TEMPORALITY

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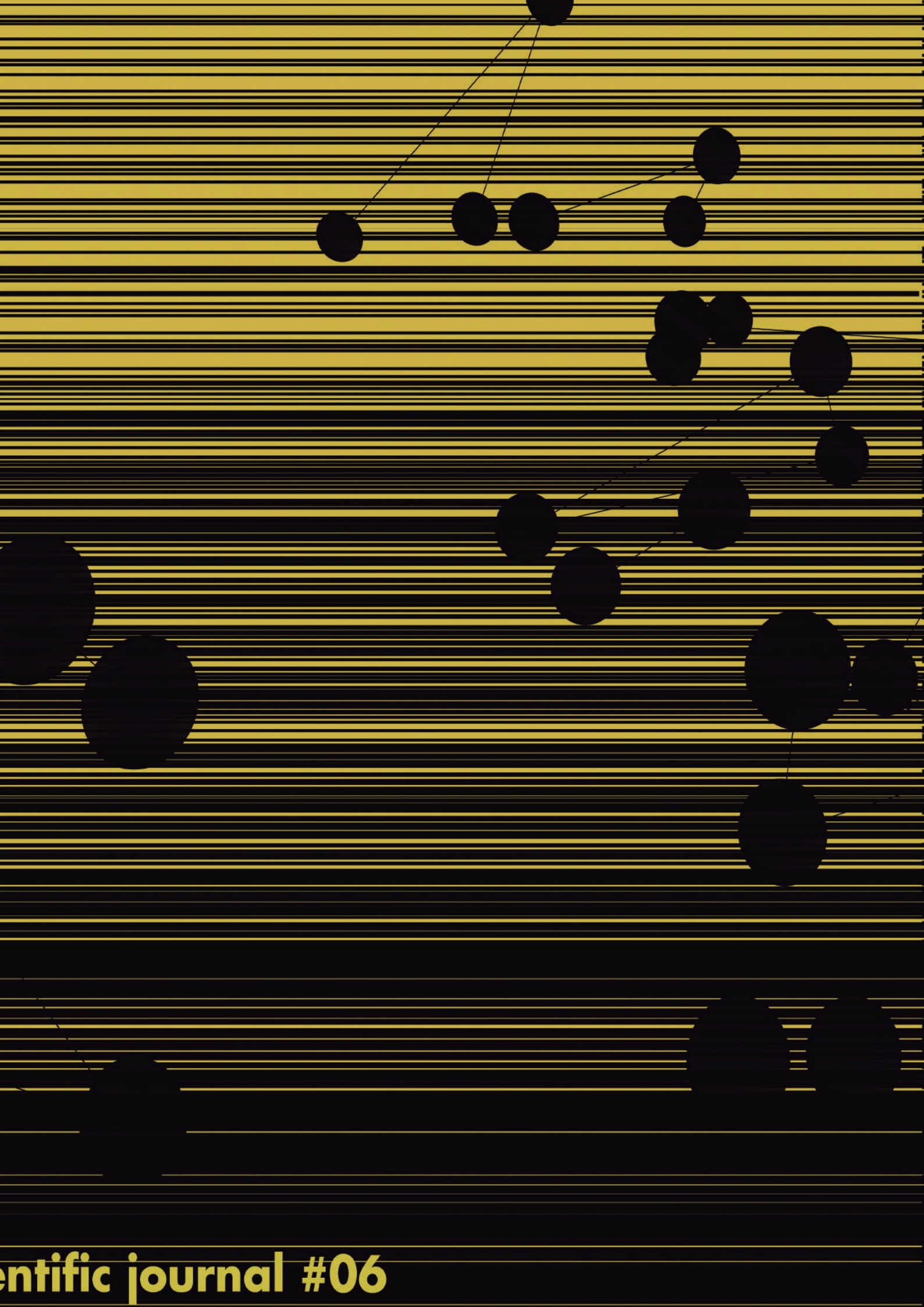

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3 Questionnaires for UOU

Letter from the director

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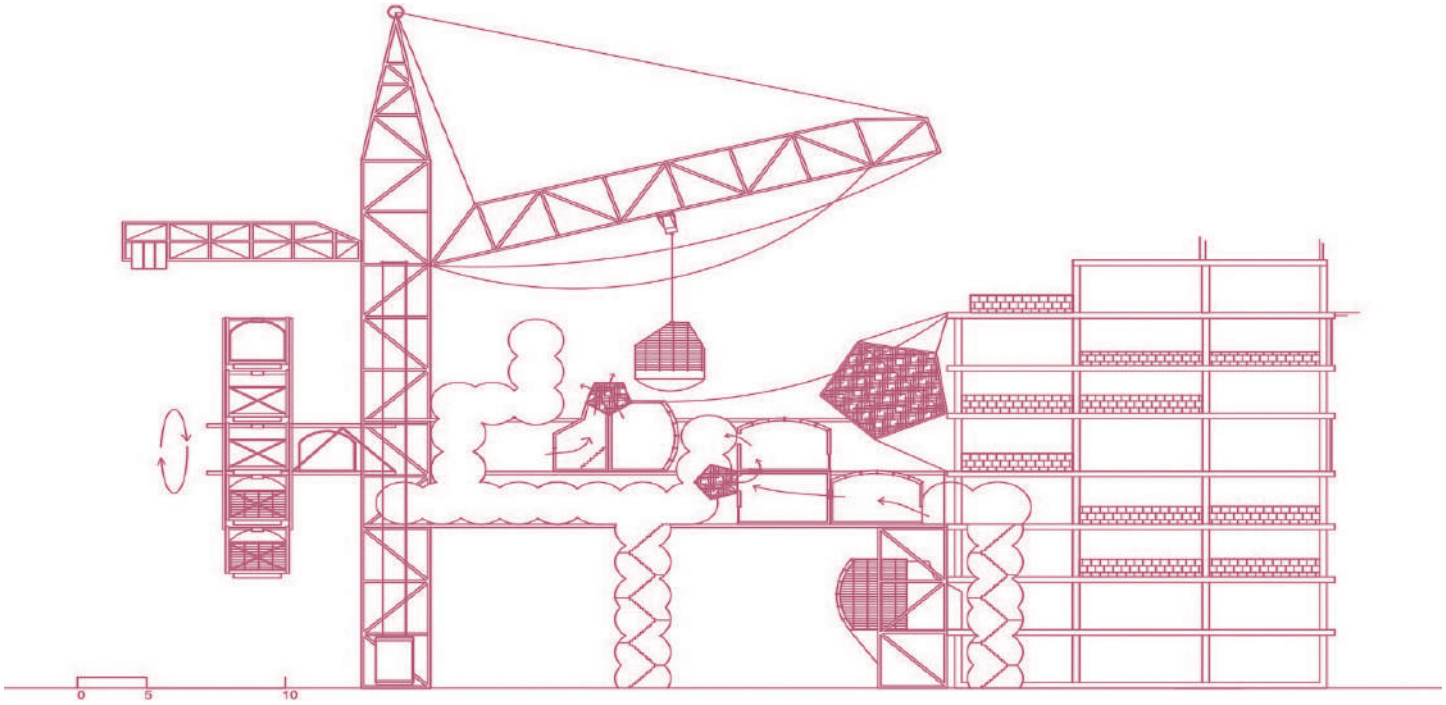

UOU 1st semester logo, by Salma Abdelrahman.

The last "Letter from the Director", published in the issue *UOUsj #05 BORDERS*, already listed the series of collaborative experiences used at *UNIVERSITY of Universities*. It was an identification of methodologies that have appeared in parallel to the routine of the classroom based on the Crit system:

- *Festival of architecture in the City.*
- *Field trips.*
- *The UOU Reflection series.*
- *BIP.*
- *Summer course ProtoLAB.*
- *UOU Scientific Journal.*
- *New opportunities for international collaborations, such as participating in congresses or international weeks to prepare submissions for international projects, co-directing PhD students in international programmes, or even giving more meaning to the role of the Erasmus visiting professor working with local students.*

In this course 2023/24, apart from reinforcing all of them, we will add the celebration of the *EURAU* international conference in Milan, 19-22 June 2024. Our colleague Marco Bovati and the rest of the organizing committee members from *Politecnico Milano* are preparing intense days for PhD students and researchers in this stimulating city, where all of us meet to exchange ideas as well as visiting memorable architecture. This is the call:

https://www.euraumilano.polimi.it/

Such a list of learning experiences grows in parallel to the list of participants: Welcome to Joanna Dudek from Politechnika Rzeszowska (POLAND), Luz Fernández Valderrama and Eva Luque from Universidad de Sevilla (SPAIN), Alessandra Swiny from University of Nicosia (CYPRUS), Won-joon Choi from Soongsil University (SOUTH KOREA), and hello again dear Doina Carter from the University of West London (UK).

Remembering the origins of UOU, back in 2020, when we were just seven members looking to enhance quality in education through inter-cultural collaboration, now is the moment to check again those levels of excellence. The new project consists of proposing a series of three questionnaires that will help us to get information on:

1. The knowledge and skills acquired by the students who participate.

2. Also the attitudes developed by them in comparison to the groups that do not participate in this project.

3. The attitudes developed by the teaching staff will also be evaluated.

QUESTIONNAIRES

To prepare these questionnaires, the first idea has been to formulate ten questions to students of architecture about how to improve their international education:

• What aspects of your current architectural education do you feel are lacking in terms of international exposure?

• In what ways can the curriculum be modified to incorporate more global perspectives and examples within the field of architecture?

• Are there specific regions or cultural contexts that you believe should be emphasized more in your architectural education to better prepare you for international practice?

• How can the integration of technology and digital tools enhance your understanding of international architectural trends and practices?

• Do you believe that language skills are adequately emphasized in your architectural education, and if not, how can language training be better incorporated to facilitate communication in an international context?

• What role can collaborative projects with students from other countries play in enhancing your understanding of diverse architectural approaches and fostering a global perspective?

• Are there opportunities for international internships or exchange programs that you believe would significantly contribute to your architectural education, and if so, how can they be better facilitated?

• Do you think there is a need for more exposure to real-world international architectural projects and case studies in your coursework, and if yes, how can this be integrated into the curriculum?

• In what ways can the faculty incorporate more diverse perspectives and experiences from architects and professionals around the world into the classroom setting?

• How can the use of virtual reality, augmented reality, or other immersive technologies be leveraged to simulate international architectural environments and challenges within the educational setting?

The fascinating contribution of a former **UOU** student, Salma Abdelrahman, reminded us of the great importance that the learning format had for her and, of course, the diversity of cultures:

Preferred Learning Format:

• *Traditional classroom setting.*

• *Online courses.*

• *Hybrid (combination of in-person and online).*

• *Workshops and hands-on experiences.*

Culture and Diversity:

• *How should architectural education address cultural diversity and sensitivity in a globalised context?*

• *Would you be interested in collaborative projects with students from different countries?*

Upon reviewing all of those questions, it is imperative that our students not only understand the foundational principles of architecture but also grasp the diverse cultural, technological, and collaborative dimensions that shape the international architectural landscape. As we reflect on these questions, it becomes clear that exposure to real-world projects and collaborative opportunities are crucial components in preparing our students, incorporating diverse perspectives, and leveraging cutting-edge technologies in a dynamic and inclusive educational environment.

Furthermore, the integration of international exchange programs into the curriculum resonates with the **UOU**'s commitment to providing students with hands-on experiences that transcend borders.

The answers to the following questions will be a reflection on Advancing Education in Architecture. In the ever-evolving realm of architecture, **UNIVERSITY of Universities** is committed to fostering an environment that not only responds to the needs of today's global architects but anticipates the challenges of tomorrow.

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1. Questionnaire on Knowledge and Skills Acquisition at UNIVERSITY of Universities

1. Demographic Information:

a. Name (Optional):

b. Gender:

c. Age:

d. University:

2. Academic Background:

a. How would you rate the quality of academic programs at the University of Universities?

b. In your opinion, how well do the courses align with education standards and demands?

3. Knowledge Acquisition:

a. To what extent do you feel this intercultural experience has contributed to your knowledge in architecture desing?

b. Can you provide an example of a specific workshop that significantly enhanced your understanding of architecture?

4. Practical Skills Development:

a. How has UOU supported the development of practical skills relevant to your interests in architecture?

b. Have you had opportunities for hands-on experiences, internships, or co-op programs? If yes, please share your experience.

5. Critical Thinking and Problem-Solving:

a. Do you believe your time at UOU has improved your critical thinking skills? How?

b. Can you recall a challenging problem or project that helped you develop problem-solving abilities?

6. Communication Skills:

a. How has UOU contributed to the improvement of your communication skills (both written and oral)?

b. Have there been specific workshops that you found particularly effective in enhancing your communication abilities?

7. Teamwork and Collaboration:

a. In what ways has UOU encouraged teamwork and collaboration among students?

b. Can you provide an example of a team project that you believe positively influenced your ability to work in a team setting?

8. Research and Innovation:

a. How has UOU fostered a culture of research and innovation among students?

b. Did you have the need to research for any of your workshops, and if so, what did you learn from the experience?

9. Preparation for Future Career:

a. Do you feel that the education and experiences at UNIVERSITY of Universities have adequately prepared you for your future career?

b. Are there specific aspects of your UOU experience that you believe will be particularly valuable in your professional life?

10. Overall Satisfaction:

a. On a scale of 1 to 10, how satisfied are you with the knowledge and skills you have acquired at UNIVERSITY of Universities?

b. What recommendations do you have for UOU to further enhance the educational experience for students of architecture?

2. Questionnaire on Attitudes Acquired at UNIVERSITY of Universities

1. Demographic Information:

a. Name (Optional):

b. Gender:

c. Age:

d. University:

2. Personal Growth:

a. In what ways do you feel your time at UNIVERSITY of Universities has contributed to your personal growth and development?

b. Can you provide an example of a situation or experience that influenced a positive change in your attitudes or perspectives?

3. Cultural Awareness:

a. How has UOU fostered cultural awareness and understanding among students?

b. Have you had opportunities for cross-cultural interactions, and if so, how have they influenced your attitudes?

4. Diversity and Inclusion:

a. To what extent do you think UOU promotes diversity and inclusion in the classroom?

b. Have your attitudes towards diversity and inclusion changed during your time at UOU?

5. Ethical Considerations:

a. How has UOU influenced your understanding of ethical considerations in your academic and personal life?

b. Can you share an experience that challenged your ethical thinking and decision-making?

6. Leadership and Initiative:

a. Do you believe UOU has contributed to the development of your leadership skills and initiative?

b. Have you been involved in any leadership roles or initiatives that have impacted your attitudes towards leadership?

7. Resilience and Adaptability:

a. In what ways has your UOU experience helped you develop resilience and adaptability in the face of challenges?

b. Can you provide an example of a challenging situation where you demonstrated resilience?

8. Community Engagement:

a. How has UOU encouraged students to engage with the local community or participate in social responsibility initiatives?

b. Have such experiences influenced your attitudes towards community engagement?

9. Global Perspective:

a. To what extent do you think your UOU experience has given you a global perspective on issues and challenges?

b. Has your participation in this international program broadened your global awareness?

10. Overall Impact on Attitudes:

a. On a scale of 1 to 10, how much do you feel UNIVERSITY of Universities has shaped your attitudes towards learning, collaboration, and personal development?

b. What recommendations do you have for UOU to further enhance the development of positive attitudes among students?

3. Questionnaire on Attitudes Acquired by Teachers at the UNIVERSITY of Universities

1. Demographic Information:

a. Name (Optional):

b. Gender:

c. Years of Teaching Experience:

d. University:

2. Professional Growth:

a. In what ways do you feel your experience at UNIVERSITY of Universities has contributed to your professional growth as a teacher?

b. Can you share a specific example of how your attitudes towards teaching have evolved during your time at UOU?

3. Innovative Teaching Approaches:

a. Have you adopted any innovative teaching approaches or methodologies learned at UOU? Please provide examples.

b. How do you believe these innovations have positively impacted student learning and engagement?

4. Technology Integration:

a. How has UOU influenced your approach to integrating technology into your teaching methods?

b. Can you share specific instances where technology has enhanced your teaching effectiveness?

5. Research and Scholarly Engagement:

a. To what extent has UOU encouraged and supported your involvement in research and scholarly activities?

b. Have you published any research findings, and if so, how has this influenced your teaching methods?

6. Collaboration with Peers:

a. In what ways has UOU promoted collaboration with international faculty members?

b. Can you provide an example of a collaborative effort that enriched your teaching experience?

7. Diversity and Inclusion:

a. How has UOU emphasized diversity and inclusion in teaching practices, and how has it impacted your attitudes as an educator?

b. Can you share an experience where inclusive teaching positively influenced your students?

8. Pedagogical Innovations:

a. Have you adopted any pedagogical innovations or teaching strategies learned at the university? Please provide examples.

b. How do you believe these innovations have positively impacted student learning outcomes?

9. Student-Centric Approach:

a. In what ways has your UNIVERSITY of Universities experience influenced your approach to a student-centric teaching model?

b. Can you share an example of how focusing on students' needs has improved your teaching?

10. Continuous Professional Development:

a. Has UOU fostered a culture of continuous professional development among its teaching staff?

b. What recommendations do you have for UNIVERSITY of Universities to further support ongoing professional growth for its collaborators?

Thank you for sharing your insights and experiences!

EDITORIAL

TEMPORALITY

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An afternoon coffee in Amsterdam.

Temporality is defined as the condition of being temporary, i.e. lasting for a short period of time. Hence, in architecture, temporality encompass all those works that are designed not to last, conceived to be ephemeral. As temporary structures, they may appear in urban environments in response to functional needs, cultural expressions, or even marketing purposes, such as pop-up architectures. They may also be pre-conceived or produced in advance in order to be installed after a city or region faces so-called natural disasters, taking the form of emergency shelters or temporary facilities, including housing and hospitals. Temporary structures, unlike regular buildings, are not fixed to a specific location or grounded. Despite this, they can establish strong connections with places. Tunçbilek (2013) elaborates:

In architectural discourse, transitory structures have the power to create awareness by defining the space in which they reside, which is linked in a complex manner to their context. These temporary structures are the first examples of their kind that may be constructed more widely in the future. They have the potential to make an effective connection to the environment and space, and to have a greater connotation with architecture that more complex contemporary buildings cannot.

From the perspective of human experience, the concept of temporality is determined by our awareness and accountability of time. On one hand, the perception of temporality entails sensory experiences of the passage of (through) time, without necessarily relating to the past or future (Pallasmaa, 2000). It thus embraces only the tangible connotations of the present time. This notion applies to most expressions of temporary architecture, where the condition of temporality becomes meaningful within a quantifiable framework (Stefanovic, 1994). This framework, in turn, can only be situated on the opposite side of a timeless, everlasting, permanent place. On the other hand, temporality addresses narratives, whether implicitly or explicitly, that unfold through a series of experiences in time. Darvill (2008) explains:

In contrast to the measurable and calculated notion of time/chronology, temporality is concerned with the way in which a sequence of events, a kind of history, is physically experienced by those who live through them or experience them. Thus the passing of time is treated not as a neutral dimension but rather as being constituted by social practices.

Demolition of buildings in Izmir..

Building ruins in the water.

Within the built environment, temporality questions the lifespan of buildings, which are meant to last, but for how long? Sooner or later, all building materials will decay and return to basic elements. Temporality can therefore be understood as the physical manifestation of the entropy that governs our existence. As such, the materialization of an architectural work requires borrowing energy from various sources, which is put together and maintained for a limited space of time. Eventually, all that energy returns to its sources, so architecture becomes a moment, a footprint, a memory. The architectural matter is thus energy, which, by definition, does not remain unaltered but is in constant motion. This transformation over time being the essence of the condition of temporality.

In this edition, we present a combination of fresh and revisited perspectives on the concept of temporality. From rather abstract understandings of temporality to its physical manifestation as time passing, all authors explore concurrent, overlapping, and often indivisible time-space relationships. Hence, the diversity in richness, depth, and texture with which authors offer their experiences, perceptions, thoughts, arguments, and hands-on approaches. Consequently, we organized the articles and essays ranging from phenomenological or sensorial approaches to temporality, where at times, narratives become poetic or even speculative in nature, to pragmatic views of temporality as physical interventions and temporary architecture. In the latter, authors discuss the implications of time when designing, executing, and installing artefacts that will not be permanent.

1. In **Wit[h]nesses of Time, A Note-Book of Hours on an Astrolabe (A Partial Story Halfway Through)**, the authors introduce an intellectually stimulating perspective on the intricate relationship between time and architectural work. With the help of beautiful drawings and through a poetic and speculative narrative, the authors question the critical role of drawings in representing time and its indivisible separation from spaces. The authors embark on an imagined journey through time, leading the reader from a primary understanding of astrolabes as instruments for precise mathematical measures of space to a speculative merging of astrolabes and drawings. In this exploration, we become one with the space-time they embody while simultaneously witnessing its unfolding beyond our own changing and situated positions.

2. In **An account of a day-trip: Bonded narratives of space**, the authors narrate a circumstantial encounter with stray dogs at the archaeological site Aşağıpınar Höyük, Kırklareli, triggering a personal account of time, diverging from linear time passing. Utilizing a set of exploratory drawings, the authors present a subjective story where the visitor's experience of bonding with the dogs simultaneously reflects on how those non-hierarchical temporalities articulate spatial constructions. By establishing personal visual and corporeal relationships with the physical context, the research aims to inquire about the potential role of bonding practices in spatial making. Such bonding practices rely on dynamic relationships between oneself and the other, thus establishing a constant re-configuration of space, time, and matter.

3. In **Time in the Shell: Temporality as a Mode of Spatiality in Japanese Architecture**, the author takes the reader on a journey into the unique Japanese cultural understanding of time and its indivisible connection with space. Time, expressed as a structure of existential cycles, defines the particular spatiality in Japanese architecture. The paper explores three projects through phenomenological examinations, shedding light on key Japanese concepts and aesthetic conceptions. The author

argues that the cyclic nature of temporality forms the existential basis for their 'culture of spatial design.' Through the examination of this aesthetic approach to define temporal spatiality, new existential approaches to the construction of space can be unveiled.

4. In the essay entitled **A Landscape in the air: Designing on a dynamic environment**, the author approaches the idea of temporality from the perspective of an architectural work that— when placed in Nature—remains as an open design process. The thesis here is that architects only starts the process, while time sets the framework in which a dynamic environment will finally determine the final outcome: whether the project successfully integrates or simply disappears. The article discusses how designing with and within such a dynamic environment entails departing from a static approach— in which the architect produces the design—towards an uncertain future resulting from the cycles of construction and dismantling of the architectural work, through time.

5. In **L'orizzonte della memoria: Duration, Change and Extended Time in the Ecumenical Cemetery of Caltagirone**, the author explores the temporal dimensions of architecture and questions the mere notion of time as articulated through human memory and experience. The proposal for an intervention in a cemetery in Catania, Italy, serves to pinpoint the key aspects of an extended temporality, which is transformative in nature and expressed in both material and immaterial dimensions. The paper offers viewpoints to frame temporality based on the mystical dimensions of a necropolis, the non-stop design process, and the tectonics of the architectural object, beyond its temporal consolidation as a built work.

6. In **The potential roles of design and designers within a time-based approach / Multiple temporalities: projects, processes, and communities at SS. Trinità delle Monache in Naples**, the author argues for the necessity of resorting to multiple temporalities when dealing with complex design processes, particularly in the context of building heritage. Through a critical analysis of the interventions planned or applied to the former Convent of the SS. Trinità delle Monache, the paper explores the roles of both design and the designer as design processes unfold over time. Six connotations are then proposed to exemplify a time-based open design process, initiated with the aim of recovery, valuation, and opening the building to the city.

7. In **Playful methods for inclusive cities: Games as an adaptation to the time frames of participatory urbanism**, the author investigates simplicity and transience as basic conditions to integrate communities into major urban initiatives through games. Such playful approaches aim at unfolding transitory urban interventions, where community members feel represented and heard, thus leading to a sense of community ownership. The study is developed in an architectural undergraduate course in Antofagasta, Chile. The ludic exploration is based on a hypothetical urban project, where several teams use role-playing games to develop architectural programs for existing communities, thus improving existing yet somewhat complex methodologies.

