relationship between time and the design of spaces. The ongoing digital revolution and the recent pandemic have shown that the temporal dimension of spaces is a horizon that has yet to be strongly explored. In the future it is increasingly likely that it will be the forms of time, rather than those of space, that will undergo the most interesting innovations and transformations. Within the LEM (Landscapes, Environments and Mobility) section of the Design Department of the Politecnico di Milano, a group of professors and researchers, together with some international colleagues, have tried to investigate which forms of time will increasingly impact spaces: those of memory, of the everyday, of the extraordinary, of the future, of terrestrial and astronomical spaces, etc. The essays explore time: as measurements, adaptations/compositions, memories, machines and technologies, identities, narratives, sensitivities in an increasingly globalized and wrapped world.