8. In the essay entitled **Temporalities and the Urban Fabric: Co-Producing Liminal Spaces in Transitional Epochs**, the authors depart from the integration of Augmented and Extended Reality, urban studies, and social sciences to unveil complex relations between temporality and urban spaces. The focus of their study is on the cities of Houston, U.S.A., and Amsterdam, the Netherlands, which serve as frameworks to explore the impact of liminal spaces in the construction of transient and dynamic urban landscapes. These explorations materialize into a physical construct through the installation of a lattice structure, which, as an abstract representation of urban phenomena, can shed light on the complexity of the urban role of liminal spaces.

9. In the essay entitled **How to design (and assemble) a pavilion: Mastercard's Tourism Innovation Hub experience**, the authors approach temporality from a pragmatic perspective. While describing the design and construction processes of a stand/pavilion, which is based on a free and contemporary reinterpretation of the 'balloon-frame' system, the intersection between architecture and temporality is revisited. The authors argue that, given the current environmental emergencies, the systematic introduction of assembly/disassembly and reuse strategies is not only a must, but it adds new interpretations to the ephemeral nature of temporary architecture.

10. In **Student Mentoring Programme as a new tempo in architecture education**, the author introduces a pedagogical initiative emphasizing the importance of extracurricular activities in architectural education. The proposal involves introducing a different tempo in the learning process, facilitating instructor-student conversations. Ultimately, this strategy aims to enhance students' preparation for their professional lives.

As is a tradition in the UOU scientific journal, the **ATLAS** includes works from both UOU workshops and students' contributions answering to the call. The experiences **ProtoLAB** and **Urban Devices for the City of Évora** fall into this category. In addition, this time the ATLAS also includes works developed by the editors outside UOU, such as **Teaching with Prototypes**.

The **OVERSEAS** - which includes works developed outside UOU relevant to the call - closes this edition with **Architecture and temporality**, the forgotten museum city of Saint-Pierre, and **Between camp and slum**, or the informal settlement as a process for the survival of a displaced population in Sabra and Shatila.

Components ready for assembly.

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On Temporality

A conversation between the Editorial Committee members

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MMB Temporality encompasses the relationship between architecture and time. In order to make it tangible - or describable, or even measurable - we need a reference point. When we anchor it to an object, temporality acquires meaning as the merging of past, present, and future. When architectural work transcends the limits of its time, it is reinvented and reborn, as many times as needed, to remain in the 'present'. Time is thus the mere reflection of successive changes made to survive, to avoid demise. When we fix the reference point to time itself, temporality speaks of temporary acts, of the ephemeral, which takes shape in the form of physical interventions in the built environment.

JŁ Here, I would like to refer to Polish philosopher and sociologist Zygmunt Bauman, who created a notion of 'liquid modernity'. In his eyes, contemporaneity is not a single continuation of events but a series of new beginnings (Bauman, 2000). These new sequences are ephemeral and subject to constant change, so temporality can be understood as a series of elements of constancy. So time may be relative, but not in the sense of Einstein's theory, but of our condition as societies.

MLN Time is and has always been a fundamental theme in architecture, In the essay 'The beginning, the end and the beginning again', Peter Eisenman (1984) identifies two types of absence: "'was' or 'has been'; and 'will be' or 'becoming'. The first can be called memory and the second immanence. Every presence therefore contains an absence; this absence is the absence of its previous presence: its memory and the presence of a future absence, that is, its immanence" (Mei, 2015). Time in architecture can also be interpreted as that "in between" time, and it is when instead of time we consider temporary and transitory intervention as an approach to architecture, that is what we can probably define as ephemeral design. What do we mean when we talk about ephemeral design?

JAB I must remark that ephemeral design was distant from the core of our architectural learning, and the theory of temporality projects was pushed into the periphery of our knowledge.

MMB Regardless of scale, temporality helps describe those works in terms of measures of time: a day, a week, a season. All dimensions of time embrace architectural space.

JŁ On the other hand, a building that was perceived as an eternal symbol of Paris, the cathedral of Notre Dame, almost disappeared from the earth in a matter of hours, as a result of a few coincidences and such a mundane and temporary act as the lighting of a cigarette by one of the workers.

JAB Ephemeral design, as a dimension of time, is a probability and it is shown as a dominion of the region of possibility. Temporality transcends the notion of architecture as an "object". It is time to think about architecture differently, architecture as a "non-object" can redefine the aim of the design project including the notion of time.

The clue for a sustainable future is to establish a relationship between architecture and time. The history of the architecture, in the past, has been written with a principal belief, namely that the city is a static structure.

Under this premise, do we talk about innovation, social behaviour, nature, growth, time, change, sustainability, weather, citizenship, atmosphere, water, adaptability, welfare, environment..., when we talk about architecture nowadays?

What would have happened if had we thought of the city as a dynamic system, if we had spoken from the beginning about temporality?

MD We're encouraged to make our designs capable of standing the 'test of time'; of being, at least in their physical capacity, durable and long-lasting. In some ways this pushes back against ideas of temporality, suggesting that somehow the ephemeral is now counter intuitive when viewed against agendas that address climate change and the need to reduce waste. The longer lasting it is, it seems the better it is. Of course, the problem with this

thesis is that it dismisses the impact of time on our relationship with changing technologies, costs and fashions. The buildings of even 50 or 20 years ago are now 'outdated' when measured against all three of these criteria. It assumes that as the clock ticks on the ideas and components embedded into (previously) good buildings somehow tick on with it. They don't. This is where the architect (and others) needs to acknowledge the 'temporality' of all that goes into the design, building, occupancy and post occupancy stages of a project. Good design is therefore 'temporary' design - I would even go so far as to say it is, not just 'temporary' but even 'short term'. I don't mean that badly. I mean that we need to build-in dilapidation on a realistic timeframe - that is a short time frame - to our design efforts and to our teaching of architecture. Students, all too often, produce meaningful propositions for the present, and we assess them on that basis. But we (academics) pay too little attention to the teaching and assessing of resilience to time as a quality in our studios.

JAB I totally agree. The University has many things to say about real change and the real need for a move to sustainability. If we had thought of the city as a dynamic structure, we would have learnt from the beginning that architecture was related to innovation and ephemeral conditions. The city is a real dynamic system with temporal real transformations.

JŁ Moreover, as Shigeru Ban points out in the interview published in this Issue of the UOU Scientific Journal, temporary architecture at events such as Worlds Expo have been catalysts for innovation and development in architecture.

MLN Can we talk about a shift in the way we approach the discipline of architecture?

MD hat is not simply a building's ability to stand up for a long time, it is much more complex and explores the intricate question of easy adaptability. In a sense it means designing for all the things that you are not actually designing for when you pick up the pencil on a new project. We feel shy about discussing 'death' but we need to discuss the 'death' of a building before it has even come alive - and design for it. All buildings and their uses are temporary - let's teach students how to design 'temporarility.'

SS I In the global north, stories of permanence are woven around us, playing out in both our bodies and our cities. Faces and facades scraped clean of the marks of time reflect an engrained chronophobia, what Karsten Harries (1982) termed the terror of time. Design keeps on designing, further instilling these fantasies of permanence within our temporal world with problematic consequences for both ourselves and our planet. We ravage the earth in an ever increasing search for resources to fulfil demand for the ever new, destroying habitats and ecosystems. Whilst an inability to accept impermanence psychologically scars us, furthering suffering.

Despite all our ambitions to deny it, our architectures and ourselves are ongoing process. Fixed form is just a fantasy, all architectures are kinetic and are ongoing processes moving through time. To clean or repair is never to step back in time, but to add another layer to an ongoing story.

JAB Moving through time by temporality, architectural design has to be clarified by the kinetic relationship between citizens and city life. We have the possibility to use democratic tools to give architecture a real quality of representation. We must work with the possibility that the issue is dynamic perception.

"Nonlinear dynamics needs nonlinear equations to be solved. Nonlinear equations often involves a pattern of solutions and are difficult to solve" (Morrison, 1991).

Ephemeral design has no-references, changes constantly and often involve a pattern of solutions that are difficult to resolve. Design with time and indeterminacy uses design research, as a technical tool to work with diversity, open future, emotion, imagination and a complete project to establish a dynamic process. This process tries to formulate concepts concerning architecture and life.

SS Our architectures are narratives written across time, their surfaces evolving palimpsests of events that Morton has described as poems (Morton, 2013). Ruskin famously said that to remove the stain of time was a crime (Ruskin, 1880). As Leatherbarrow writes, buildings are time and as such can aid our temporal understanding (Leatherbarrow, 2020).

MLN Absolutely, the analogy with the palimpsest in architecture has been introduced thirty years before Morton´s text. Architecture is described in its potential of being understood "as subject to a constant process of change through time", where different traces and signs overlap and define the territories, cities, and our built environment as we know it today (Corboz, 1983). And it is obviously embedded in the notion of cities growing over time by building on existing traces: Napoli can be an example. The relationship between architecture and time implies a shift in the reading of the role of the architect as the one who is capable of designing the process, enabling the future dimension, imagining an open framework rather than predicting a fixed outcome. Cities and, therefore, architecture are to be seen as the scenery for transitions, capable of building strategies in which the physical data of the architectural project takes into account its inhabitation, management and life cycle. A holistic approach to architecture that takes into account the notion of time. The architectural object is considered to be part of a broader context which includes several parameters involving not only physical, but social and economic aspects.

JAB As you mention, cities need to be thought of as dynamic structures, where time is the focus for designing new intelligent realities. As a dynamic system (Gunaratne, 2003), we must work with iteration. In order to understand the new situations mathematical formulae are needed. In a dynamic system there is an interdependence between time and space. Dynamic systems exhibit three necessary conditions: iteration, nonlinearity and sensitivity to initial conditions. The iteration speaks about the notion of traces as signs of physical space.

Sensitivity to initial conditions means that the system´s asymptotic behaviour varies when the initial conditions are changed by even a small amount: the butterfly effect. As we understood in the university, we need to be precise, in terms of education, to the initial conditions.

MLN This operation in architecture is close to the notion of montage. This construction involves, as in any design process, a selective memory and therefore the removal of some of the traces and the overwriting of new ones (Deleuze, Guattari, 1996). This reading phase coincides with that of identifying the signs of physical space, to extract them from their stratifications, interpret them, reorder them and recompose them into systems that are significant for us. Reading must be done with a planning mind, to reveal the past and glimpse the future (De Carlo Bunčuga, 2014).

JŁ An interesting example of such an approach is the idea of Open Building, created by Habraken. He divided the built environment into frame and infill. The frame consists of an analysis of an urban plot, necessary infrastructure and basic structure. The infill is composed of a facade and internal spatial layout, which is influenced by inhabitants but also influences them. The Open Building involves the creation of buildings (especially housing) that can be adapted to your needs at the infill stage and also changed in the future. This implies a considerable technical and organisational challenge, but on the other hand, offers the potential to adapt over time to changing needs. It was an interesting experience during the pandemic when our flats had to turn into workplaces. A small study was carried out which showed that almost 10% of people worked ... from the bathroom because they didn't have necessary spatial conditions. Shouldn't we therefore be thinking about adaptive architecture from 2020 onwards?

Temporality in the work of Shigeru Ban

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Shigeru Ban on the way to Lviv the 29th of June 2023 reading the Issue # 3 of the UOU Journal REPRESENTATION

Shigeru Ban is the world renowned architect whose work has been recognised for its form, functionality, use of unconventional materials and, above all, for its function in supporting people in emergency situations. After the Russian invasion on Ukraine, thanks to his efforts, with the support of Hubert Trammer from New European Bauhaus Round Table and volunteers, the Paper Partition System (PPS) was set up in Poland within days. PPS is a system consisting of paper tubes and fabrics with which large spaces where refugees or victims of natural disasters gather can be partitioned off into small rooms that provide a sense of privacy. The next step in the aid activities for Ukraine was the realisation of the Styrofoam Housing System (SHS) prototype unit, which was built in June 2023 in Lviv. SHS was intended as a day-care centre for IDPs' children. Next to the support for Ukraine, Shigeru Ban is constantly involved in relief architecture in different parts of the World. In March 2023, Shigeru Ban initiated the implementation of the PPS for the victims of the earthquake in Hatay Province Turkey, and in May, the construction of the Paper Log House a temporary building that serves as a classroom. This interview was held on the way to Lviv, where on 30th of June 2023 the SHS prototype was presented as one of the possible ways to support victims of the war in Ukraine.

Jerzy Łątka (JŁ) and Mauricio Morales-Beltran (MMB): In 2004 you have created the Paper Temporary Studio on the terraces of the Centre Pompidou in Paris. Please, tell us how this work was conceived to be integrated with the ideas Renzo Piano and Richard Rogers had for this building.

Shigeru Ban (SB): After I won the competition for the Centre Pompidou in Metz, I decided to establish an office in Paris. Because renting an office in Paris is very expensive, I asked the president of the Centre Pompidou if I could use the terrace rooftop to make a temporary office. He agreed under the condition that I would show the inside of my office to some VIP guests of the Centre Pompidou, and they could see what was happening with the new Pompidou Centre design, like in an art gallery. So they agreed to lend me the terrace. He also asked me to get permission from Renzo Piano. Therefore I visited him to get his permission. Renzo Piano was very pleased, because when they won the competition for the Centre Pompidou in Paris, they first

Paper Partition System in Chelm Poland, March 2022.

made a temporary office on a boat on the River Seine. He said it was the same legacy to start with the temporary office. A building added on top of an existing building had to be very lightweight. That was the reason why a paper tube structure was chosen. It was also appropriate to make the Studio without connecting it with the existing building, as we were not allowed to do that. I created a lightweight structure, just sitting on the terrace without any connections. I built the Studio together with my students from Japan and French students. Moreover, after the experience with the Japan Pavilion for Hanover Expo, I was already familiar with European permission to use the paper tube for the structures, the temporary structure. Therefore, I used the same diameter of tube because it had already been tested in an official German laboratory. That's why it was easy to get permission. But the design had nothing to do with the design of the Centre Pompidou in Paris.

JŁ & MMB: And was the design approved by Renzo Piano?

SB: Yes, we got the permission.

JŁ & MMB: You have mentioned that you were inspired by the Emilio Ambasz in the way he presents his designs to clients, which always have two functions. Has this functional duality, has any influence on your work?

SB: Yes, he never pushed the design, but his design is always about problem solving. He always convinces clients by telling them how to solve some existing problem with his design. So I learned this process of designing and also of convincing the client.

JŁ & MMB: Another question concerns the Paper House and Paper Log House. You designed them in 1995 and the Paper House was designed to be permanent, while the Paper Log House was not...

SB: Paper House is my own house which was designed to get government permission as a first permanent paper tube structure.

JŁ & MMB: On the other hand, Paper Log House was built as temporary residence. However, they were both made from the same material. What makes a house temporary and what make it permanent?

SB: I never designed a house as a temporary. A house can always be used permanently. The Paper Log Houses I built in India in 2001, are still there. They are not used as houses anymore, but as a local clinic, hospital. So, as long as people take care of them, they can be permanent. It is also possible because we designed it as a solid and safe structures in cooperation with the engineers.

JŁ & MMB: A similar situation happened with the Paper Church and Cardboard Cathedral. The Paper Church which was built in 1995 was conceived as temporary. However, it was dissembled after 10 years and re-assembled again in Taiwan in 2008 as a permanent object. Similar history happened in 2013, when you designed and built Paper Cathedral in Christchurch, New Zealand. Again it was conceived as temporary but it became permanent...

SB: Yes, normally if we call the design temporary, a client can make a decision to vary things easily. For example, after the main cathedral in Christchurch was destroyed by the earthquake nothing was decided as to whether it would be rebuilt like original design or something new would be built. Actually there were three proposals, and rebuilding the original cathedral was the most expensive. Therefore, people were arguing between three options. And even now, after 10 years they can

Styrofoam Housing System next to the relief container.

Shigeru Ban on the way to Hatay Province with the editors Mauricio Morales-Beltran and Jerzy Łątka.

not make a decision. That is why they use this temporary structure almost as a permanent one. And, the building also met the local regulations.

JŁ & MMB: Do you think that religion has any influence on that? That people somehow, let's say spiritually, got attached to the structure and they want to keep it for the longer time.

SB: It's not the case, it's because they can't make a decision about how to rebuild the old cathedral. But even if the old cathedral could be rebuilt they may keep the Cardboard Cathedral permanently because it became a very famous symbol and it's a tourist destination. So, we don't know, it can become permanent...

JŁ & MMB: Is there any life-span predicted for this cathedral, was it designed for some specific timeframe?

SB: As a permanent structure.

JŁ & MMB: For the design of the Japan Pavilion for the Expo in Hannover in 2000, you worked with Frei Otto, Buro Happold, Sonoco Europe (paper tube producer ed.) and many other partners. What makes architects, engineers, contractors and stakeholders invest money, energy time and resources into a project that is only temporary? How can you convince so many different partners to get involved in just a temporary structure?

SB: Expo originally was an opportunity to try innovative structural solutions as prototypes. In history there are many new structures that were proposed for Expo and became trendsetters. At the Expo in Osaka in 1970 for example, the American Pavilion was an air dome for the first time, and now there are many such solutions all over the world, another example is Buckminster Fuller's dome pavilion in Montreal in 1967. Traditionally Expo was kind of field for architects and engineers to try something new as an experiment for the future. This is why, even if it's temporary, it is really worth to making the difficult but innovative. However, now, not that many countries make innovative pavilions anymore.

JŁ & MMB: You are currently working on the new pavilion for the next Expo, which will take place in Osaka in 2025.

SB: And I am actually the only one who makes an innovative structure, using carbon fibre, paper and bamboo. Other pavilions are just a stylish things, nothing innovative.

JŁ & MMB: Those pavilions, they are three domes, will they be temporary, or is some future life predicted for them?

SB: We are looking for a place to move them afterwards.

JŁ & MMB: The Japan Pavilion from Hannover Expo was dismantled and recycled.

SB: Yes, the original idea was to recycle the pavilion after its demolition. We signed the contract with Sonoco, which said that they would collect the used tubes after demolition and recycle them.

JŁ & MMB: Do you think that Paper Partition System designed for emergency scenarios could become a permanent installation?

SB: No, because the privacy partition is only good for a certain period. It's never permanent but it's permanent to use, because it can be dismantled, stored and used again for another emergency situation. So as a lifespan it's permanent, but it is used temporarily for the particular period, when there is a need for evacuation facilities.

JŁ & MMB: As far as we know, it became an official solution in emergency situations for Japanese government.

SB: Yes, yes, after I spent 15 years convincing the government...

JŁ & MMB: After all these works you have done so far with paper, what makes paper an ephemeral material and what makes it permanent?

SB: As I always say during my lectures, if people love a structure, even paper can become permanent. On the other hand, many of the concrete buildings made by commercial developers in order to make money are often temporary, because another developer prefers to destroy the building to make a new one and more money. Whether something is temporary or permanent doesn't depend on what it is made of, it's rather people who love the building or not. That decides whether the building is temporary or permanent.

JŁ & MMB: Thank you for the conversation!

SB: Thank you!

TEMPORALITY

Wit[h]nesses of Time, a Note-Book of Hours on an Astrolabe

A partial story halfway through

usturlap
saat
mimari çizimde bedensellik
izdüşümsel oluş
astrolabe
timepiece
embodiment in architectural drawing
projective cast

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Zamanda nasıl seyreder, nasıl dümen tutarız? Usturlaplar, genel tanımıyla, gizli kozmolojik bilgiyi mekansal ve zamansal açılımlarıyla 'okumak' ve yorumlamak konusunda bize rehberlik eden, gök bilimle ilgili araçların en eski ve etkin örneklerinden biri olarak dikkat çekerler. Usturlapların yorumlamaya dayalı, şiirsel ve felsefi düşünsemelere doğru açılan oldukça çeşitli kullanımları olsa da, günümüzde navigasyon ve zaman hesaplamasına dair, nispeten nesnel uygulamalarına karşı daha popüler bir tarihsel ilgi duyulduğu söylenebilir. Bu durumla bağlantılı olarak, usturlapların sıklıkla matematiksel kesinlik ile ilişkilendirildiğini ve "geometrik esaslara dayalı, tutarlı ve geometrik bir alan" (Aiken, 1994, s.341) kurduğu şeklinde genel bir kanı olduğunu söyleyebiliriz. Ancak usturlapları öncelikle birer 'çizim' olarak ele almak, usturlaplarla kurduğumuz (ve tarih içerisinde bastırıldığını öne sürebileceğimiz) bedensel ilişkimize dikkat çekebilir; ve böylelikle dünya, gözlemci ve usturlap arasında kurulan çetrefilli mekansal ve zamansal ilişkileri ve bununla birlikte ortaya çıkan mekansal ve zamansal tutarsızlıkları gözler önüne serebilir diye düşünüyoruz. Bu düşüncelerle, bu makalede, çizimi bir dizi "kayıt altına alınmış" mekansal veri bankası olarak ele almak yerine, bedensel olarak içselleştirilmiş bir eylem olarak irdelemek ve bir çizim olarak usturlapla kurduğumuz (bastırılmış) bedensel ilişkimizi açmak istiyoruz. Usturlaplarla kurduğumuz bedensel ilişkimizi, Aby Warburg'a ait *Bilderatlas Mnemosyne*'deki (1924-1929) 'tarihsel olmayan' imge okumasına benzer şekilde, esas olarak iki saat yapısı arasında, analojik ve anakronik bir okuma kurgusu içerisinde tartışmaya açmayı planlıyorum: usturlaplar (8. - 16. yüzyıl) ve John Hejduk'un *Zamanın Çöküşü* (1984). Böylesine bir tarihsel tahayyülün *denklage*'si olarak Warburg'un kullandığı imge panoları yerine, defterlerimi kullanmayı ve "gerçekle kurgu arasında bir yerde devinen" (Rendell, 2007, s.187) tarihsel bir tahayyülü harekete geçirmeyi umuyorum.

How do we navigate in time? Astrolabes, described in general terms, are astronomical instruments that guide us to 'read', 'extract', 'interpret' and 'reflect' on the hidden spatio-temporal cosmological and celestial knowledge. Though they have been known to be adorned with celestial knowledge with manifold uses from practical applications to intellectual, poetic, theoretical reflections, today, there is a wider historical interest in their precision in navigation and in calculating time. Relatedly, these instruments have often been associated with mathematical certainty and with "a uniform, measurable, geometrically structured space" (Aiken, 1994, p.341). Yet, our embodied engagement with astrolabes as drawings seems to have been repressed in time; and the entangled spatio-temporal relations that are set between the universe, the observer, and the astrolabe seem to fly under the radar, as well as the spatio-temporal inconsistencies that come along with it. In this article, rather than taking drawing as a set of "reported" spatial databanks but as an embodied act that is bodily internalized, I would like to focus on our (repressed) embodied engagement with the astrolabe as a drawing. Akin to Aby Warburg's 'not-historical' reading of images in his *Bilderatlas Mnemosyne* (1924-1929), I intend to track this historically repressed survival of embodiment of astrolabes in the form of an analogical and anachronic reading mainly between two time-pieces: astrolabes (8th - 16th century) and John Hejduk's *The Collapse of Time* (1984). Instead of panels of images, I will use my note-books as a *denklage* for such a historical imagination with the hope to set a historical imagination in motion, "located somewhere between fact and fiction." (Rendell, 2007, p.187).

PROLOGUE

"[...] "Well, you navigate. Like at sea, you search out the constellations and set your course." Putting my head right up close to the carburetor I realized how intricate it actually was. It was hard to imagine that any machine required such subtle curves, or that anyone could cut such a precise course as its construction. "This is a two-barrel carburetor" Bear pointed to one of the holes. "Look at the constellations; see it's geometry; [...] you can't separate those three things anymore, the geometry, structure and story are inside of each other; they are the constellation." Bear [the machinist] had just given me a gift, if I could just remember the sense of those fields, that constellation articulating matter allowing a story to be written in space. I asked, "But how do you navigate? How do you move through those fields and actually locate the bit?" "That takes a long time to answer: What you find depends on what you are looking for and what you need. Let's take a look at your package; what did you bring today?" (Gersten, 1998).

Listening to *Bear*, the machinist, I look into my bundle with the hope of hunting the hours of a particular timepiece: the astrolabe. Shortly, my package will reveal itself hour by hour; meanwhile, the hours on an astrolabe will unfold, compiling perhaps a notebook of hours of its own kind. This short book of hours will slowly unfold with the hope that this journey will not be a narrative that appraises the time of history.

PROLOGUE 01: Questioning the Historical Genealogy of Astrolabes on the basis of a Uniform Spatio-Temporality

Astrolabes, described in general terms, are astronomical instruments, often referred to as "the instrument of all instruments" that guide us to "read," "extract," "interpret," and "reflect" on the hidden spatio-temporal cosmological and celestial knowledge. Although these astronomical instruments have been known to be adorned with celestial knowledge, with manifold uses from practical applications to intellectual, poetic, and theoretical reflections (such as site surveys, time-telling practices, catoptric sundials, horoscopic divinations, cosmological omens), today, there is a wider historical interest in their precision in navigation and in calculating time. Among their manifold uses, the interest in the instrumentality of astrolabes as a time-calculator map seems to have stepped forth and paved the way for them to be called the "first computers."

Yet, astrolabes should perhaps be considered primarily as 'drawings' in their own right: they are projections of both the celestial realms and the situated sky, incised on plates, which ultimately work as cosmological instruments. Paul Emmons, author of *Drawing, Imagining, Building* (2019), critically traces various historical trajectories of embodiment in architectural drawing and opens a potential space for the possible reflections of embodied imagination in the future. Emmons, thus, draws our attention to the dangerous but quite common tendency rising with the current computerizations in the field of architectural drawing, as well as Alberto Pérez-Gómez, Louise Pelletier (1997), and many others:

The danger lies within the reduction of practice to production and the ignorance of the vitality of the embodied imagination when the power of the tools is concerned (Emmons, 2019, p.217). The concern felt over the ignorance, exclusion or denial of the embodied imagination demonstrates a pressing urgency against sustaining this imposed classic separation, the immediate historical and philosophical roots of which, as Emmons also mentions, could be traced back to the Enlightenment. Emmons argues that the actuality of architectural drawing demonstrates indeed a more entangled situation compared to what the radically rationalized theory of architectural drawing claims to construe: Drawing is more than a set of "reported" spatial information (2019, p.13).

Architectural drawing is related with tacit knowledge, "internalized bodily", which "can be difficult to articulate even upon reflection" (Emmons, 2019, p.13). As Brigid McLeer writes on Penelope Haralambidou's drawings, "[...] taking place [...] despite not fully understanding" (as cited in Haralambidou, 2013, p.16). The act of drawing is something that escapes our immediate understanding, that is however bodily experienced, "built up from childhood on top of which we add a modicum of rational knowledge" (Emmons, 2019, p.11). This tacit and enigmatic knowledge is significantly a matter of memory and the "imaginal". As coined by Henry Corbin, "the imaginal" diverges from the imaginary and the fantasy by referring intrinsically to the cognitive power of the faculty of imagination (Frascari, 1998, p.253).[1]

With projection as an embodied act, it becomes impossible to speak of projection without bodies that engage with(in) it, nor not to hear the voices lurking around it. Emmons mentions a certain "double act of embodiment" in architectural drawing: "Architectural drawing [....] includes both the drafter's physical engagement with a drawing under construction as well as the imaginal body projected into the drawing of a future building" (Emmons, 2019, p.12-13). Emmons, emphasizing embodiment in architectural drawing, traces the origins of projection back to early traditions of on-site drawing and to manifold embodied connections between construction sites and drawing practices. In relation to this, he argues that "drawing was an index of construction" (Emmons, 2019, p.13). It stages a rather entangled situation whereby embodied practices engage with the rational, mathematical and geometrical operations.

With a reference to the etymological roots of projection, derived from *projectum* in Latin,

meaning something that is to "stretch out, thrust out, throw forth" (*proiecere, pro- (forward), iacere* (throw, impel)), Emmons argues that 'projective', rather than referring to a specific technique, implies a future open to interpretation and anticipation akin to divination. In his framework, 'projective' drawing is not a descriptive depiction of something that already exists. In relation to this, he argues that 'projective' is an inherent characteristic of architectural drawings and points out that 'projective' oscillates between presence and absence and is related to imaginative acts rather than deterministic ones (Emmons, 2019, p.3-5).

In a similar vein, but approaching from a different perspective, Robin Evans envisions projection not as a single canon of geometry in the discipline of architecture but as a broader issue, inter-situated within an 'expanded field'[2] that concerns design: In this expanded field, projective is that which relates thinking with imagining, imagining with drawing, drawing with building, building with our eyes and hands, our body. It is a slippery, translational field. In Evans's words, "projection operates in the intervals between things, it is always in transitive" (Evans, 1995, p.366). Evans's reading of projection invites us to think of 'projective' as a set of dynamic relations concerning design, not as a mere technical issue of architectural representation. A restricted understanding of projection freezes and assigns 'projection' to be a 'proper' name of a drawing technique, transforming it into 'a proprietorial instrument'.[3]

While astrolabes are canonized as miraculously wondrous instruments, and while their instrumentality has been a major topic for research and reflection, I believe that the embodiedness of astrolabes as drawings seems to have been repressed in time – buried silently underground throughout history. Instead, these instruments have mainly been associated with mathematical certainty and with "a uniform, measurable, geometrically structured space" (Aiken, 1994, p.341), providing a reliable and almost 'precise' spatio-temporal map of the celestial sphere. As their historical trajectories have been drawn forward to digitalization in architecture, transforming them into very early remnants of computerization in architecture by contemporary researchers, I argue that the entangled spatio-temporal relations that are set between the universe, the observer, and the astrolabe seem to fly under the radar, as well as the spatio-temporal inconsistencies that come along with it.

I believe that rather than viewing astrolabes as mere descriptive technical drawings, they could be discussed in terms of embodiment in architectural drawing. A close reading of our (historically repressed) embodied engagement with astrolabes as a projective and imaginal drawing could help us to speculate on the role of embodied inconsistencies in manifesting time itself. Departing from these questions, in this article, I would like to unfold a discussion that does not rehearse the astrolabe as a 'consistent' spatio-temporal celestial map and does not necessarily locate it historically within the origins of computerization.

PROLOGUE 02: A Partial Story Halfway Through, a Note-Book of Hours

Aby Warburg, with his unfinished work *Bilderatlas Mnemosyne* (1924-1929),[4] offers an alternative way to read history of art that is not strictly based on formal styles, chronological genealogies and historical significations. Consisting of plates (*Tafeln*) – wooden panels on which images of various kinds, in different size and formats, are pinned to form constellations around certain themes or questions that goes beyond the historical categorizations – the *Atlas* demonstrates the qualities of an "open work", as well as of a work-in-progress (as it actually was). It is the unusual arrangement of images that becomes challenging, rather than the comprehensive number of images the *Atlas* includes. Through the way the images are put together (not only through the images themselves), the *Atlas* intends to move the reader mentally and calls for a historical imagination.

Warburg's library, built over the years, shows a similar characteristic to his *Atlas*, although it is not visual like the *Atlas*. As described by Warburg's library assistant Gertrud Bing, his library is "a curious combination of museum and laboratory" (Wimmer, 2017, p.249). The constant arranging and re-arranging of the books in the library take into consideration what Warburg calls "*Denkraum*" (a space or place of thinking) or what Bing refers to as "*Denklage*", which could be described as "the situation, the site and constellation of thinking", or "the lay or the layers of thought" (Wimmer, 2017, p.249). The arrangement itself invites the visitor or reader to engage with the embodied, symbolic configuration of knowledge or images in "historical motion".

The process of a never-ending arrangement of images creates anachronic configurations, representing a complex historical time in motion. Since this anachronic configuration of images is open for engagement with the reader, I believe that this anachronism comes with a 'not-yet' condition and transforms into an even more complex model of a non-historical time. While the *Atlas* works beyond institutional and chronological authorial boundaries to make connections beyond the disciplinary borders, the constellation becomes "alive," rather than freezing historical time into a new definite configuration.

Warburg's *Atlas*, although it is not open to be shuffled physically, encourages its reader to engage with it mentally in the manner of playing with cards – yet, perhaps without falling into "a structurally paranoid approach that [...] everything could relate to everything else" (Wimmer, 2017, p.255). Warburg's *Atlas* is primarily concerned with the

repetitive occurrence of certain forms in various images throughout history, and it tries to trace these occurrences by making analogical relations that put these images and forms in historical motion. Thus, it plays with the historical time in an inventive way.

According to Wimmer, the re-definition of history as an intellectual act of imagination "takes us beyond the imperative distinction between *historia* and *history*." (Wimmer, 2017, p.266-267). In relation to this, we may suggest that we may speak of the possibility of a history and an archive that is not conventional, hence not institutive and conservative, but "always a partial story halfway through" (Cheatle, 2013, p.133).

In a similar vein, my speculative reading on astrolabes intends to "explore historical knowledge as an ongoing reconstruction in the present, located somewhere between fact and fiction" (Rendell, 2007, p.187). Akin to Warburg's not-historical reading of images making use of analogical relations, I intend to track the historically repressed survival of embodiment of astrolabes, specifically focusing on the embodied relations between the astrolabe(s), the observer(s), and the universe(s).

My non-historical reading will be in the form of an analogical reading mainly between two time-pieces: astrolabes (8th – 16th century) and John Hejduk's *The Collapse of Time* (1984). Yet, instead of panels of images, I will use my note-books as a *denklage* for such a historical imagination that includes found images, as well as my own drawings and notes (Figs. 1 and 2).[5]

With the hope to set a historical imagination in motion, now, I will proceed with my note-books of hours, and slowly wander in and out.

1. HOUR | … but, how do we navigate? 'But' rises like a monolith

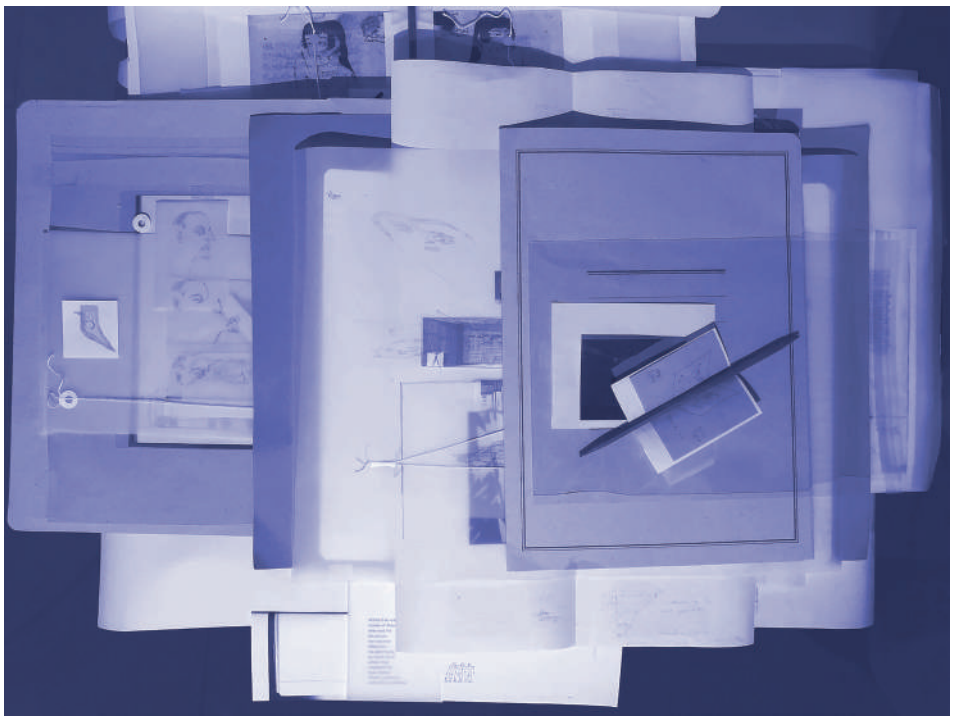


Fig. 1 - Note-Book of Hours by Bahar Avanoğlu (2022).

Fig. 2 - Note-Book of Hours by Bahar Avanoğlu (2022) structured akin to Warburg's *Bilderatlas Mnemosyne* (Panel 39, Final Version of *Bilderatlas Mnemosyne*, the Warburg Institute, School of Advanced Study, University of London, available at <https://warburg.sas.ac.uk/archive/bilderatlas-mnemosyne/final-version>).

… But, how do we navigate?
Subsequent to a particular period of time of being enraptured by the intricacy of the rotational discs, projected lines, obscure ornaments, numerical inscriptions, intimidatingly detailed tables, and in some cases poetic verses and symbolic inscriptions, this might be one of the questions we ask ourselves the first time we encounter an astrolabe (Fig.3) - *asṭurlāb* in Arabic, derived from Greek, meaning 'taker of the stars' (Morrison, 2007, p.1). And perhaps this might have been the question that haunted the fifteenth century Cairo astronomer al-Wafāʾī and urged him to complain that the Aleppo astronomer Ibn al-Sarrāj did not write any texts on how to use one of his creations, "the most sophisticated astrolabe ever made" (King, 2007, ch.1), and then

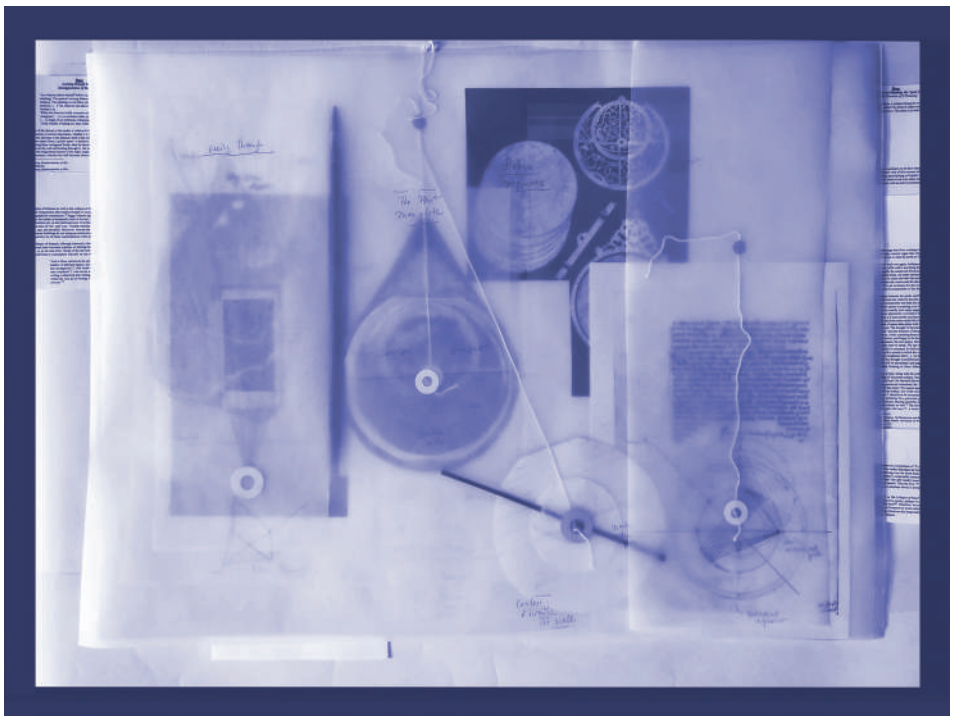


Fig. 3 - Note-Book of Hours by Bahar Avanoğlu (2022) on our embodied engagement with an astrolabe. On the left side, I have a screenshot of my phone, taken as I was examining the constellations via the *SkyView App*. The screen acts as a see-through dome showing the constellations. The rest of the visual notes is about astrolabes: I have fragmentary notes such as "the 'but' monolith", "sunrise" (on the left side of the plate), "sunset" (on the right side of the plate), "flatness, opaqueness", "looking through the wall"...

prepared one on his own. Diving into the pleasing abundance of treatises, manuals and articles, old and new, we might happily take curious and variegated paths of exploration. 'Instruments of all instruments' or even 'the very first computers' would be some of the frequently attributed definitions we would certainly encounter, used for these astronomical instruments, with regard to their manifold uses, precisely more than thousand uses according to the tenth century astronomer 'Abd al-Raḥman al-Sufi (King, 2007, ch.1).

Indeed, now perhaps a historical artefact, once 'the instrument of instruments' that every philosopher or philosopher candidate should be educated on.[6] While we are exposed to minute details how each part, each dot, each degree, each line works, this flat instrument seems to get *transparent* and *transparent*; almost freeing itself from its materiality and consisting purely of overlapped *projected* drawings; in other words, of lines and dots representing the celestial realm. The transparency of drawing is also related with the transparency of meaning, or the greed to *see reality behind the drawing*, or the meaning behind all the dots and the lines. Rosalind Krauss mentions the criticality of the distinction between transparency and opaqueness of a painting with a reference to Clement Greenberg: Transparency falls to illusionist and realistic art, where you can see reality through the painting, while opacity falls to modernism "establishing painting as a cognitive rather than merely a mimetic object" (Krauss, 1980, p.191).

So, as we are exposed to the meaning of each dot and of inscribed lines on the astrolabes, and as the instrument gets *transparent* and *transparent*, we now realize, that we in fact got hold of its entire intestines directly in our hands: The skin of ornaments, in fact hieroglyphs of the fixed stars; the elegantly curving lines, in fact projections of both the celestial realms and the situated sky; circular rotations in fact a celestial gesture; overall, a time-teller, a navigator, a pedagogical tool, a highest form of a gift,... but foundationally, a drawing on its own terms – confirming, in Deanna Petherbridge words, "the primacy of drawing" (2010) or the importance of drawing in the visual thinking.

Indeed, these instruments of instruments could be considered primarily as drawings in their own rights, which work as cosmological instruments, perhaps as "reading machine"s or the first lesson of the three lessons in architecture in Daniel Libeskind's terms (1985). The philosopher shall read, extract, interpret and reflect the hidden spatio-temporal cosmological and celestial knowledge through these incised hieroglyphs of constellations. As we read in a poem accompanying an astrolabe by the tenth century astronomer-mathematician-poet Abū Isḥāq, the astrolabe works as a model of not only the earth but 'the highest sphere':

The petitioners / those hoping (for your intercession) gave you presents whilst they celebrated / gathered together on the day of the great / new autumnal festival / birthday, over which you presided (with your greatness).

But your servant Ibrāhīm, when he saw the grandeur of your status over all that might compete with it, / when he saw that there was nothing that could compete with the grandeur of your status, was not satisfied with giving you the Earth, and so he presented you with (a model of) the highest sphere together with all that is within it. (as translated and cited in Abuzayed, King and Schmidl, 2011, p.93)

Now, we, the assigned hermetic readers of this wheel of fortune, slowly shift between being a timekeeper (or perhaps more correctly a time-reader) and a diviner, and an astrologer, and a surveyor, and a sailor, and a prayer, and a poet, and a teacher, and a student, and perhaps an architect also responsible to make timepieces as assigned by Vitruvius. However, as the instrument gets *transparent* and *transparent* with each piece of information, obscurity surprisingly not only prevails, but falls even stronger upon us while this reading-machine becomes opaquer and opaquer... *But, how do we navigate?* This question now haunts a modern

spirit in us. "The "but" which rises like a monolith at the threshold of the sentence" (Sartre, 1988, p.32-33) defeats the transparency of information on how this astrolabe works.

This modern spirit does haunt us inherently, not merely because we are already exposed to much more competent digital tools that now replace this instrument. And not because we thus suspect the actual instrumentality of this astrological device, even though the intricate matrix of projected lines on the instrument is still working almost eternally except for some expected degree conflicts. Also, not because the nature of the practice of symbolic reflection and the hermetic reading has gone through many tests and altered severely in the past hundred years, transforming this instrument perhaps into an object of historical contemplation or aesthetic curiosity.

The 'but' rises as a monolith with a reference to poetic opaqueness and sensuality, urging us critically to object to the transparency of meaning: "It is no longer a meaning, but a substance. It is seen from the outside and Rimbaud invites us to see it from the outside with him" (Sartre, 1988, p. 33). As Rosalind Krauss draws our attention to this aspect in the context of architectural drawing, the 'but' monolith investigates the literary construct through the "baring of the device": "That is, forcing the reader's attention to the actual procedures of writing, or narrating, directly exhibiting the technical substructure of the story. [...] To force the viewer to encounter the picture as first of all a flat object, is for the painter what Shklosky's "baring of the device" is for the writer" (Krauss, 1980, p.189-191). Relatedly, the 'but' in our question urges us inherently to the opaqueness and flatness of the astrolabe, as opposed to seeing through the device, that is through the inscribed lines and through the dots. In other words: as opposed to the greed of seeing reality through the drawing. Afterall, is it not so that planispheric astrolabes are additionally referred with the adjectives ***saṭḥi*** or ***musaṭṭaḥ*** (meaning flat),[7] and thus are characterized primarily by their flatness?

Now, I look back into my bundle and pick out an Ottoman miniature.

2. HOUR | The Book-holder and the Astrolabe-holder

This particular Ottoman miniature, illustrated in *Şehinşahnâme* [*Book of the King of Kings*],[8] depicts a regular scene in an Ottoman observatory built in Istanbul in 1577 (Fig. 4). Among many illustrated instruments, we see some astrologers engaging deeply with an astrolabe, a couple of quadrants, a dioptra, compasses, dividers, a clock, sandglasses, books, a pen box, a celestial globe, a terrestrial globe... Surely, we might get a bit confused by the peculiar visual narrative of the miniature, as it perhaps cannot provide us with a 'measurable' data on how the astrologers should characteristically use these instruments. We perhaps feel more lost than ever, when we see the terrestrial globe depicted in an elevational view, flattened almost perfectly into a circle, in contrast to its base (along with all other bases in the room), which is depicted three dimensionally in reverse perspective. The *observer* holding the globe with one hand (perhaps as a gesture for its rotation), seems to be distanced to the model except for his manual gesture; and he seems to be situated *outside* the model. As is the man working on his drawing with a compass on the table. Looking and hovering over the model or the drawing of the globe while being situated directly on the Earth seems, however, to pose no conflict after all.

Almost all other instruments are placed on top of the table, which dramatically cuts the miniature painting on the central horizontal axis. The observers sitting around the table, seem to demonstrate

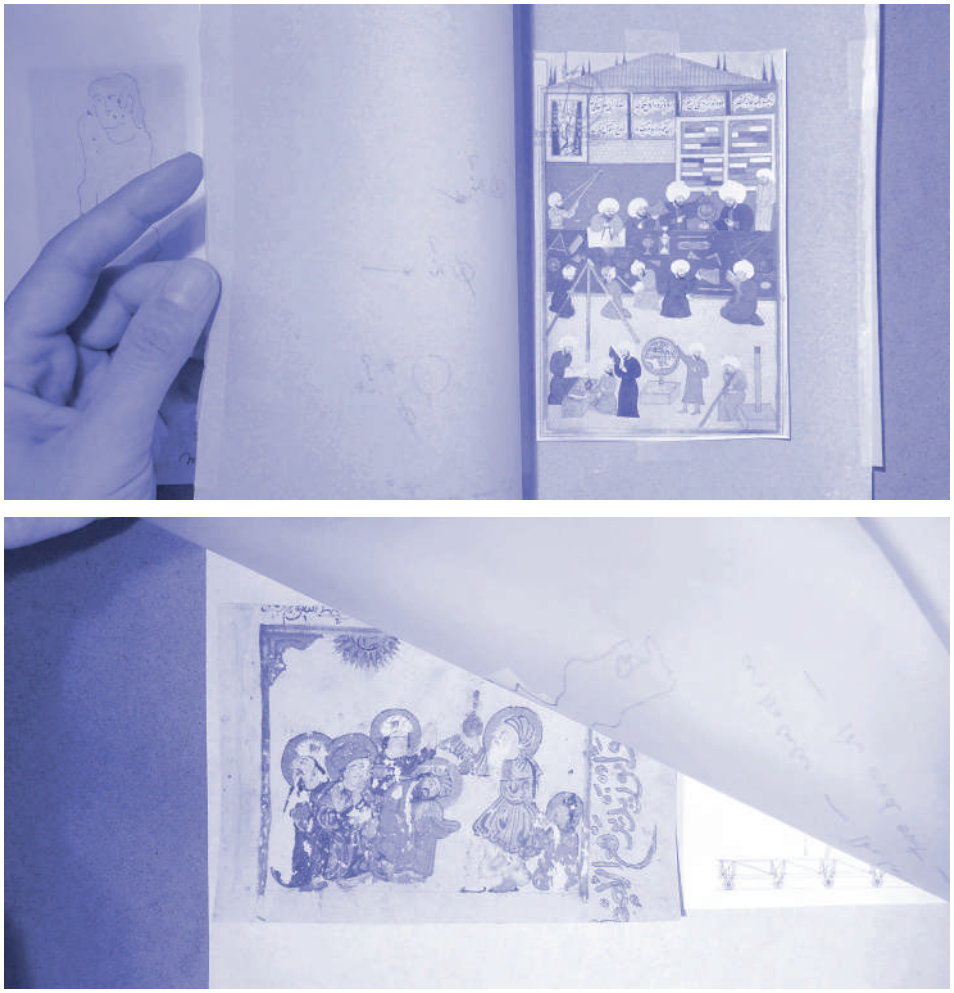


Fig. 4 - Note-Book of Hours by Bahar Avanoğlu (2022) compiling a miniature from *Şehinşahnâme*[10] (above) and from *Les Maqâmât d'Aboû Mohammad al-Qâsim ibn ʿAlî al-Harîrî* (below).[11]

other ways to engage with a variety of instruments: One case, however, seems particularly poignant: The observer's eye is compelled to be located on the instrument. While this most particular situatedness is quite obviously illustrated for the quadrant, we see that this position is also required for the planispheric astrolabes, as it is illustrated in other depictions such as a miniature from a thirteenth century Maqamat manuscript[9] (Fig. 4).

Indeed, in order to find the exact temporal position of the celestial realm, the reader/philosopher needs to be an observer first and is required to place the astrolabe – or the model of the celestial sphere – between herself/himself and the celestial sphere. More specifically, especially at night, the reader/philosopher should hold the astrolabe plate vertically aligned to her/his sight of vision (as a longitudinal section of her/his own sight) so that the eye can look through the holes pierced at both ends of the alidade – an observational sighting tool located at the backside of the instrument –, and align the *alidade* to a specific celestial object. The eye is then compelled to be located momentarily and coincidentally on the celestial planispheric drawing plane (instead of across the plane). While the *alidade* invites the reader/philosopher to participate within, reminding her/him of her/his own situatedness within the universe, the stereographic projection incised on the frontal face of the astrolabe presupposes the reader/philosopher to hover over the model from outside.

Oscillation between these two situatedness (outside and within) is illustrated as mirrored images in the *Book of the Constellations of the Stars* (*Kitab suwar al-kawakib*) by 'Abd al-Rahman al-Sufi. This book contains mirrored images of the constellations: one as perceived from the ground looking up into the sky, the other as seen looking at a celestial globe from outside. Accordingly, the latter view becomes literally equivalent to a mirrored image of our view from inside or vice versa. According to art historian

Fig. 5A - Note-Book of Hours by Bahar Avanoğlu (2022), compiling *The Blood of a Poet, The Book of the Constellations*[12] and *Şehinşahnâme*[13]. The 'book-holder' of the *Book of the Constellations* and the 'astrolabe-holder' share a certain sisterhood in terms of their inconsistent situatedness: *Where am I? In or/and out? Am 'I' situated on the earth looking up into the sky (inside) or looking down to the celestial globe (outside)?* The reader of the *Book of the Constellations* is invited to have twinned personas (depicted as mirrored images), one situated inside, one outside. The astrolabe-holder is invited to shift her/his position from inside (looking 'through' the alidade) to outside (looking 'at' the astrolabe).

Emilie Savage-Smith (2013, p.134), the *Book of the Constellations* was written with the intention to be useful also for owners of the celestial globes, not only for the observers situated on the globe looking into the sky (Fig. 5A and 5B).

When we look further into the *Book of Constellations*, especially in terms of how the illustrations become a navigator for the reader, we confront yet another obscurity: in some of the early copies of the book, all the figural depictions of the constellations, are depicted standing in upright position, in other words not oriented on the sheet by

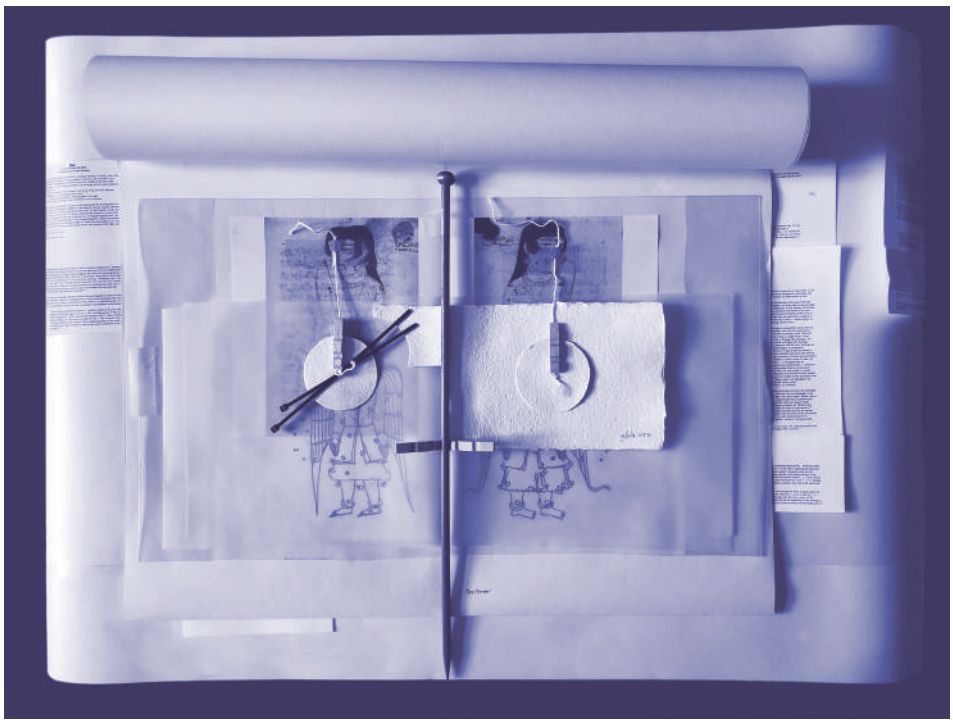


Fig. 5B - Note-Book of Hours by Bahar Avanoğlu (2022), on the *Book of the Constellations* and astrolabes. The 'book-holder' of the *Book of the Constellations* and the 'astrolabe-holder' share a certain sisterhood in terms of their inconsistent situatedness.

the point of a compass. While the orientation of the constellations on the page does not necessarily correspond to the orientation of the constellations as seen in sky view nor in globe view, the navigation through these images transforms into a challenging task, which is surely, quite different from what we experience through various kinds of *Sky View App*'s today, which enable us to instantly *see through the screen*, the actual orientation of the constellations. Relatedly, Savage-Smith argues that these early illustrations in the *Book of Constellations* "are not "scientific" diagrams in any measured or quantitative sense" (2013, p.132). These figural depictions of constellations possess rather a poetic opaqueness peculiar to images and the art of memory, rather than the transparency of clouds of points.

As opposed to the (early) depictions of the constellations in the *Book of Constellations*, the astrolabe seems however, to rely on projected and mathematical grounds. These instruments have been often associated with mathematical certainty and with "a uniform, measurable, geometrically structured space" (Aiken, 1994, p.341), providing a reliable and almost 'precise' spatio-temporal map of the celestial sphere, whereby the stereographic projection becomes the major testimonial for this argument. The stereographic projection of the globe, specifically calculated for local latitudes, contains the horizon, the latitudes [*almucantars*] above the horizon and the lines of unequal hours below the horizon. On top of this plate [*safihah* in Arabic or *tympanum* in Latin], the celestial part is placed as a separate rotational circular layer.

The major fixed stars indicated through delicate pointers and the sun's path indicated as the ecliptic (as an eccentric circle), are inscribed on this circular perforated frame, called *ankabut* [in Arabic meaning spider, *rete* in Latin meaning net]. This stereographically projected matrix is supported by an atlas of a wide range of information incised on the 'mother' component, the *umm* (in Arabic, *mater* in Latin, meaning literally the mother). Working almost like a vessel, holding all the plates, bits and pieces together, the *umm* also works as a structural 'mother' component. Inscribed generally at the rim of the frontal part and on the rear face of the *umm*, we read the zodiac signs, various calendric, astronomical and astrological information and tables, as well as information and graphics useful for surveying and observation such as shadow squares.

So, where are we − the readers − situated within this "uniform, measurable, geometrically structured space"? Within this network of projected lines, we locate ourselves represented as a point on the frontal and rear plane of the astrolabe, in the middle, centered to the horizon, on the celestial center. Meanwhile, all the celestial objects rotate around us clockwise.

Accordingly, the projection of the celestial sky is mirrored; whereby the west is located on the right; and the east is located on the left. Distinguished from a heavenly vault with a twist, whereby the vault acts as a *see-through* screen, the astrolabe rather resembles the enigmatic mirror scene in Jean Cocteau's movie, *The Blood of Poet* (1930). As a mirror-image of what we perceive under the celestial sphere, the celestial map on the astrolabe would correspond closer to the globe-view depictions in the *Book of the Constellations*. Although detecting the rise of the sun on the left side of the device starts to evoke a slight uncanniness, the coherency of the projectedness seems for a moment to protect the secured grounds of the instrument (Figs. 5A and 5B).

However, this uncanny feeling rises, when we start to set the instrument into motion and commence to read the spatio-temporal relations of the celestial objects. Holding the astrolabe by its ring on top, perfectly aligning the plane of the instrument vertically to the gravitational direction, we align and try to look through the *alidade*. For this special moment, we are situated *within* the celestial sphere, placing the model between our bodies and the celestial bodies. And then, the next moment, we are situated outside the model, looking at the celestial sphere *from outside*...

In the strangest way, we seem to ascend reaching outside the border

of celestial sphere and descend down to earth. At this moment, the *alidade* transforms into a killjoy for the secure projectedness and cheats the secluded firmness of the drawing plane, transforming it into a fleetly relative, doubtful and uncertain site. While the secluded secureness of the drawing plane is violated by this oscillation between outside (ascent up to the outer space) and inside (descent down to the earth), we are perhaps also puzzled to confront our own inconsistent situatedness depicted as mirrored personas as in the *Book of the Constellations*. As Jennifer Bloomer draws our attention to a similar ambiguity in the context of the tectonics of section drawings: A mirror of a clock? Reversing time and canceling each other out...

<Rachel was looking into the mirror at an angle of 45°, and so had a view of the face [of a clock] turned toward the room and the face on the other side, reflected in the mirror; here were time and reverse-time, co-existing, cancelling one another exactly out.> <Skeletons, carapaces, no matter: her inside too was her outside.> (Pynchon as cited by Bloomer, 1987, p.51).

3. HOUR | A Mirror of a Clock? Her Inside too was Her Outside

I think that the shift of the observer between inside and outside advocates against the widely-accepted recognition of astrolabes as a time-telling instrument with a consistent, uniform spatio-temporality that is generally related with computerization in architectural drawing. Hence, this obscure shift speculatively enables astrolabes to be discussed in terms of spatio-temporal ambiguity of projection in architectural drawings.

This spatio-temporal ambiguity of drawing that emerges through our inconsistent situatedness in relation to the picture plane could be further detected in projective drawings. In relation to the violation of the secured projectedness of the astrolabes, further potentials of spatial hermetic ambiguities could be also discussed within the construction of the stereographic projection.

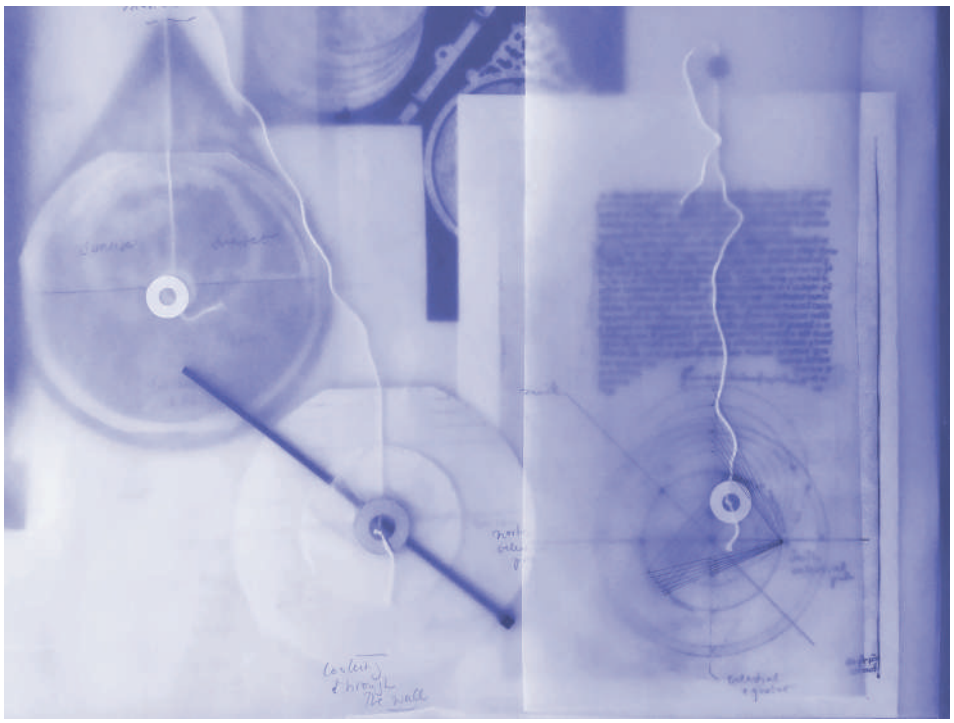


Fig. 6 - Note-Book of Hours by Bahar Avanoğlu (2022) on astrolabes. On the right side, I have a few tracings on the print-out of the 14th century copy of 8th century astronomer Messahalla's projection of almucantars.[16] I draw on the intricate labyrinth of superposed projective and constructive lines in play.

Looking at the intricate labyrinth of superposed projective and constructive lines in play (as in the 14th century copy of 8th century astronomer Messahalla's projection of almucantars[15]), we sense the potential of a poetic monstrosity that urges us to focus on the act of writing (*projection*), on the baring of the device; not only on what is written (*projected*). This is the same poetic mechanism that stems from words that have more than one meaning, creating a multiplicity of possibilities, ludic and secret plays of meanings. Thus, it is through this poetic mechanism that writing becomes the act of writing itself, not the act of pointing at what is written, enabling the *within* to be an *outside* at the same time.

Jane Andrews Aiken, from the point of a historian, argues that the medieval astronomic projections could be thought as the precursor of some particular distance point diagrams applied in the construction of the perspectival drawings (Fig. 6), especially because "both assume the existence of a uniform, measurable, geometrically structured space" (1994, p.341) "where one may precisely locate objects" (1994, p.342). Although relying on a direct contiguity between the distance point diagrams and the astrolabic projections is quite risky, as the essence of the gaze in perspective does not have a direct correspondence in astrolabic projections, an investigation of embodiment and the use of superposition and transferal of distinct projective lines in distance point diagrams could be a clue to further discuss the spatial construct of astrolabes as a spatial ambiguity rather than uniformity.

As Lyle Massey thoroughly discusses in the context of distance point diagrams, the 'eye' is bound to be split into two on the paper plane in order to construct the perspectival drawing: one to be embodied and one to be represented (2007, p.37-54). While the vanishing point is expected to be embodied by the viewer in order to create a *trompe-l'oeil* effect, the distance point is on the drawing plane merely for constructive purposes and is a representation of the same eye. While the vanishing point is projected on the plane of

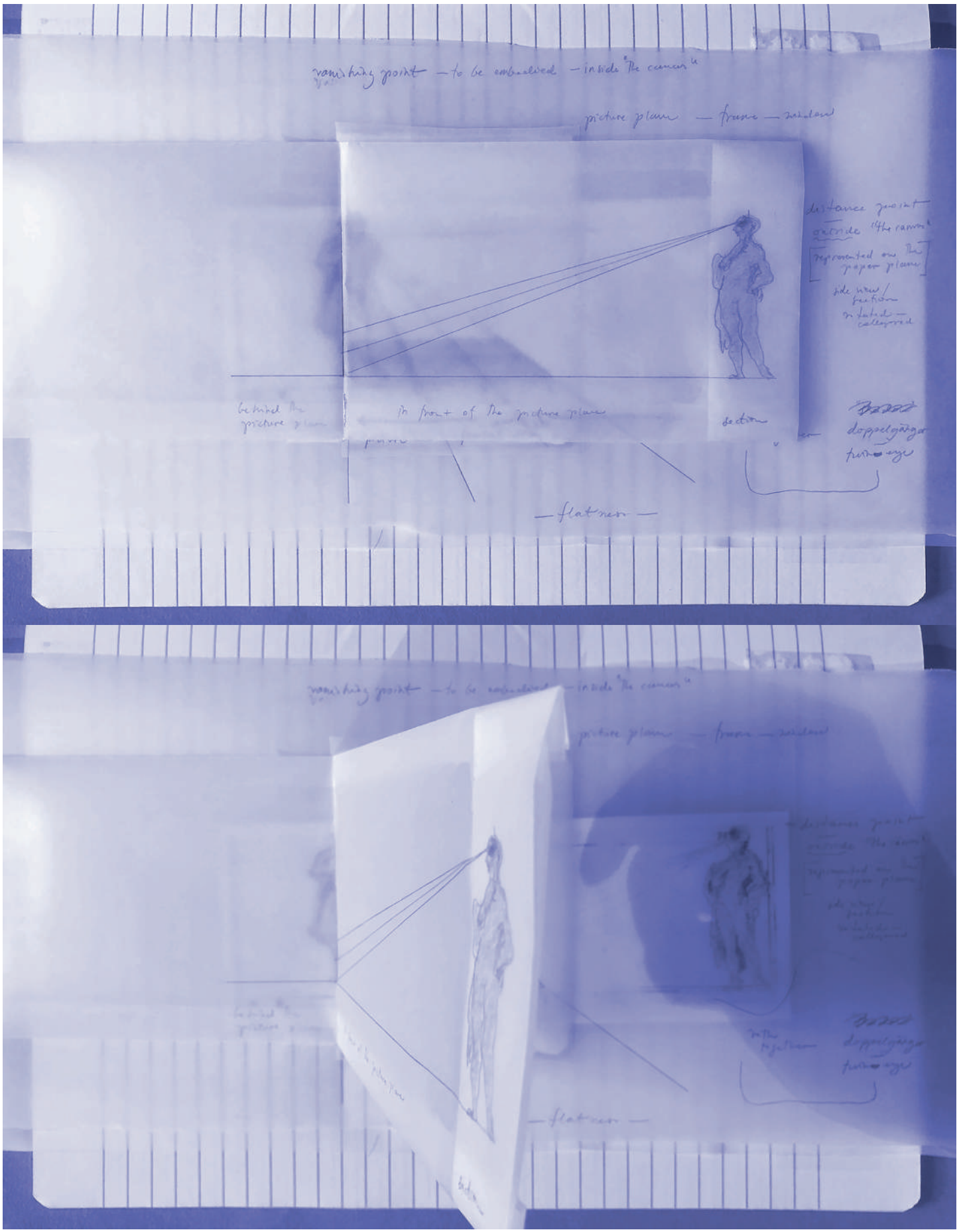


Fig. 7 - Note-Book of Hours by Bahar Avanoğlu (2022) on distance point diagrams and twinned personas. I have a few visual and textual notes specifically on what Massey calls "a disjunction between thinking about the mathematics of perspective on a flat, two-dimensional surface and inhabiting perspective as a three-dimensional projection" (2003, p.161): "behind the picture plane", "in front of the picture plane", "flatness", "picture plane – frame – window", "flatness", "vanishing point to be embodied inside the canvas", "outside the canvas", "represented on the paper plane", "rotated – collapsed", "*doppelgänger*".

representation and refers to the stable eye, from which vanishing lines radiate into eternity, the distance point is located outside of the frame of the representational canvas, and refers to the eye seen from the side view; and is responsible for determining the rate of declining distance in depth. "Pictures of the distance point produce a disjunction between thinking about the mathematics of perspective on a flat, two-dimensional surface and inhabiting perspective as a three-dimensional projection" (Massey, 2003, p.161).

Within these superposed frontal and side views in distance point drawings that share the plane of projection as a shared component, we have to imagine that not only the lines are shifting roles; but also us as well (Fig. 7): While we try to situate ourselves across the perspectival drawing by distancing ourselves according to the vanishing point in order to experience the *trompe-l'oeil* effect at its most; simultaneously we see another persona of ourselves, on the paper, looking in the section of the paper. Correspondingly, in distance point drawings, we do not only see what we see but how we see (Massey, 2003, p.165).

Although not a device in particular, we can think of the distance point diagrams in terms of the 'baring of the device', alienating us from the *trompe-l'oeil* effect and opening the realm of projective possibilities. Massey interprets this as a split between the embodied and the represented, and argues that the "split between an epistemological viewpoint and an ontological resolution reveals an ambiguity at the heart of perspective geometry itself" (Massey, 2003, p.166).

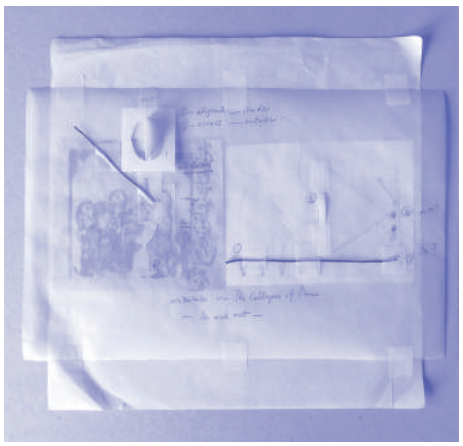
We can propose to discuss this ambiguity not necessarily as a split of the eye, but also as a process of doubling – a conception of a *doppelgänger* of the vanishing point or the singular persona assigned to the drawer, the viewer or the reader. Thus, relatedly the distance point as a *doppelgänger* could be interpreted as a testimonial for the fear of the death of the singularity of the stationary point. While ensuring the construction of the drawing, the distance point as the uncanny twin-eye, transforms now into a morbid sign,[17] an omen for the death of the vanishing point; and thus, acts as a *memento mori* of the eternal, immune uniformity of the *projected* drawing (Fig. 7).

This doubling of the stand point of the drafter, the observer or the reader in relation to the drawing plane, reminds me analogically of the doubling of the observer in astrolabes: One (ephemeral) embodied persona (on the earth, looking up) doubled with another (sempiternal) persona (outside the celestial sphere, looking down). I think that this twinned personas and its shift between inside and outside advocate against the widely-accepted recognition of astrolabes as a time-telling instrument with a consistent, uniform spatio-temporality. Hence, it speculatively enables astrolabes to be discussed in terms of spatio-temporal ambiguity of projection in architectural drawings and instruments.

This condition perhaps extends its possibilities to contemplate critically on our own multiple situatedness in relation with the drawing plane, not only between the universe and the observer – just as Calvino writes about the manifold positions of 'I's one can take on in relation to the text.

> *And in these operations the person 'I,' whether explicit or implicit, splits into a number of different figures: into an 'I' who is writing and an 'I' who is written, into an empirical 'I' who looks over the shoulder of the 'I' who is writing and into a mythical 'I' who serves as a model for the 'I' who is written. The 'I' of the writing is dissolved into writing. The so-called personality of the writer exists within the very act of writing: it is the product and the instrument of the writing process.* (Calvino, 1986, p.15)

Unsettling the fixed stationary point of the observer through unusual ludic and poetic mechanisms, John Hejduk's work *The Collapse of Time* (1984), seems to be drifting through the shores of such questions as well (Fig. 8). Yet, his work, which performs as an obscure timepiece, seems more openly to negate the right time, instead of properly aiming to keep it.



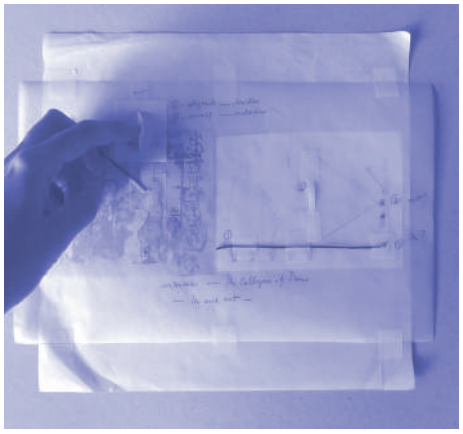


Fig. 8 - Note-Book of Hours by Bahar Avanoğlu (2022), compiling a thirteenth century Maqamat manuscript showing an astrolabe[18] and John Hejduk's *The Collapse of Time* (as published by AA Publications in 1987). I have visual and textual notes on the unfixed situatedness of both the reader of the astrolabe and the observer in *The Collapse of Time*: With regard to the reader of the astrolabe: "aligned – inside", "across – outside". With regard to the observer in *The Collapse of Time*: "looking across the clock tower – outside" "looking aligned to the collapsed clock tower – inside?".

In *The Collapse of Time*, similar to astrolabes, the spatio-temporal inconsistency of projective drawing is manifested in a quite hermetic way, structurally embedded within the set, rather than merely represented. As Hejduk's collapsing clock tower openly plays with the secret affair between clock towers and coffins (Shapiro, 1987, para.1), it also invites us to imagine alternative temporalities of a drawing.

4. HOUR | The Collapse of Time

Constructed in the September of 1986 in Bedford Square in London by AA, as a clock tower that collapses into its own sarcophagus, *The Collapse of Time* is actually a poetic constellation that consists of many structures. Looking into Hejduk's drawings and reading his "Diary Constructions", we immediately understand that this clock tower rising on its wheels, envisioned to be dragged from place to place, from time to time by the inhabitants of the city, is not a singular structure, but it is also in company with the nomadic structures in *Victims* (1984), in particular with *Security*. Yet, like al-Jazari's (1136-1206) ingenious *Elephant Clock*, *The Collapse of Time* in itself can be read as a poetic mechanism between three constructions (Fig. 9): The first is the nomadic clock tower that slowly collapses into its own sarcophagus (the numbers from 1 to 13 are inscribed on its frontal face, forming a vertical axis. A square instead of 12 appears attached to the surface. These numbers inscribed on the surface seem now rather allegorical components - ruins that have lost their instrumental functions of dividing and measuring time).

The second is a vertical pole that can be read as the orthographic twin of this clock tower. It is the only part that is fixed to the ground and with the help of a pulley system, this pole suspends a chair occupied by, in Shapiro's words, a "seer" (1987) – a male observer witnessing the collapse of the clock tower. Lastly, the third is a booth occupied by a "sayer" (Shapiro, 1987) – a reciting woman, again moving on wheels.

Although this discussion would benefit a comprehensive investigation of the entire poetic mechanism, in this article, I will restrict my discussion to the poetic mechanism set in motion between the seer sliding along the vertical pole and the collapsing clock tower.

5. HOUR | Who are the Witnesses?

In his "Diary Constructions", Hejduk mentions three thresholds that mark the collapse of time: 90 degrees, that is, "spatial, elevational, flat time", 45 degrees, that is, "angular, isometric time", and 0 degrees, that is "horizontal, perspective time" (Hejduk, 1987). Although the angular descriptions could literally be read as an allusion to the angular positions of the clock tower alone, Hejduk's writings along with his drawings draw our attention to the changing projective relation between the seer and the collapsing clock tower (Fig. 10).

As we look at Hejduk's drawings and writings, we see that a man among the townspeople is chosen to sit on a chair, suspended along the vertical pole that is positioned directly across the clock tower. The man, as he occupies the chair descending along with the collapsing tower, is asked to silently witness "the collapse of the time". This condition – that the work is structurally inclusive of the viewer – reminds me of Marcel Duchamp's *Étant donnés* (1946-1966), which includes the audience as a witness

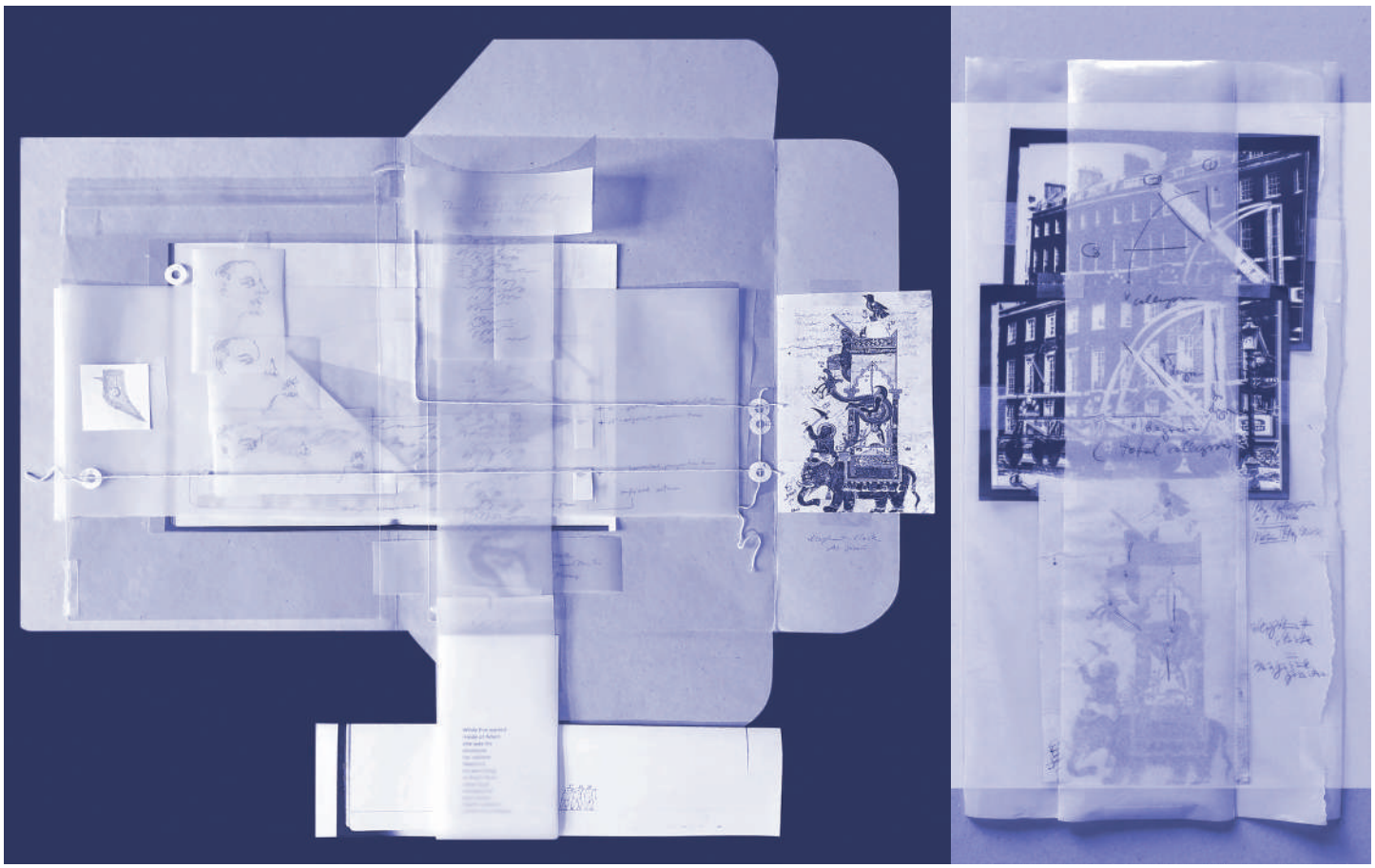


Fig. 9 - Note-Books of Hours by Bahar Avanoğlu (2022). I have visual and textual notes on the poetic mechanism of John Hejduk's *The Collapse of Time*[19] analogical to the 'magical' mechanism of al-Jazari's *Elephant Clock*.[20]

in the work by inviting them to look through the peep holes. Looking at Duchamp's work, Octavio Paz rightly asks "*who are the witnesses?*" A question that is inherently interested in a particular situation whereby "our testimony is part of the work" (Paz, 1978, p.49-50).

Why does our testimony become an openly structural part of the art work or a timepiece in particular? Peggy Deamer, writing on Hejduk's work and asserting that the reader is structurally embedded in his works, suggests that by this condition we encounter "the possibility that architecture might function not on the traditional axis of architectural meaning – building to user – but on an alternate axis of 'me' and 'you'. Hejduk reminds us that this 'you' and this 'me' possess gender, age, and sexuality" (1996, p.72-73).

In *The Collapse of Time*, we may argue that it becomes clear that it is not only a matter of the observer witnessing the work, but the observer is also witnessing its own changing relative position. We may further set forth that it is not only the gaze of the witness but the unsettlement of the gaze that makes it even more poignant for the work. If we go back to the drawings, we may see that while the tower collapses slowly, and while the eye of the witness descends along with it, the positions between the witness and the tower changes slowly but dramatically from directly across the surface, to a slightly tilted position, to a full alignment of the eye and the surface (Fig. 10). The final horizontal state renders a condition where the eye and the frontal face align on the same plane as in a linear anamorphic construction, marking the moment of death or of the total collapse of time.

This fully horizontally aligned state could be considered as what Krauss refers "as the condition of the world disappearing from view" (1999, p.100), a state in which it is impossible to witness anything by the gaze alone.

The total alignment of the clock tower and the witness is quite similar to what Hejduk describes

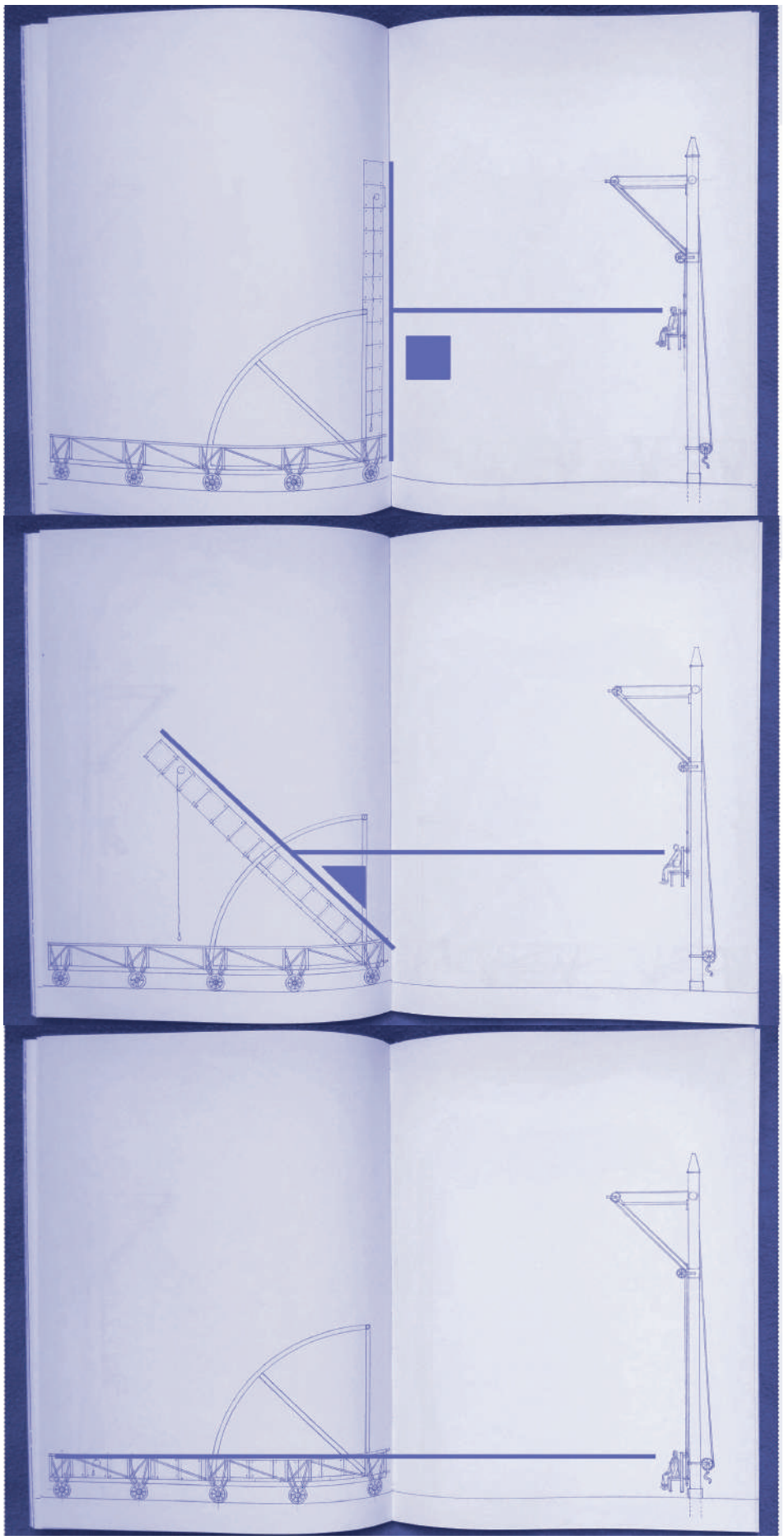


Fig. 10 - Visual notes by Bahar Avanoğlu (2022) on Hejduk's drawings of *The Collapse of Time* (as published by AA Publications in 1987). My notes investigate the speculative time-telling practice according to the changing position of the observer in relation to the picture plane. We see the time of "90 degrees", "45 degrees", and "0 degrees" in sequence as the clock tower collapses.

as "looking through the wall" – not standing across the wall and looking through it by positioning the wall as the longitudinal section of the sight (Fig. 11).

This particular instance, whereby the wall becomes almost literally the extension of the sight, equals to the collapse of distance as well as the collapse of time; a mystical compression, a flattening.

THE WIT[H]NESSES OF TIME

Now, as the hours slowly unfold and compile this notebook of hours eclipsing astrolabes and Hejduk's ritualistic timepiece *The Collapse of Time*, we may wonder: *What / who tells the time? Who are the witnesses or more likely the with-nesses?*

Focusing on the suppressed embodied engagement with the astrolabe as a projective drawing reveals an inherent embodiment in double act, that according to Emmons is peculiar to architectural drawings (2019, p.12-13). Translating the drafter, reader or the observer between inside and outside, wit(h)nessing the doubling of oneself as different figures of 'I's, and wit(h)nessing the different states of the work relative to her/ his changing positions, seem to be the very mechanisms to manifests the time itself, and create a rather inconsistent spatio-temporality that perhaps even requires us to get lost for an instant.

Rather than confirming the uniformity of the projection and time, this speculative reading urges us to consider the critical urgency of being inclusive of our own unfixed situatedness in relation to the drawing and of our intimate testimonies as a part of time-telling practices. On a wider spectrum, we think that it reminds us of the criticality of the embodied act of drawing.

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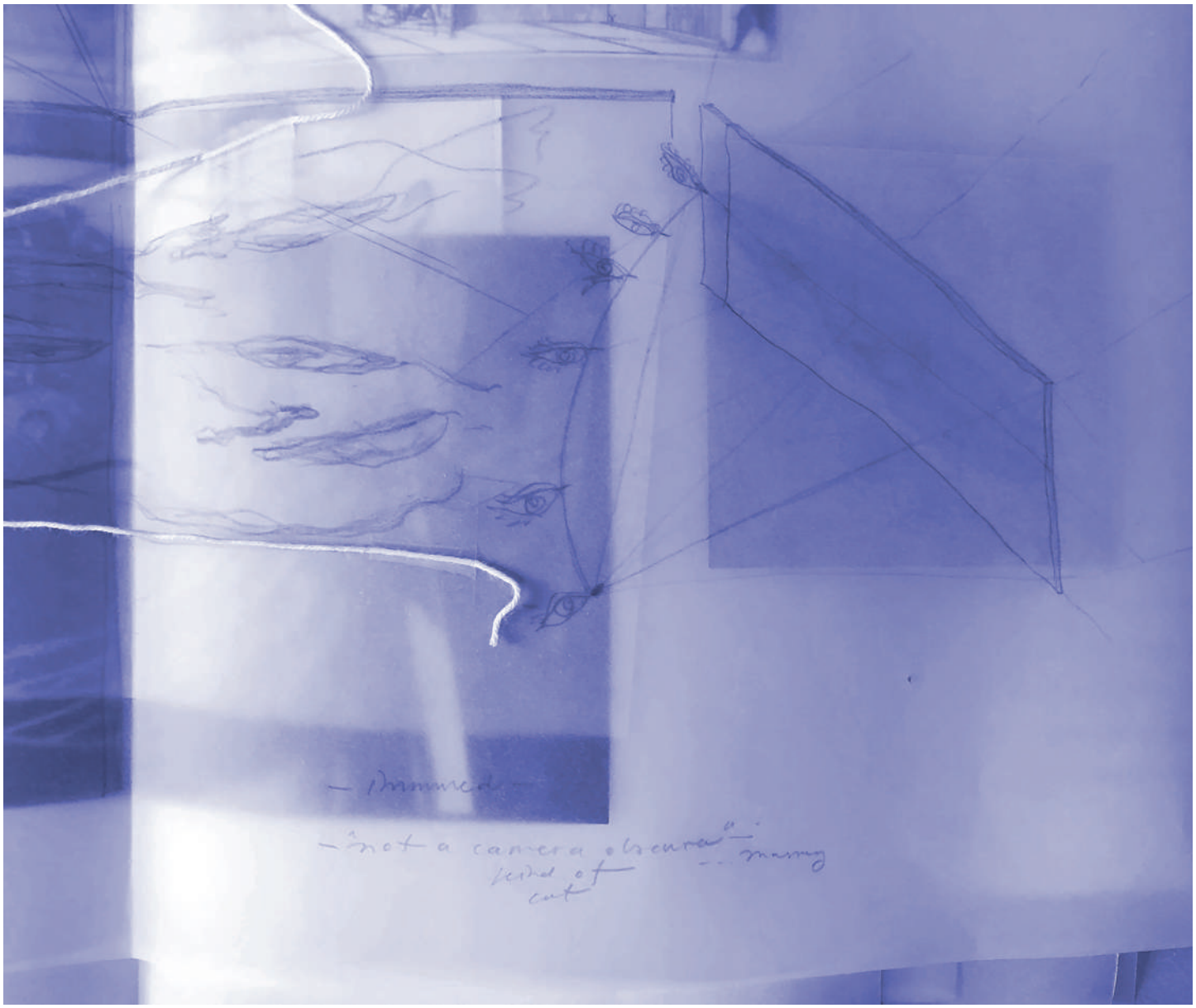

Fig. 11 - Note-Book of Hours by Bahar Avanoğlu (2022), on the mystical compression, "looking through the wall" and "extension of sight".

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Url-3 < https://www.metmuseum.org/art/collection/search/451402> date retrieved October 2023.

NOTES

1. With reference to Corbin’s *Mundus Imaginalis, or, the Imaginary and the Imaginal*, Ipswich: Golgohooza Press, 1976.

2. As described by Krauss in 1979, “Expanded Field” cherishes plurality, variety and transitive relations, as opposed to singular terms and dualistic foundations. Historical narratives based on disciplinary autonomies are critically rejected (Krauss, 1986).

3. For a critical reading on the ‘proper’ see Ingraham (1998, p.114).

4. Available through [Url-1].

5. Pigrum asserts that the panels of Warburg’s *Atlas* show a resemblance to the studio walls of artists (2021, p.53), the site where the artist compiles a set of charged images. This site of charged images could be a note-book as well.

6. G. Chaucer wrote *A Treatise on the Astrolabe* (c. 1391) primarily for his son Lewis.

7. In Arabic texts (Savage-Smith, 1992, p.18).

8. Istanbul University Library (FY. 1404, fol. 57a).

9. *Les Maqâmât d'Aboû Mohammad al-Qâsim ibn 'Alî al-Harîrî* (fol.178v). Public Domain [Url-2].

10. See note 8.

11. See note 9.

12. Virgo as seen on a globe and in the sky from a copy of al-Sufi’s *Book of Constellations* dated 400 H (1009–10) and signed al-Husayn ibn ‘Abd al-Rahman ibn ‘Umar ibn Muhammad. Bodleian Library, Oxford (MS Marsh 144, p.223, 224) and from a copy of al-Sufi’s *Book of Constellations* made at Baghdad in 1125. MIA, Doha (MS.2.1998, folio 93a and 93b), as published in Savage-Smith (2013, p.148-151).

13. See note 8.

14. See note 12.

15. Cambridge University Library, MS I, i.III.32, fol.67v. as published in Aiken, 1995, p.181.

16. See note 15.

17. On ‘double’ as a harbinger of death, see Freud, 2003, p.142.

18. See note 9.

19. The photographs of *The Collapse of Time* are taken by H. Binet, P. Barnett and R. Bunschoten (1986), as published by AA Publications (1987).

20. Folio from a *Book of the Knowledge of Ingenious Mechanical Devices* by al-Jazari. Public Domain. available through [Url-3].

An account of a Day-trip

Bonded narratives of space

bağ kurmak
çizim
mekan-zamansallık
bonding
drawing
spatio-temporality

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Yazarlardan birinin Aşağıpınar Höyük arkeolojik alanına yaptığı günü birlik gezi ve çizim deneylerine dayanarak, arkeolojik öneme sahip bir yerin bilgisini, gün yüzüne çıkarılacak bir geçmiş olarak ele alan geleneksel katı algısı yerine, yerin bilgisinin sabit olmaması üzerinden tartışıyoruz. Arkeolojik alanda gerçekleşen köpreklerle bağ kurma durumu göz önüne alınarak, bu araştırma, mekan, zaman ve maddenin birbirine dolanan anlam ve anlayışlar kazandığı insan-olmayan üzerine yaklaşımları da içeriyor. Mekana özgü köpeklerle kurulan bağın, birbiriyle bağlantılı anlatılara erişim sağladığını ve bunun maddenin insan-merkezli sabitlenen değerini sorguladığını tartışıyoruz. Çizim araştırma projesi 'Günü birlik bir gezinin öyküsü', Aşağıpınar Höyük arkeolojik alanını mekan, zaman ve maddenin hiyerarşi kurmayan oluşumları üzerinden anlamlandırmayı amaçlıyor. Bir seri çizim deneyiyle, bu proje eş zamanlılık, doğrusallık ve kronoloji mantıklarını bozarak yere özgü mekan-zamansallık kurguları öneriyor. Mekan, zaman ve maddenin sürekli yeniden oluşumlarıyla ilişkilenerek yerin birbiriyle bağ kuran mekan anlatılarını kurmayı ve keşfetmeyi öneriyoruz.

Based on a day-trip and drawing experiments by one of the authors to an archaeological site, Aşağıpınar Höyük, we engage in a discussion on the unfixedness of the knowledge of a place of archaeological significance, challenging the traditional rigid perception of it as a past to be unearthed. Considering the rare case of bonding with dogs, this research incorporates non-human approaches through which space, time, and matter acquire entangled meanings and understandings. We argue that the site-specific bonding with the dogs gives access to interconnected narratives of the site, challenging the human-centred value of time in relation to matter. The drawn research project "An Account of a Day-Trip" is an attempt to make sense of the archaeological site Aşağıpınar Höyük through non-hierarchical configurations of space, time, and matter. Evolving through a series of drawing experiments, this project operates with corporeal and material temporalities, breaking the logic of simultaneity, linearity, and chronology. Through constant re-configurations of space, time, and matter, we suggest constructing and exploring bonded narratives.

1. INTRODUCTION: A RARE EVENT OF BONDING WITH DOGS AT AN ARCHAEOLOGICAL SITE

One of the authors of this paper visited the archaeological site Aşağıpınar Höyük in Kırklareli, Turkey, as a day-trip during an off-season period in 2021. The site uncovers remains of Neolithic and Chalcolithic periods (Url-1). The research done on the site shows large excavations unearthing traces of domestic life and agricultural activities (Url-1).

The site is located outside the city centre, by an empty road. It is surrounded by fences, with concrete housing units in the background. As soon as we walk onto the site, a pack of dogs welcomes us. The grass is half-wet, and there are packs of flies everywhere in the air. The only visible excavation at the site appears to be cleaned daily and is partially covered with earth and leaves. It gives the impression of a forgotten site with a part-time caretaker.

Alongside an open excavation, the archaeological site Aşağıpınar Höyük displays a large 1:1 scale reconstruction of the way of living unearthed through the excavations. Within this framework, the reconstruction of domestic units is undertaken, and 1:1 scale wax models (humans and animals alike) are erected on site, displaying daily routines of work. They are fixed to the ground on cement footings (Fig.1).

The wax models stand offering an interpretation of historical artefacts. The installation project illustrates an explicit picture of the inhabitants engaging with their technology, sharing work in communal togetherness. We see a shepherd, a carpenter, and another figure accompanied by another, engaging in teamwork, possibly grinding wheat. Together, they convey to tourists an imaginary representation of how the ancient settlement would operate as a whole, with each person claiming responsibility for a daily chore.

Looking at these wax models against a backdrop of contemporary concrete housing units in Kırklareli, the fixedness of these wax models gives an estranged experience: One finds oneself wandering alone at this site with no visitors but life-sized figures trapped forever in doing chores at a fixed location.

There are wandering figures in this picture of the site that subvert the above-suggested estrangement: the stray dogs. Their hairy paws in touch with the earth and the grass, these dogs happen to be in sincere closeness to their surroundings.

While looking into the excavation, visitors notice the presence of these dogs. The dogs seem comfortable with people petting them; we stroke their heads. Their fur feels soft and rough at the same time. They also get distracted at times by something further at the site and stroll further into the site. Their indifference to the excavations of authentic artefacts and the waxed models, and their passionate enthusiasm in engaging with grass, earth, and the sun, suggest a space providing flexibility in living with one's surroundings out of desire, letting time run its own course at this site (Fig. 2).

A specific kind of relating - that this research defines as "bonding" with the dogs -offers a way of learning from the dogs about how to approach space. Bonding, in this context, refers to the process of making sense of a place through forming closeness with another. The practices of bonding suggest a path to get closer to the pack of flies in the air, the crispy and half-wet grass, the softness of the soil, the sun, and the piece of bone left on the ground. The practices of bonding suggest, in the meantime, getting closer to one's own body in the rediscovery of these relations with space. It gives way to making sense of a place through an ongoing state of reconfiguring togetherness with others. This state displays a concealed story of the site that was revealed through the bonding with the dogs.

Fig. 1 - Wax models installed at the archeological site, Aşağıpınar Höyük. Photographs and drawings by İpek Avanoğlu.

Fig. 2 - Lexicographical drawings, by İpek Avanoğlu.

Through bonding with the dogs, one may join the wandering dogs in a particular spatio-temporal place of being in touch with their surroundings and become part of the concealed history of this forgotten site (Fig. 3).

This paper presents and opens a discussion of a drawn research project titled 'An Account of a Day-Trip.' This project endeavours to pursue a strategic navigation in this particular site-specific spatio-temporal experience of bonding and attempts to explore concealed stories of this site through a drawing project. Playing with the notions of simultaneity, chronology, and linearity, the drawing research project aims to step into a field of non-hierarchical configurations of space, time, and matter.

In this paper, we aim to discuss a critical understanding of the notion of place in tracing different accounts of time, each running its own course. The notion of a so-called bonded presence allows us to argue for a connectedness of these simultaneous temporalities.

Lastly, the drawn research project suggests a narrative approach that critically engages with drawing practices to question and challenge the pre-set relations with space and the fixedness of the knowledge of a place.

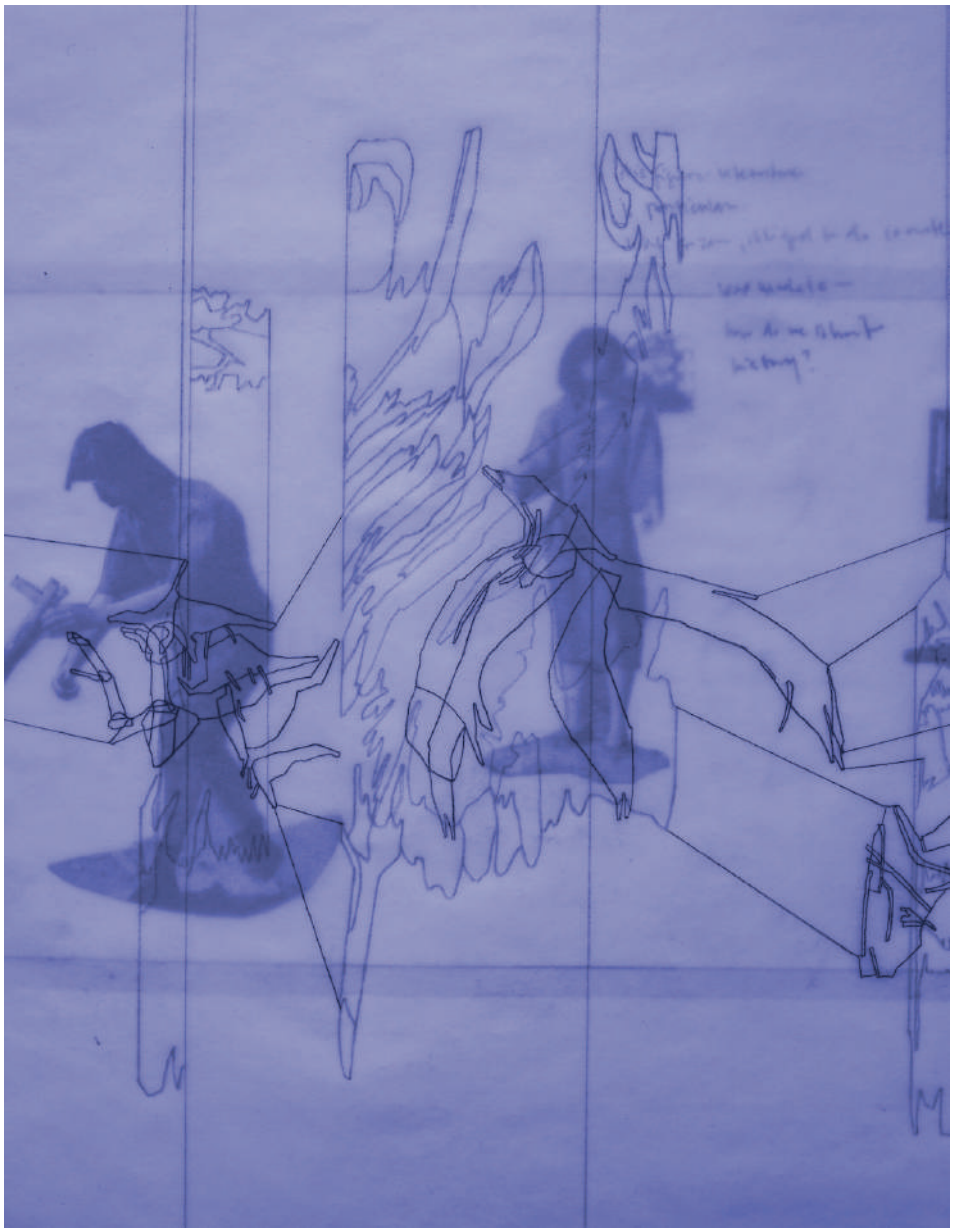

Fig. 3 - Bonded narratives in space. In detail. Drawing by İpek Avanoğlu.

2. ACCOUNTS OF TIME AT AN ARCHAEOLOGICAL SITE

Visiting an archaeological site embraces manifold encounters. Studying the unearthed remains of an ancient tool used for cooking, an architectural construction, or the remains of a fire as a layer of ashes brings forth an encounter with traces of former times. This encounter can be explained by reflecting verbally on the ways people used to live thousands of years ago—their technology, the food they ate, how they used to organize space in a domestic unit, among other rituals.

With the articulation of this information made by the presentation of the authentic artefacts excavated on site, the experience becomes sensual. The ceramic objects and earthy floor that were once touched by someone else six thousand years ago now stand within arm's reach to be (potentially) touched by us.

The sensuality of this encounter is conceived as an authentic quality of matter. Matter oscillates between preserving the traces of time and disintegrating into soil. Matter, thus, narrates stories of livings in hints. This entails an acknowledgment of the ephemeral status of corporeal presence, a transience of livings and materials where one meets the story of the other, touches the residual touch of the absent other, via matter.

The in-between performativity of matter, both to preserve and dissolve, marks the characteristic content of an archaeological site. The approach offered here resonates with new materialist approaches that reconsider the archaeological site, not as a human-centered field of study that presents the human past through artefactual remains, but as a field of study that incorporates another ontology of interconnectedness between humans, non-human livings, objects, and materials (Witmore 2014, Van Dycke 2021).

Within the context of historical sites, the notion of an account of time becomes observable. Each living entity presents its own account of time, witnessing the world from its own perspective and situatedness. Time is, then, experienced with differences. Accordingly, time is expected to be narrated with differences. It becomes significant to problematize from whose accounts of time we are witnessing in the story of a site.

Similarly, a hierarchical mode of value between different accounts of time at an archaeological site is suggested. With all the attention drawn to the artefactual ruins, the quotidian may go unnoticed, even condemned at an archaeological site.

Bonding with dogs at the archaeological site Aşağıpınar Höyük, Kırklareli, becomes a pivotal encounter that overturns the hierarchical mode between different accounts of time at an archaeological site. We argue that the pivotal encounter with the dogs brings together different accounts of time into 'bonded narratives,' departing from a time of linear history. It presents a personal account of the time of a visitor who is bonding with dogs and drifts into the account of time of the dogs strolling on the archaeological grounds, flies flying in the moisture of the grass, soil drying under the sun, and the wax models shining in daylight.

Oscillating between fact and fiction, the notion of a bonded narrative is a speculation that we explore further in the drawn research project in their articulation to bonding practices, explained in the following sections.

3. ON THE NOTION OF BONDING PRACTICES

The practice of bonding with the dogs articulates the archaeological site in the possibility of unusual relations: as one bonds with the dogs, pieces of the site meet each other fragmentarily and momentarily; the flies flying as a pack in the air meet the mouth of the dog; the dog's breath meets one's hand; the hand meets the dog's hair; the sunlight meets the grass; one's eyes meet the waxed models; the dog's paws meet the excavation, the grass, and the soil; wax models meet the flies; one's hands meet the grass.

The practice of bonding bears associations with theoretical contexts that concern the corporeal receptivity of otherness.

The Feminist philosopher of science, Donna Haraway (2003), discusses how to live together loving each other less violently, through the case of dogs as the 'significant other.' Her discussion concerns problematizing oppressive relationships, through which one party occupies the centre of attention, repressing the other's interests, creative abilities, and ultimately, the account of time. Offering the term 'companion species,' Haraway (2003) draws attention to the togetherness of human beings and (in this case) dogs, as they meet each other in a state of mutual dependence and sharing, problematizing power relations between them. Haraway discusses how not to ignore inequities between humans and non-humans and at the same time how to depart from a human-centred approach.

To understand the interdependent relations in the above-mentioned meetings, we find the context of 'companion species' helpful. The dog, referred to as a companion species rather than a companion animal, is historically situated with regard to its relationship with human beings (Haraway, 2003). The following excerpt on training dogs is explicatory in terms of narrating how to become significant others to one another:

"First, these two youngsters had to learn to notice each other. They had to be in the same game. It is my belief that Marco began to emerge as a dog trainer over the six weeks. It is also my belief that as he learned to show her the corpo-real posture of cross-species respect, she and he became significant others to each other."

Haraway 2003, p.41-42.

The phrases included in this excerpt, such as 'learning to notice

each other,' 'being in the same game,' and 'corpo-real posture of cross-species respect,' guide us to understand this becoming as respecting each other's boundaries within the spatio-temporality of meeting with the other. This is how we understand the pivotal encounter with dogs that a kind of 'bonding practices' suggest.

Bonding offers an embodied knowledge of the archaeological site. This knowledge, conveyed by bonding, puts forth a different space and time relation than what conventional archaeological studies present through chronological time. Rather than looking for a past time of human beings through material artefacts, bonding practices pursue the interconnected relations between dogs, flies, visitors, soil, leftover bone, and artefactual remnants, among others. This interconnectedness offers subjective configurations of space, time, and matter.

These configurations offer corporeal temporalities and materialities (the flies flying as a pack in the air meeting the moisture of the grass under sunlight, the dogs' hair getting dusty and muddy by lying on the soil and the artefactual remnants, the leftover bone gradually cracking by drying under the sunlight).

Through bonding, the 'condemned' quotidian (dogs, flies, soil, etc.) are given space within the knowledge of the archaeological site, rather than centring the knowledge of the site on the disembodied past time of human beings. In that sense, bonding practices resonate with embodied knowledges acting "in response to disembodying models of power and subjectivity" (Ahmed & Stacey 2004, p.4)

Bonding practices offer an approach to place within its relations. Unveiling non-hierarchical configurations of space, time, and matter, bonding practices fabricate an interconnected and embodied story for the archaeological site, departing from conventional archaeology. The drawn research project looks into these non-hierarchical configurations of space, time, and matter through a drawing practice.

4. THE DRAWN RESEARCH PROJECT: *AN ACCOUNT OF A DAY-TRIP*

In conversation with theoretical contexts about material and corporeal temporalities, this research endeavours to problematize the way different accounts of time are taken into consideration in spatial making through a drawing practice. The drawn research project, "An Account of a Day-Trip," serves as the inquiry platform for this research to reflect on non-hierarchical spatio-temporal constructions in spatial making, based on bonding practices.

4.1. Moulding Subjective Textualities

Through a set of exploratory drawings, we first focus on investigating the site through subjective positions: the researcher experiences interrelated positions as a visitor bonding with the dogs, who, at the same time, is an architect drawing to make sense of a place while observing her relations with her surroundings. Bonding practices suggest ongoing renewing of relations between the self and the other (dogs, flies, soil, ruins, grass, etc.), proposing a constant re-configuration of space, time, and matter. Giving an account of subjective positions is a research instrument here, to approach the embodied knowledge of the ongoing renewal of relations with others.

This set of drawings proposes a kind of textual exploration, which aligns with similar concerns expressed by architect and theorist Jennifer Bloomer, where both refer to subjective knowledges that critically subvert established relations with space. Rather than documenting measured archaeological remains, these writing/drawing explorations are in search of multiple narratives fabricated from the site through corporeality and materiality (Figs. 2 and 4). By doing so, a lexicon is formed of actions and figures that put forth subjective bonding practices. Compiling a lexicon of a site stems from a curiosity to explore the narratives of bonding at the site. Based on this site-specific case of bonding, we unfold a vocabulary and a narrative of the day-trip's embodied knowledge.

Fig. 4 - Lexicographical drawings, by İpek Avanoğlu.

This part of the research project strategically works with an invented narrative. Content-wise, the lexicon consists of words and their modified doubles, accompanied by exploratory drawings. It experiments with doubling the words by replacing their initial letter with the letter 'b' (Fig. 4). Through modification, the figures and actions acquire each an unfamiliar meaning. Resembling the original words still, the modified versions are read through the familiar originals: bollow(ing) as a spatial concept is still read through the action follow(ing). They acquire new ambiguous meanings beside the familiar one. This intends to re-establish the relationship with the surroundings through embodied knowledge. The text foregrounds this ambiguity and non-oppositional multiplicity in meanings:

A bog should not be maybe understood as a dog itself. A bog, bears warm-hearted moves of the hair. A bog, is the dog itself in a way, yet within the relations of this venture, we know it as a bog. The act of brespassing, is like the act of trespassing, yet it is not trespassing itself, it bears the celebration of coming together. Within this journey, a hand becomes a band. A band, is like an inner hand, it is both inside and outside. And a bollow is like a follow, yet they are not the same thing, when in state of bollowing, one can never tell who is after who.[1]

The lexicographical method is derived from allegorical textual practices. Allegory is a term used as a literary device to engage with a desired undecidability between two meanings of a word in a text (Haralambidou, 2007). In allegory, two separate meanings of a word make sense in a text at the same time; and hence, the text multiplies itself in one piece of writing. Through this desired multiplicity, each of the texts is read through the other, resulting in an interwoven understanding of the work (Owens, 1980).

The allegorical approach offers a possibility to challenge established knowledge through these interwoven understandings and meanings. Bloomer's allegorical project titled 'Tabbles of Bower' (1992a), for example, plays with language in an associative way to suggest subversively interwoven understandings between Dora /Doric/ D'or. Reading these words through each other offers uncommon relations, associating Loos's Doric column with the feminine figure named Dora, who was treated by Freud for hysterical symptoms, and the word D'or used for 'of gold' or 'of the now' in French (Bloomer 1992a, 1992b). Regarding text as a woven material, Bloomer considers text to conceal meaning in its spatiality (Cheatle, 2013). Bloomer overturns the rational and fixed construct of spatial knowledge, offering a tour within meanings.

In this respect, Bergren (1994) interprets Bloomer's use of allegory in this project (Tabbles of Bower) as a way of 're-swallowing oneself'. Bergren's (1994) notion 're-swallowing oneself' refers to the mythology of Zeus swallowing pregnant Metis to keep power and her creative talents to himself. According to this mythology, it follows that the female body (and ultimately her creativity) is constrained within the male body (Bergren, 1994). According to Bergren (1994), however, when the female body re-swallows herself, she cuts loose from the male body and re-gains her female creativity. Indeed, Bloomer (1993) is critical of the neutralized voice of a (female) researcher in writings, considering the position of writing as a tool for knowledge-making:

"The non-neutrality of language and history (and architecture) are my concerns. To situate this work in an epistemological arena that relies upon the maintenance of belief in their transparencies would be an error of logic. It cannot be written otherwise. It is, therefore, written other-wise."

Bloomer, 1993, p.3.

Moulding subjective textualities as a research instrument invites both the researcher and others to question established spatial relations embedded in language and history. In this research, moulding subjective textualities seeks to give space to embodied knowledges. Embodied knowledge defines a concealed (repressed) place within language and history, which pushes the limits of language. Based on bonding practices, this research seeks to open space for its embodied knowledge by acquiring an invented lexicon.

4.2. Exploring Articulations of Material Narratives in Space

For if I had not noticed the flies flying as a pack in the air meeting the mouth of the dog, I might not have bonded with the dogs. If my hand had not met the dog's hair, I might not have noticed the dog's breath meeting my hand, and the sunlight meeting the grass, and my eyes meeting the waxed models, the dog's paws meeting the excavation, the grass, and the soil. My lips meeting the flies, my hands meeting the grass.

The second set of drawings is in search of specific articulations of material narratives in space, those that develop through relational encounters. In "Vibrant Matter," theorist and philosopher Jane Bennett (2016) argues that by acknowledging the status of materiality in all livings and things, the difference between subject and object can be eliminated, no longer placing humans in an ontological centre. In Bennett's (2016) writing, matter's mythical narrative is unveiled in the notion of 'thing-power', in which matter acquires an active agency, departing from pre-set contexts and meanings. The acknowledgment of vibrancy in matters reforms the act of seeing.

This set of drawings operates as a series, paired with a selected set of photographs taken from the site (Fig. 5). Photographs help preserve the transience of the spatial structures of this project. The cut-out parts allow us to focus on certain parts in the photographs and draw them. Freehand drawing suggests a particular engagement with space, fluctuating between observation and perception of space through one's senses. Here, proportions get distorted, objects get misplaced, and some figures are unintentionally drawn more than once. The notion of measuring is lost. We notice that the

dog is no longer distinguished as a dog in the drawing, nor the remains.

While drawing, the aim is to articulate what is observed in the photographs as spatial content. In this regard, the dog and the remains are drawn in the same notational logic. In the drawings, the lines acquire other meanings: rather than perceiving the drawing as one whole thing, one wanders from one thing to the other in the drawing. This act of wandering in the drawing articulates a spatio-temporal engagement with materials, through which they narrate corporeal temporalities.

4.3. Witnessing Intervals of Spatio-Temporality

As we look at the wax models at the archaeological site, one imagines them silently working in a past time and witnesses the muteness of their stories: as in the act of cooking being not only about the act of cooking itself but also about what one might be thinking while pursuing this act. The visitor imagines time unfolding within their acts (shepherding, cutting, grinding, etc.). We meet their concealed histories in their muteness. Time unfolds within an act rather than an act unfolding in time.

This set of drawings is an experiment with the notion of time unfolding within an act, by means of drawing with an aim to explore its spatial constructions (Fig. 6). To work with a scanner brings a specific temporality to the drawing process; a laser light moves with a steady speed, recording a narrow interval of a physical area at each step while moving. This drawing experiment is not about the linearity of time but about the intervals of time, capturing the smallest moments in flow through recorded physicality, space.

For this experiment, two daily domestic objects are chosen: a sheep doll and a table spoon. The sheep doll, reminiscent of a childhood period, and the table spoon, a ritualistically used everyday object, bear a scale of time of their own. As the scanner laser light moves from right to left as a green vertical line, the doll is first turned around in circles in the same direction on top of the scanner screen; it is then moved in the opposite direction; later rolled along the length of the screen (Fig. 6). These movements allow changing intersections with the laser light of the scanner.

In the drawings, intervals of time are marked via two vertical lines (Fig. 6). The intervals act as samples to explore the physicality of possible spatio-temporalities (Fig. 7). With selective tracings, speculations on spatio-temporal constructions start. How does one notice an account of time, a time unfolding, running its own course? Within the framework of this speculative approach, some of the intervals come out larger than the others, and discontinuities from one interval to another are allowed. In Fig. 6, in the drawing second from top, the third string

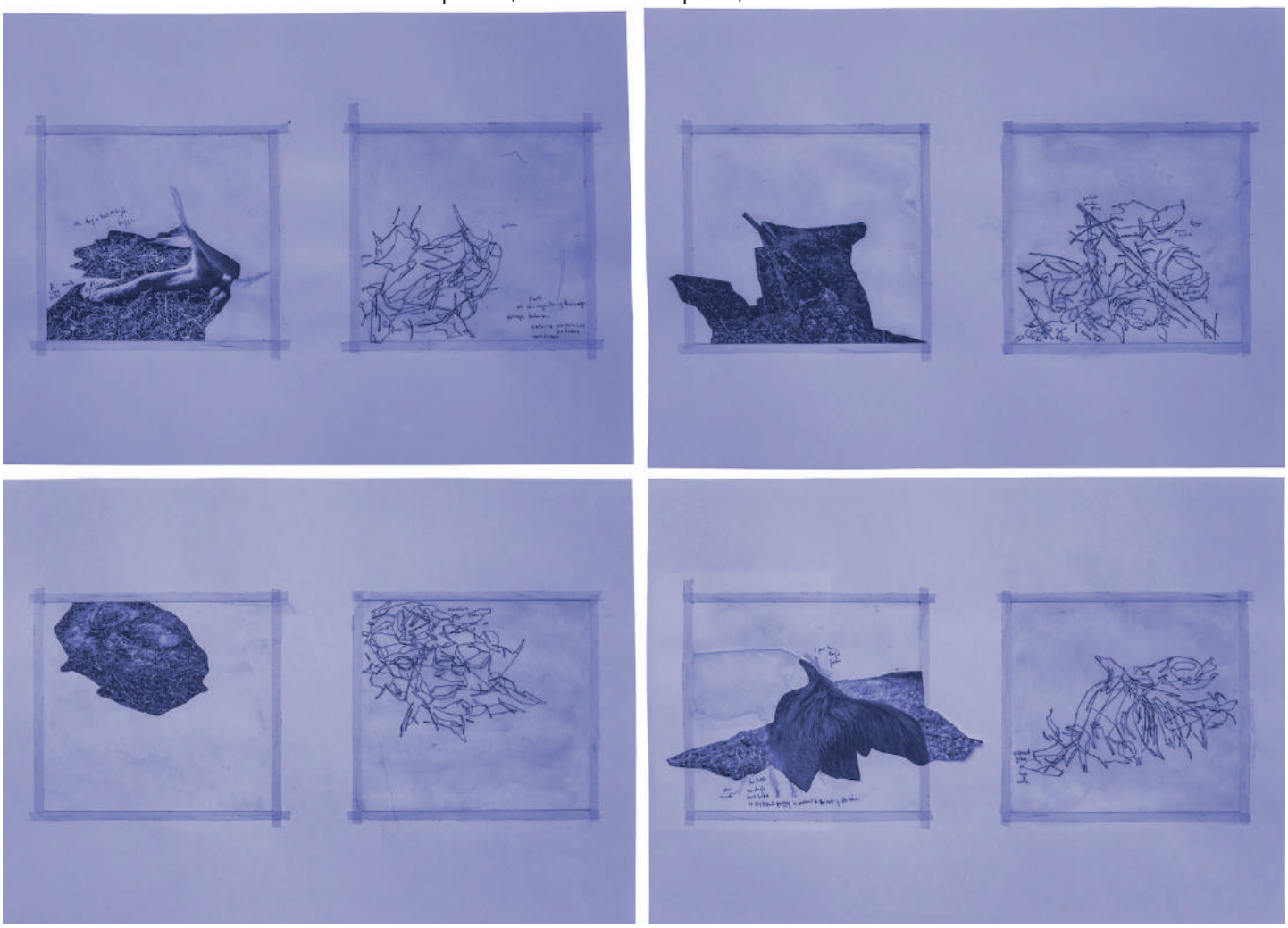

Fig. 5 - Articulations of material narratives in space. Drawings by İpek Avanoğlu.

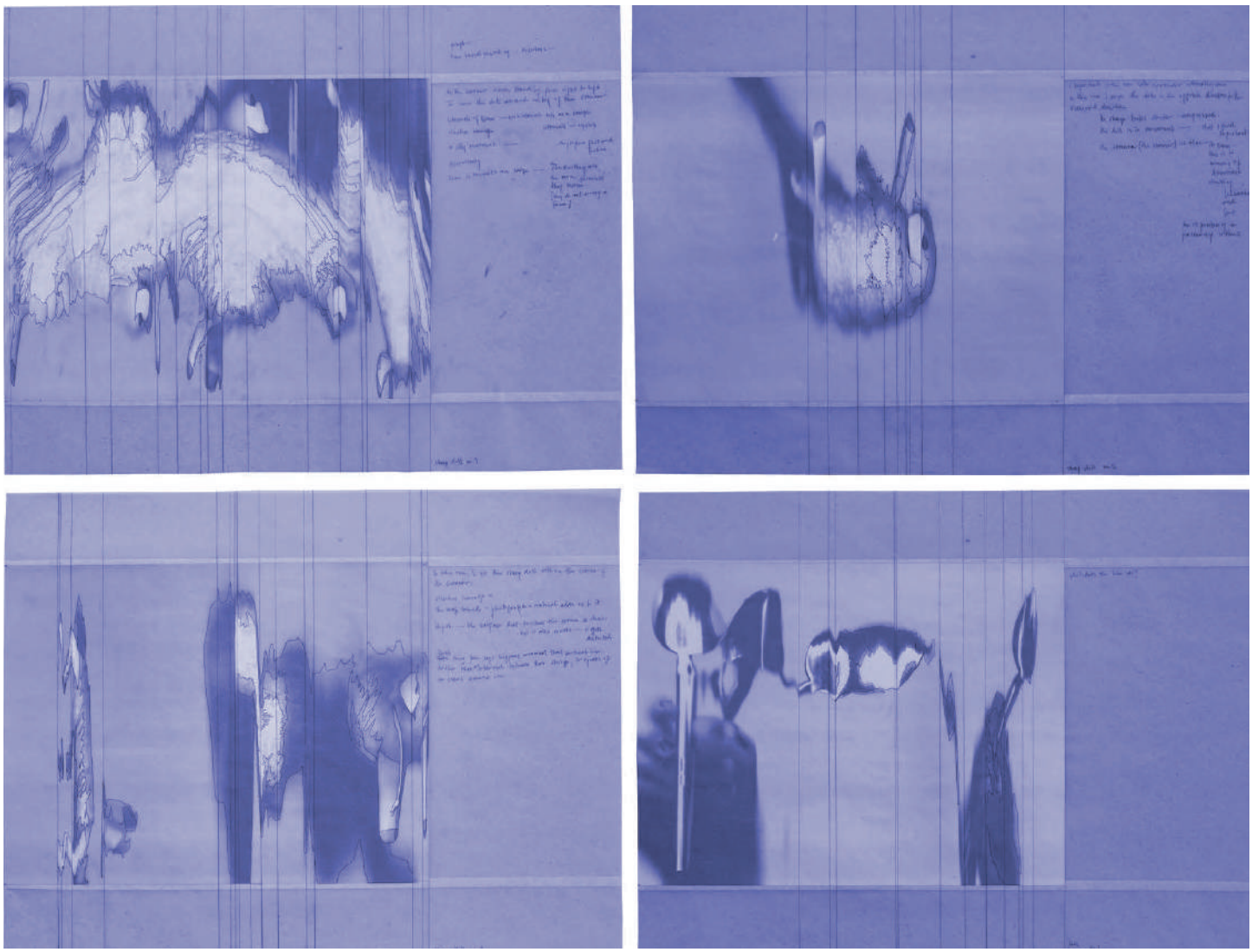

Fig. 6 - Third set of drawings. Drawings produced from scanner outputs, by İpek Avanoğlu.

from the left displays a speculation happening around that specific vertical string, rather than within an interval between two vertical strings. This allows an engaged narrative of two sequential intervals of spatio-temporal constructions to unfold simultaneously.

Through the rhythmically re-iterated vertical lines, these drawings evolve into a particular spatio-temporal structure. We suggest that this spatio-temporal structure has the ability to oscillate between fact and fiction, enabling it to jump, disappear, reappear, and, in the meantime, maintaining a continuity of space. Without constructing a chronology of events, it embeds simultaneity and linearity.

5. BRINGING THE DRAWINGS TOGETHER: DISCUSSING ON DRAWING PRACTICE THROUGH BONDED NARRATIVES

The last drawing set aims to situate the site into bonded narratives by merging together the drawing experiments. Bonded narratives refer to constant configurations of space, time, and matter, triggered by bonding practices.

Constructed with two layers, the longitudinal drawing consists of a re-composition of the site (Fig. 8). Selective tracings from the second set of drawings (matter, soil, dogs, flies, ruins, etc., from the site) and the third set of drawings (a personal domestic object) are collapsed over the vertical lines, each overlapping on a figure of a wax model on the base layer (Fig.9).

The layered drawing merges the wax models, the matters of the site, and personal domestic objects (a sheep doll and a table spoon) together. All of these pieces constitute a different scale of time and space in the drawing. With regard to this, the sense of scale shifts in the drawing continuously and provokes a state of undecidability.

The scale change in the drawing becomes an investigative procedure in the longitudinal drawing operating as a montage. Both discontinuous and simultaneous, the stories are present without dominating the space of the drawing and constitute bonded narratives, by playing with scales of time and space. In his text entitled "Empathy: Material and Spatial," architect and educator David Gersten (2007) discusses scale change in a drawing as a device for empathy:

"The scale presents a unique case as

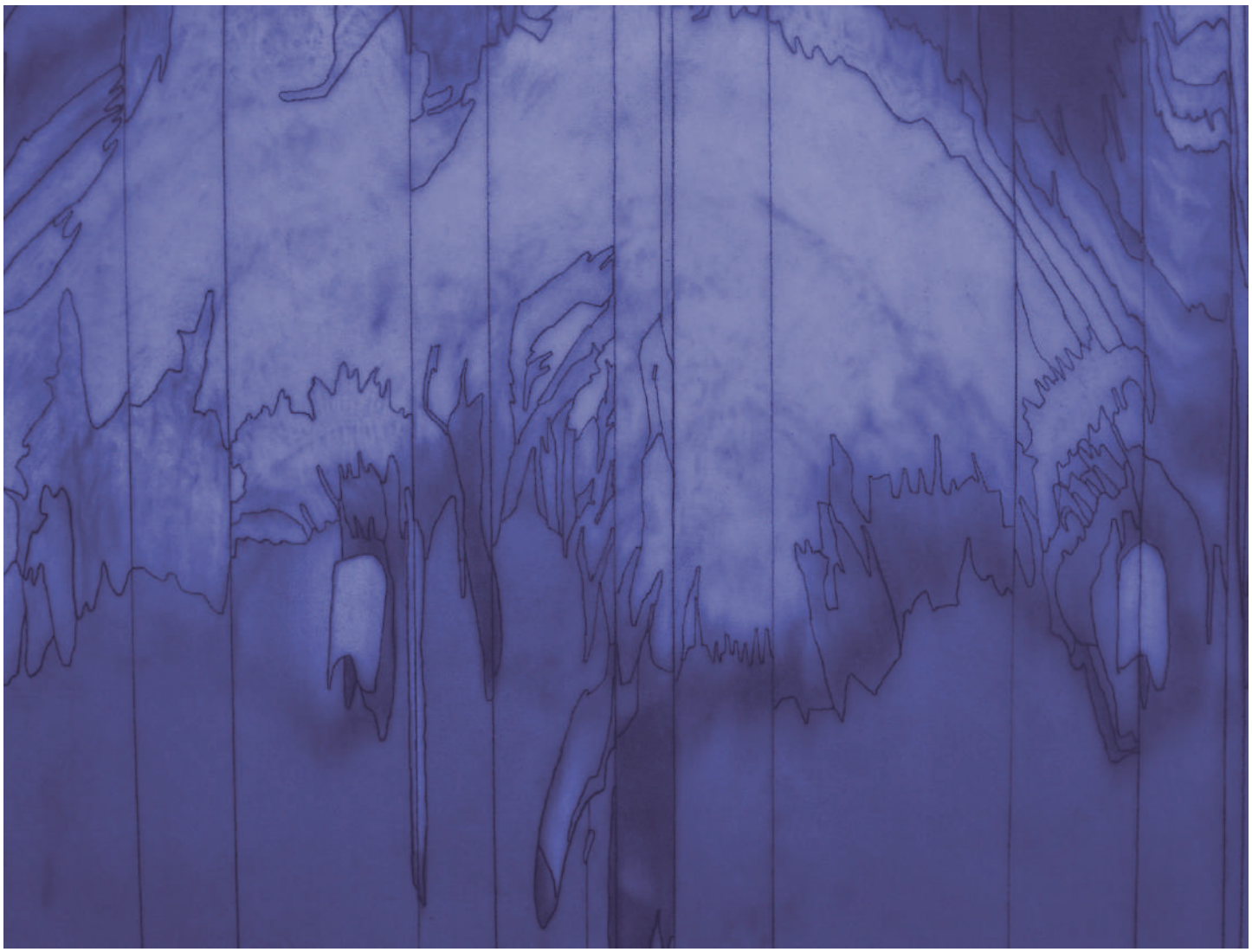

Fig. 7- Detail from the third set of drawings looking into intervals of time, by İpek Avanoğlu.

a tool of drawing; it hovers between us and the drawing like a prism, dividing a spectrum of mental distances. The possibility of scale change within the representation of a drawing points to the possibility of shifting the distance between one's self and the paper while drawing."

Gersten, 2007, p.55.

The quotation by Gersten draws attention to the articulation of space as a question of social matter. With regard to scale change, he includes the drafter/architect's position to consider the relations between self and the other as part of space itself. We argue that the spatio-temporal structure of the longitudinal drawing becomes such a device that resides within these relations, by breaking the logic of simultaneity, linearity, and chronology.

Making a model with this drawing is a processual exploration of the articulation of space in the drawing. The models explore the lines having a double presence in the longitudinal drawing (Fig. 8). The lines do not only refer to forms but to traces of time in places, provoking also a state of undecidability. The models, therefore, do not end at a singular ultimate output but transfer speculations to each other (Fig. 8).

Provoking a state of undecidability in a drawing is strategic. The positional ground of the onlooker shifts along with the state of undecidability and becomes a device to notice and question the conditions of one's own positional ground.

In "An Account of a Day-Trip," the state of undecidability proceeds through scale changes that constantly reconfigure the spatial articulations of each line, moving between different narratives. In this project, the narratives are in the form of accounts of time putting forth their scales of time and space, worked in the material of drawings. In the longitudinal drawing, the drawing operates as woven material. It performs a spatial construction to make space possible for concealed accounts of time at the archaeological site Aşağıpınar Höyük. This project presents this construction as bonded narratives.

The so-called bonded narratives in the drawing are read through each other, and by doing so, they suggest a particular spatiality for the process of drawing through which the drawing becomes an epistemic artefact for the architect/drafter to make sense of a place. Following Gersten's remark on scale change as a drawing device of empathy, we question whether the bonding practices proceed while drawing as well, re-configuring relations between space, time, and matter. Bonded narratives may, then, suggest a particular drawing practice pursuing bonding practices.

6. CONCLUSIONS: SEARCHING WITHIN BONDED NARRATIVES

The drawn research project "An Account of a Day-Trip" is an attempt to make sense of the archaeological site Aşağıpınar Höyük through non-hierarchical configurations of space, time, and matter.

This project evolves through a series of drawing experiments, finally bringing them together to construct and explore bonded narratives. Proceeding together with theoretical discussions on corporeal and material temporalities, this research questions and challenges the fixedness of the knowledge of a place of archaeological significance that puts forth a human-centred past time to be unearthed

Based on the bonding with the dogs at the site, we incorporate non-human approaches through which space, time, and matter acquire entangled meanings

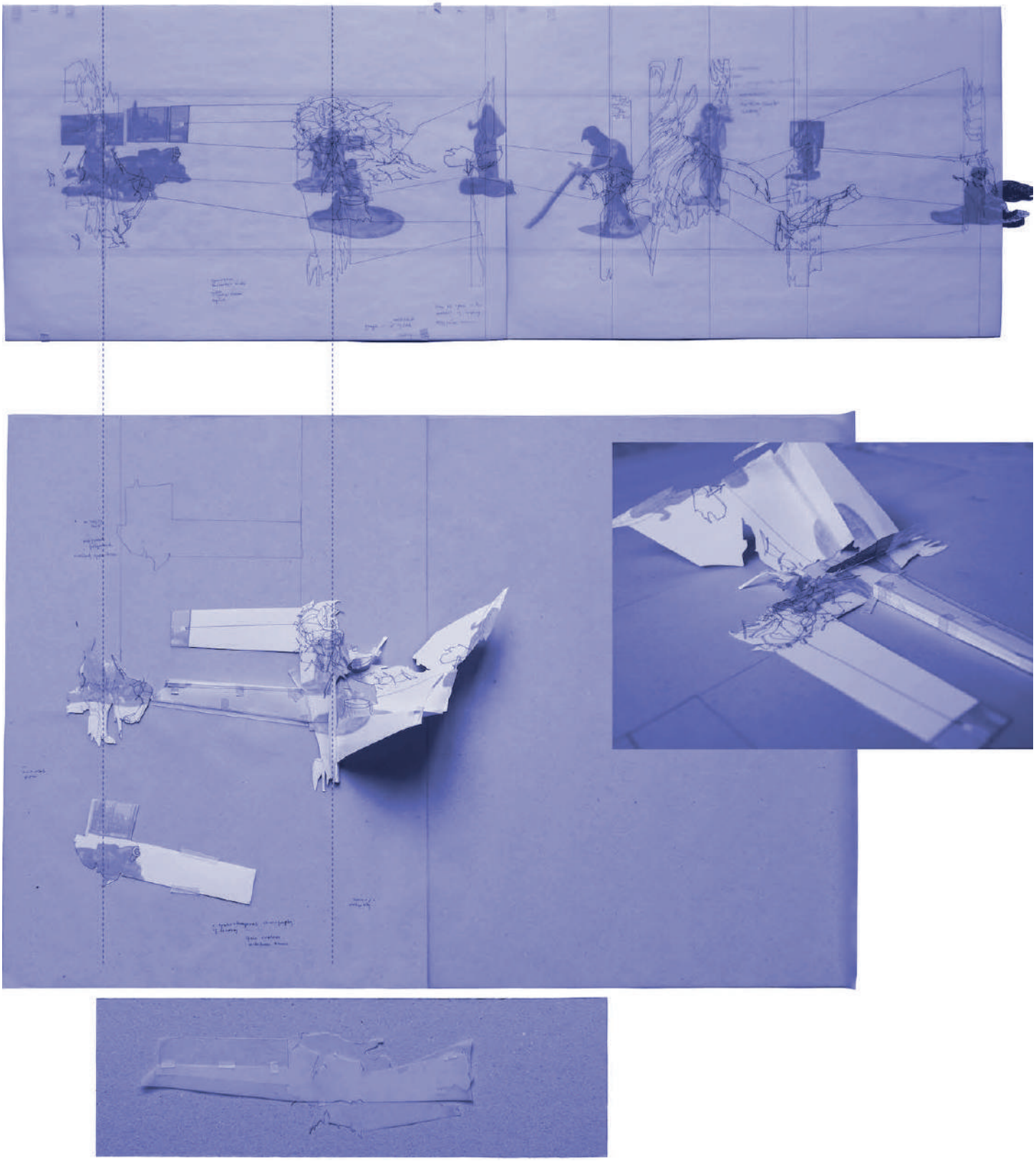

Fig. 8 - Bringing drawings together, bonded narratives in process. Drawings and models by İpek Avanoğlu.

and understandings. Following discussions, we assert that bonding practices offer an embodied knowledge of an archaeological site, providing interconnected narratives with quotidian and non-human material states, bearing different scales of time and space simultaneously.

This research seeks to present the process of exploring bonded narratives as a multi-narrative field of study that incorporates theory and practice. This approach allows us to embrace and make sense of the ongoing space, time, and matter re-configurations that bonding practices suggest, engaging in discussions through processual forms.

** This research is a part of İpek Avanoğlu's on-going PhD thesis, supervised by Aslıhan Şenel (Assoc. Prof. Dr.) at the Architectural Design Program, Faculty of Architecture at Istanbul Technical University.*

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Url-1: https://kirklareliprojesi.org/asagipinar/

NOTES

1. A former version of this piece of narrative text has been published in CA2RE+ Delft Conference Book of Proceedings (Avanoğlu, 2023). AVANOĞLU, İpek. Navigating Into a Venture of a Research on an Architecture Without Verticals. In CAVALLO, Roberto, AALKAN, Alper Semih, KUIJPER, Joran (Eds.) CA2RE+ *Delft RECOMMENDATIONS, Book of Proceedings*. The Netherlands: TU Delft OPEN Publishing, 2023, pp. 104-115. ISBN: 978-94-6366-660-2.

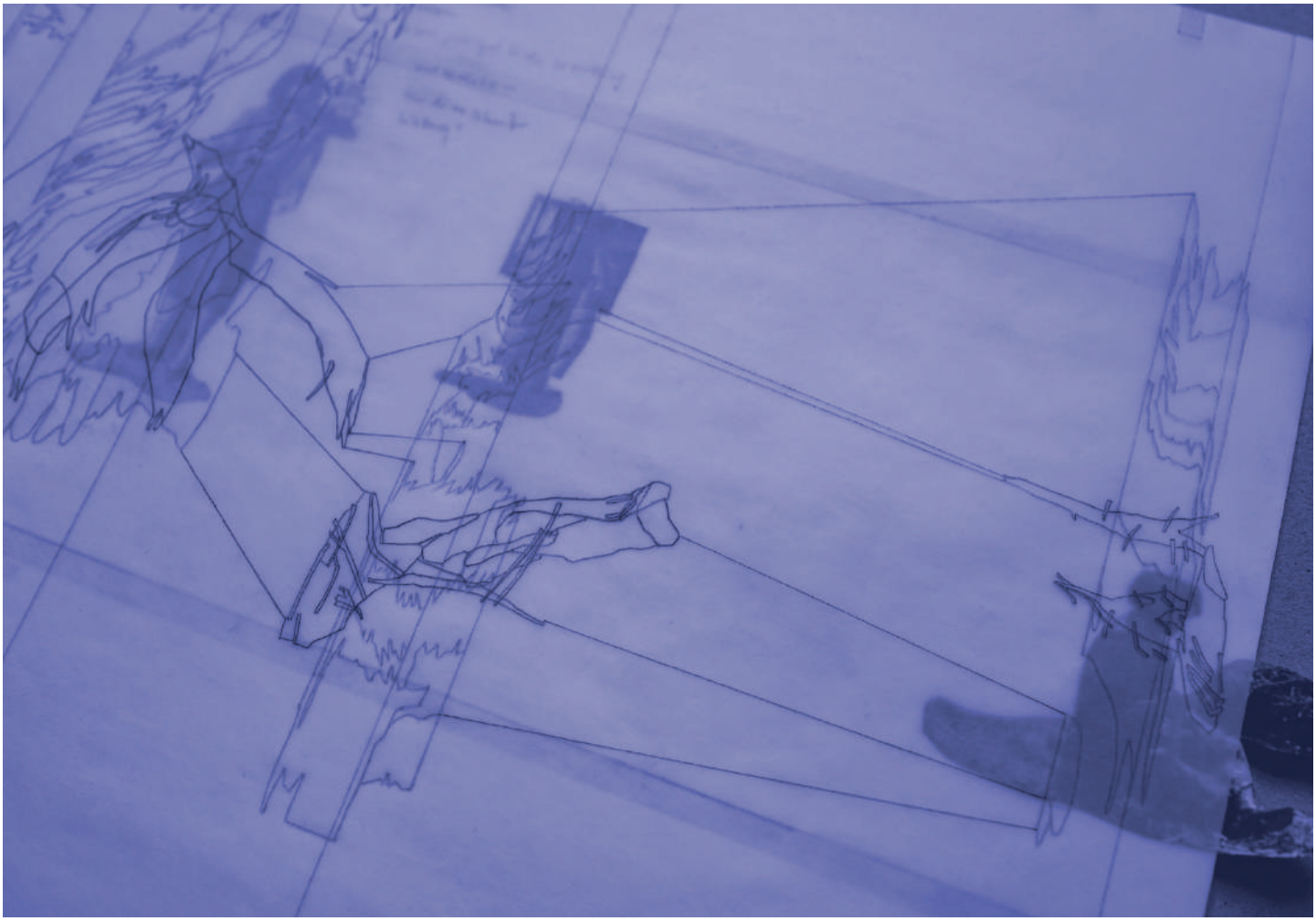

Fig.9 - Bonded narratives of space, in process. Drawing by İpek Avanoğlu.

Time in the Shell

Temporality as a Mode of Spatiality in Japanese Architecture

Japon mimarlığı
zamansallık
mekânsallık
mekân atmosferi
estetik

Japanese architecture
temporality
spatiality
spatial atmosphere
aesthetics

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Japon kültüründe zaman farklı bir anlayışla algılanır ve yaşanır; bu da mekânın inşası için yeni olanaklar ve varoluş kipleri meydana getirir. Zaman, döngüsel/dairesel bir zamansallık yapısı izler ve geçiciliğiyle süreksizliği, tekrarıyla da geçiciliğin kalıcılığını sağlar. Hem geçmiş hem de gelecek, dilde olduğu gibi mekânsal tasarım kültüründe de iç içe geçmiştir. Dil ve yaşam felsefesi, zamansal bir mekânsallığın inşasına yönelik mimari ve estetik yaklaşımları yansıtır. Bu mekân-zamansal atmosferlerin olgu bilimsel üreticileri, *ma*, *mu* ve *kū* gibi anahtar kavramların yanı sıra, örneğin *mono no aware*, *shakkei*, *wabi-sabi* ve *hanasuki* gibi estetik kavrayışlar aracılığıyla yankılanır. Kusurlu ve süreksiz güzelliğe duyulan sevgi, geleneksel bağlamda Japon mekân atmosferinin genidir denebilir.Bu çerçevede, makale, Japon mekân tasarımının döngüsel zaman anlayışı ile bu anlayışa bağlı estetik kavrayışlarını yansıtan üç projeyi incelemektedir: Sugimoto Hiroshi tarafından tasarlanan *Yaz Gündönümü Işık Tapınağı 100 Metrelik Galeri* ile *Kış Gündönümü Işık Tapınağı Tüneli / Işık Kuyusu* ve Ando Tadao tarafından tasarlanan *Benesse Oval Evi*. Bu üç örnek, Japon kültürünün zaman ve mekânı nasıl anladığını ve ifade ettiğini mükemmel bir şekilde göstermektedir. Bu projelerden hareketle makale, aynı zamanda, zamansallığın, mekânda var olabilmesi için zamana bir kabuk örmeyi amaçlayan Japon kültüründeki en güçlü mekânsallık kiplerinden biri olduğunu savunmaktadır.

Time is perceived and lived within a different understanding in Japanese culture, which brings new possibilities and existential modes for the construction of space. Time follows a cyclical/circular structure of temporality and ensures impermanence with its transience and the permanence of transience with its repetition. Both past and future are intertwined within the culture of spatial design as well as within the language. The language and philosophy of living reflect the architectural and aesthetic approaches for building a temporal spatiality. The phenomenological generators of these spatiotemporal atmospheres echo through the key concepts such as *ma, mu*, and *kū*, as well as through the aesthetic conceptions of, for example, *mono no aware, shakkei, wabi-sabi*, and *hanasuki*. It may be claimed that the love of imperfect and impermanent beauty is the gene of the Japanese spatial atmosphere in the traditional context. In this framework, this paper examines three projects of Japanese spatial design that reflect the cyclical understanding of time and the aesthetic conceptions connected to it: the *Summer Solstice Light-Worship 100-Meter Gallery* and the *Winter Solstice Light-Worship Tunnel / Light Well* designed by Sugimoto Hiroshi, and the *Benesse House Oval* designed by Ando Tadao. These three examples perfectly demonstrate the unique way in which Japanese culture understands and expresses time and space. Based on these projects, the paper also argues that temporality is one of the most powerful modes of spatiality in Japanese culture, which aims to weave a shell for time to exist in space.

1. PROLOGUE

Space and time are intertwined structures and the products of culture, like architecture. They are social constructions (Harvey, 1990), and build each other as culture weaves them together. Thus, we can sense that the perception of space and time is divergent in different cultures (Fuhrman, Boroditsky, 2010). In other words, cultures' generative nature makes space and time relative and specific for societies, and each society produces a specific spatiotemporal understanding conveyed in its language (Traugott, 1978). For instance, in English we have the word *past* to refer to the events that have already happened, however, in Japanese, we may find the word *ato* (アト) which covers both past and future events (RomajiDesu, 2023). This kind of difference in expression and language also shows us the cultural and philosophical differences in the living customs, and thus, in the built environment. That is, prevailing thinking and customs peculiar to the cultures reflect the essence of the changes through their languages (Koselleck, 2004) as well as their architectures. As reflected in the Japanese language, we may find a very different understanding of time in this culture, as an alternative rendition that provides us with a *cyclical/circular* and *impermanent* structure. This perspective towards time can be found in Nishida Kitarō's (2012) philosophy, which claims that time is *circular*. That is, time refers to an observably cyclical process like the passing and turning of seasons; it comprises a circular path of a spiral scanning an invisible and intangible temporal volume. The linear flow of time (Heine, 1985) — that we generally find in Western cultures — turns into a volumetric spatiality whose loops generate *temporality* by overlapping over and over through a multi-layered structure in Japanese understanding.

In this culture, therefore, time is constant in its temporality/impermanence. This approach was perfectly expressed by a Western philosopher, although in another context: Heidegger's (2002, 3) time is reminiscent of a Japanese vision, which denotes that "Time is not a thing, thus nothing which is, and yet it *remains constant in its passing away* without being something temporal like the beings in time [emphasis added]." Similarly, in Japanese understanding, temporality can be observed via the beings in time, as in nature and its elements such as "water, air, and sun" that surrounds us, defining places, and endowing it its beauty (Sambuichi, 2017). Therefore, the natural elements correspond to both temporality and spatiality, and they set a symbiotic relationship between these notions in an aesthetic (thus, multisensory) way. Japanese spaces are the perfect reflections of this understanding: similar to that of time, space is constant in its spatiality, as well. Spatial designs react to daylight/shadows, and seasons, they are built to underline the beauty of nature modestly, without competing with it (Tanizaki, 2001). As long as we have daylight, and seasons as the direct measures of time, Japanese spatiality continues to exist, evolve, and be reflected in every spatial component.

The aim of this paper, in this regard, is to examine the dominant conception of space and spatiality in Japanese understanding by referring to their conceptions of time and temporality using three examples of spatial design comprising a bi-partite time-based spatial design idea in the projects of the Summer Solstice Light-Worship 100-Meter Gallery and the Winter Solstice Light-Worship Tunnel / Light Well designed by Sugimoto Hiroshi (Nebukawa, Odawara, Kanagawa, 2017), and the Benesse House Oval designed by Tadao Ando (Naoshima, 1994–1995). The reason for choosing these projects is that they represent different modes/cycles of time in their spatial atmospheres with different sensory possibilities. Accordingly, Sugimoto's design reflects a holistic *circannual* time comprehension by inviting visitors first to follow the *circadian* effects in spaces; and Ando's design has a scenario mirroring the partial *circadian* effects to perceive and imagine the whole in the *circannual* reflections. While the first two projects provide us with a mostly ocular-centric perception of space and time, Ando's project broadens the way of having spatial experience and sensation through a multisensory perceptual context. To narrow the scope further, I examined these projects with spatiality and temporality conceptions in Japanese design understanding by referring to the frequently used aesthetic conceptions in the Japanese language and culture to define a phenomenological background for my reading.

2. DIALOGUE BETWEEN TEMPORALITY AND SPATIALITY IN JAPANESE AESTHETICS

2.1 Spatiality and Temporality as Intertwined Conceptions

"Architecture is a spatial art, as people always say. But architecture is also a temporal art. My experience of it is not limited to a single second" states Peter Zumthor (2006, 40). This may also be defined among the fundamental aims in Japanese architecture, which has a unique way of interpreting time and temporality by combining them with space and spatiality. Although, in his above words, Zumthor (2006) refers to the time/duration of experience of a person in a space, we may find spatial architectonics representing different kinds of temporal modes in Japanese culture: a space can represent a circadian time with daylight and shadows, and it may also point out a circannual cycle by showing the passage of time via changing seasons through spaces and materials reacting to this change. One of the important and traditional reactions of spatiality to temporality in Japanese architecture is the architectural ritual called shikinen sengū (式年遷宮), which corresponds to a kind of "purification and initiation ceremony" (Lazarin, 2008, 98). It corresponds to the crystallized reflection of the Japanese perception of life: according to this Shintō ritual,

wooden temples are dismantled and rebuilt every twenty years (Nitschke, 1993, 10). The *impermanence* that comes with cycles and precession is also a part of personal growth and renewal philosophically, as architectural mastery is passed on to new generations through the ritual of rebuilding the temples. The cycle/movement, in which existence turns into extinction and re-existence, makes the space constant in a narrative/scenario and *spatializes* it in its very temporal context.

Therefore, the cycle of different time modes is generally evident in the materials used, the construction techniques, rhythm of spaces, and thus, in the overall design of Japanese buildings. And its traces can also be followed through the aesthetic, cultural, philosophical, and religious concepts and definitions in the language and daily life (Richards, 2018). In the Japanese understanding, time is a dynamic notion, that moves with the things around, and changes things by aging them and adding new experiential layers. For example, the revolving skies are not only a measure of temporality but also spatiality. The Buddhist concept, shunya (空), refers to "emptiness" and "void" in spatial regard and also means "the lack of an immutable intrinsic nature within any phenomenon," while, at the same time, it corresponds to kū (空) meaning "sky" in Japanese (a verb ending that indicates the action of *breathing*), which works with both spatiality and temporality by referring to "nothingness" or "silence" (Lazarin, 2008; RomajiDesu, 2023). In other words, shunya means that nothing exists in and of itself, but only as a collection of parts or as a relationship to other things — as we may also find in the concepts of aidagara (間柄) or ningen sonzai (人間存在) meaning "interrelation" or "social body" as defined by the Japanese philosopher Watsuji Tetsurō (1996) (also see Berque 2019, 68). Hence, shunya or kū allows us to see through the illusion of self and attachment, as an essential Buddhist practice. Similarly, the concepts of ma (間) and mu (無) refer to a lack of content in time- and space-wisely considerations: ma means "space," "pause," and "interval" by corresponding to temporal (durational) or spatial (locational) perceptions, and mu refers to "nothing," "emptiness," and "void" (Lazarin, 2014, 134, 137). They bring specific meaning to a space by defining its very void, which has the potential to create a tension for being filled.

In Japanese culture, ma is often seen as an essential element of beauty and harmony (Prusinksi, 2012). If we delve into this concept further, we find that it refers to the emptiness between things in spatial regard, or the sense of anticipation or suspense that can be created by a pause in temporal regard. Considering the sense of impermanence, the silence for a specific duration also demonstrates the sequences of ma in real life or fictions, which is there for a reason. This design tendency can be found frequently used in films and animation movies — for example, Spirited Away (Sen to Chihiro no Kamikakushi 千と千尋の神隠し) as the award-winning 2001 animation by Miyazaki Hayao is prominent with its important "rest" or "silence" sequences; that is, ma felt within the atmosphere of Chihiro's train travel with the No-Face, over waters, which was designed to make the audience feel the *moods* of the characters *emotionally* (Edwards, 2023). Similarly, ma refers to the space or distance that allows things to *breathe* and to be appreciated fully by experiencers, and in this sense, it also means "placemaking" (Nitschke, 1966, 152). For example, in the tea ceremony, the empty space between the utensils and the arrangement of flowers is as important as the objects themselves. In Japanese gardens, the spaces between the trees, rocks, and water are carefully designed to create a sense of harmony and beauty. All of these design treatments demonstrate the practical side of ma in spatial terms.

However, ma is a symbiotic concept integrating space and time together. Thus, Isozaki Arata (2006, 94) formulates the presence of ma in the Japanese language as follows:

jikan (時間) = time (duration) = (Greek) chronos (時) + ma (間)

kūkan (空間) = space (location) = void (空) + ma (間)

Ji means "time, when..., [and] during" and kū is "void" as stated before, while kan or ma refers to "interval, period of time, among, between, [and] inter-" (RomajiDesu, 2023). Therefore, ma is also the scenario or narration of a space/place/location (or the temporality of spatiality) that entails an experience for a specific duration (Lazarin, 2014, 133). Ma works with mu, which is the absence of substance or the state of being without something, and created to be replaced by another substance (Lazarin, 1997; Lazarin, 2014, 134, 137). It is a Buddhist concept that emphasizes the transient nature of all things. For instance, mu-jou (無常) means "uncertainty, transiency, impermanence, [and] mutability" (RomajiDesu, 2023), namely, the *lack of permanence*, and hence, can directly be related to a temporal context. Being replaced takes time and this makes temporality a part of space, too. In Japanese philosophy and religion, mu or "nothingness" is often seen as a state of enlightenment or the realization that everything is connected and there is no such thing as separateness, which finds a philosophical ground in the "time-encrusted Japanese aestheticism" (Oe, 1995, viii; as cited in Cox, 2013, 197). Therefore, we may claim here that Japanese aesthetics is both an output of the relationships between space and time and an input creating the reasons for having these very relationships between the related notions. Consequently, this kind of aesthetics becomes the relationships themselves and provides a constant dialogue between time and space. Thus, both the conceptions of space/time and aesthetics can nest in the common context residing in the culture and language which guarantee the maintenance of this dialogue.

2.2 Aesthetic Conceptions as the relationships between Space and Time

The common context of the space and time conceptions is that they are all connected to the general tendencies of aesthetic appreciation in Japanese culture. Aesthetics in Japanese design is a field tied to both spatiality and temporality, or more particularly, is bound up with a space perception that is intertwined with time to exist. Temporality or impermanence, in this respect, is spatial at the same time. One of the most fundamental aesthetic concepts integrating space and time is mono no aware (物の哀れ). Mono refers to "things," while aware means "the emotional response to the evanescence of things," or finding beauty in the impermanence of life/things, in aesthetic terms (Lazarin, 2014, 135). Therefore, it is related to the recognition of the *transient* nature of life, which evokes the feeling of appreciation for the beauty of both living and inanimate things. The concept of mono no aware is associated with the aesthetic understanding called wabi-sabi (侘寂), which, again, celebrates the beauty of imperfection and impermanence (Lazarin, 2014, 135). In wabi-sabi, the imperfections of an object add beauty to it, and the passing of time is seen as a natural part of the life cycle. Like wabi-sabi, the concept of mono no aware can also be found in Japanese literature and poetry. For example, the Japanese poet Bashō Matsuo's "frog" haiku (俳句) is a very proper example of mono no aware: "An old pond / and a frog jumps in / the sound of water" ("furuike ya [古池や] / kawazu tobikomu [蛙飛びこむ] / mizu no oto [水の音]") (translation belongs to Record, Abdulla, 2016, 175).

In this haiku, Bashō captures the beauty of the moment, as well as the sense of impermanence that is inherent in all things. It is accompanied by a paradoxical haiga (俳画) demonstrating this event in all possible modes of time (Fig. 1). Although the frog was not illustrated after or during the jumping act, we can find the representation of water waves as if it has already done it. The frog lives in the temporal mode of spatiality, which also parallels Ando's saying that "Architecture is intimately involved with time. Standing amid time's continual flow, architecture simultaneously experiences the receding past and the arriving future" (Ando, 1992, 110). In this respect, the frog in Bashō's haiga "simultaneously experiences the receding past and the arriving future" (Ando, 1992, 110).

The concept of mono no aware is, therefore, a reminder that all things are *impermanent*, and that beauty can be found in the most unexpected places. It is a philosophy that can help us to appreciate the present moment and to find meaning in the midst of change. The traditional Japanese ritual of tea ceremony is designed to create a sense of harmony and beauty. The ceremony is characterized by its simplicity and focus on the transient nature of things that we may explain by mono no aware. Similarly, the art of flower arrangement, known as ikebana (生け花) (RomajiDesu, 2023), captures the beauty of nature and the impermanence of life, and thus, is also based on the concept of mono no aware. The Japanese gardens are another expression of this aesthetic concept, which are designed to create a sense of harmony and beauty, and often feature elements that represent the transient nature of life, such as flowing water and falling leaves.

In this cyclical harmony, one should sense the imperfect and impermanent beauty to have an aesthetic experience. Wabi-sabi as a Japanese aesthetic concept connected to mono no aware can

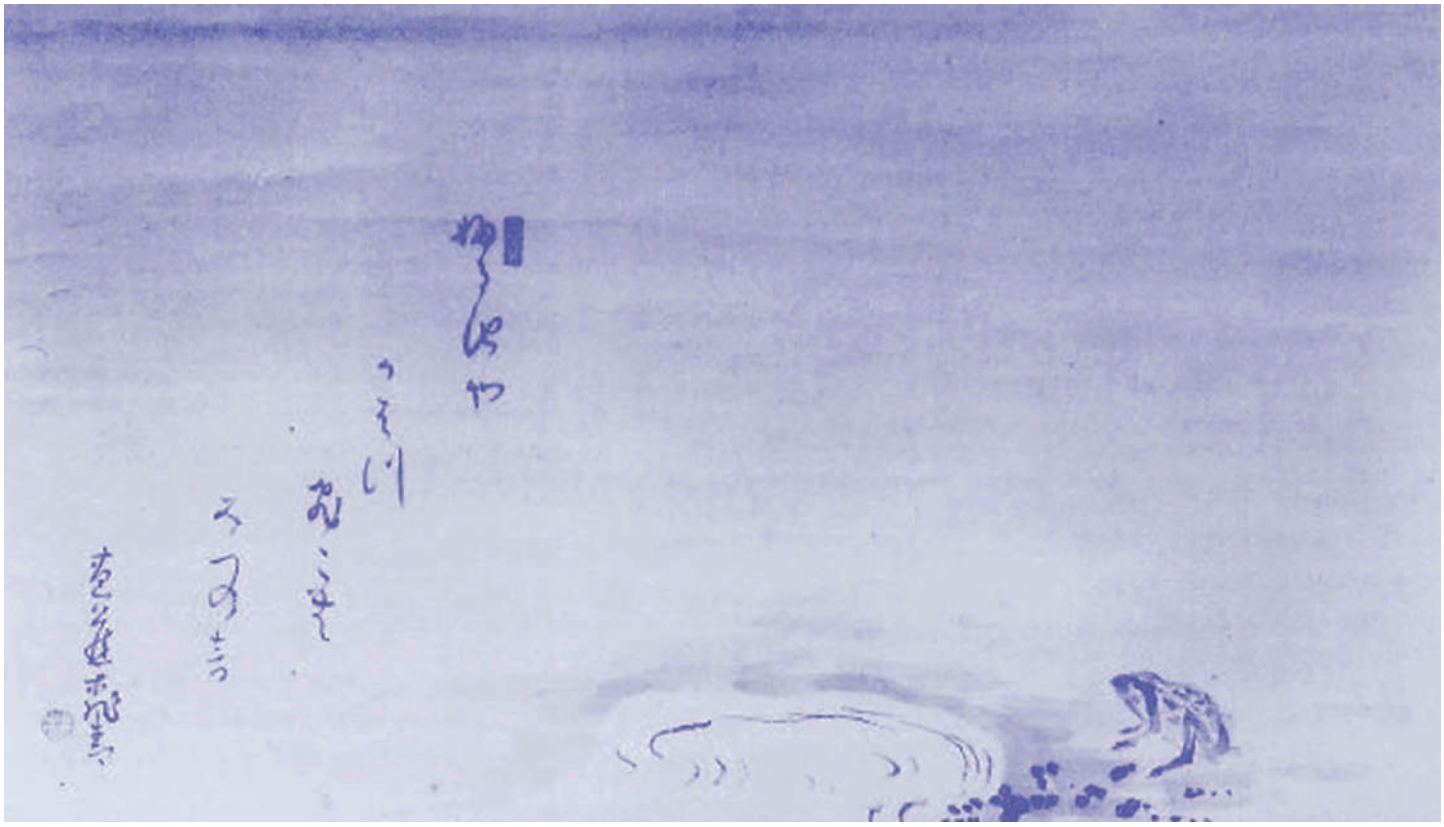

Fig. 1 - Bashō's 1686 haiga with his "Frog" haiku (Source: Arıoba, 2017).

be translated as the "aesthetic sense in Japanese art emphasizing quiet simplicity and subdued refinement," that is, the flawed or imperfect beauty (RomajiDesu, 2023). The word wabi is derived from the Japanese word for "poverty" or "simplicity," while sabi is derived from "rust" or "weathering" (RomajiDesu, 2023). Together, these words convey the idea of finding beauty in imperfection and impermanence, thus becoming a worldview centred on the acceptance of transience and imperfection. It is prevalent in many forms of Japanese art, as well, including pottery, painting, sculpture, and ikebana as well as architecture (Koren, 1994). The aesthetic understanding of wabi-sabi, therefore, reminds of that everything is impermanent, and one may find beauty in the most unexpected places (Juniper, 2011). It is a philosophy inviting the appreciation of beauty in simplicity to build "a perfectly imperfect life" (Kempton, 2018), which can help us to appreciate the present moment and find meaning in changes and transformations as we see in Bashō's frog existing spatially "amid time's continual flow" (Ando, 1992, 110).

The concept of hanasuki (はな咲き) also refers to a powerful aesthetic context, and it can be followed in the works of Japanese architects. It leads us to the awareness that architecture is not a static object, but a *living thing* constantly changing and evolving in time. This architecture is *spatializing* over time as well as being a *spatialized* space. This view perfectly complies with Maurice Merleau-Ponty's (2005) conception of the "spatializing space," which refers to an almost surreal, illusionary, or fictional place that can be imagined, for example, by M. C. Escher. In such a place, we may have a special experience of the temporal mode of spatiality, as also described neatly by Merleau-Ponty (2005, 284):

"[In a spatializing space] I am concerned with geometrical space having interchangeable dimensions, homogeneous and isotropic, and here I can at least think of a pure change of place which would leave the moving body unchanged, and consequently a pure position distinct from the situation of the object in its concrete context."

Merleau-Ponty's "pure change of place" is a temporal conception. The space transforms itself through the dynamic fabric of time. That is, time wraps space and its components to their very essence by converting the spatial references to temporal ones in the design of places.

Therefore, Kurokawa Kisho (2023) replaced the aesthetic concept of wabi-sabi with hanasuki and claimed that the dominant aesthetic conception in Japanese architecture and space design depends on hanasuki. Thus, in Kurokawa's (2023) description, "*wabi* implies both splendour and simplicity," but still, as such, it does not adequately express the beauty/delicacy-oriented Japanese aesthetics of space. Nevertheless, hanasuki corresponds to a sophisticated appreciation of the spatial atmosphere arising from more than the sum of all components of space and experiences between subject(s) and objects. It is the harmonious symbiosis of the opposite qualities. Hence, Kurokawa suggests (2023) to substitute the term wabi-sabi, by asserting that it is vulgarized in current usage. He believed that architecture should be dynamically evolving and reflect the changing nature of society. He saw hanasuki as a way of capturing this dynamism and evolution, and used it to create buildings that are both beautiful and functional. Kurokawa's (2023) concept of hanasuki is, therefore, based on the idea of *impermanence*. He believed that all things are constantly changing, and architecture should reflect this change by being adapted to it and without remaining a static object (Kurokawa, 2023). Hence, Kurokawa's buildings are often characterized by their use of open spaces and flexible structures, which allow the buildings to change and adapt over time.

In Japanese aesthetics, therefore, temporality and spatiality are two important and symbiotic conceptions always kept in constant dialogue: both of them are fed by the aesthetic cultures (such as mono no aware, wabi-sabi, and hanasuki) and "key verbal concepts" (Moeran, 2011, 56) (for example, kū, ma, and mu as briefly considered in this paper), which are difficult to translate (Cox, 2013, 37) but important to understanding the symbiotic time and space conceptions in Japanese spatial design tradition. The Japanese people have a strong sense of place, and often find beauty in the natural world (Watanabe, 1973); they also have a deep appreciation for the passage of time and often express this through their arts, architecture, and literature (Keene, 1969). Therefore, in the following section, this valuation of time will be analysed through examples of spatiotemporal atmospheres designed by prominent Japanese architects.

3. PARALOGUE OF THE SPATIOTEMPORAL ATMOSPHERES

"The moon and sun are eternal travellers. Even the years wander on. A lifetime adrift in a boat or in old age leading a tired horse into the years, every day is a journey, and the journey itself is home" (Bashō, 2012, n.p.). These words are from Bashō's (2012) haibun (俳文; a type of Japanese prose that combines haiku) titled Narrow Road to the Interior (Oku-no-hosomichi 奥の細道), written in 1694, to narrate his journey toward the northern side of Japan on foot in the spring of 1689 (Shirane, 1998). However, the journey (and work) is mainly an impressionist one, extended with haikus about Bashō's discovery of self in the light of atmospheric experiences in the natural, architectural, cultural, and historical sites he visited (Elborough, 2022). It is recognized as one of the classic works of Japanese literature and a reference guide to understanding Japanese aesthetics residing in the symbiotic dialogue between time and space. As seen in the above words of Bashō, the terms "every day" and "home" are aligned and combined together with the word "journey" (Bashō, 2012). This suggests that "the journey itself is home," and that we can find peace in ourselves and in nature by living in the ever-changing nature of being on a road. The *impermanence* of time is located in an *imperfect* shell, in which we may find peace in ourselves and out of our sensory and cognitive

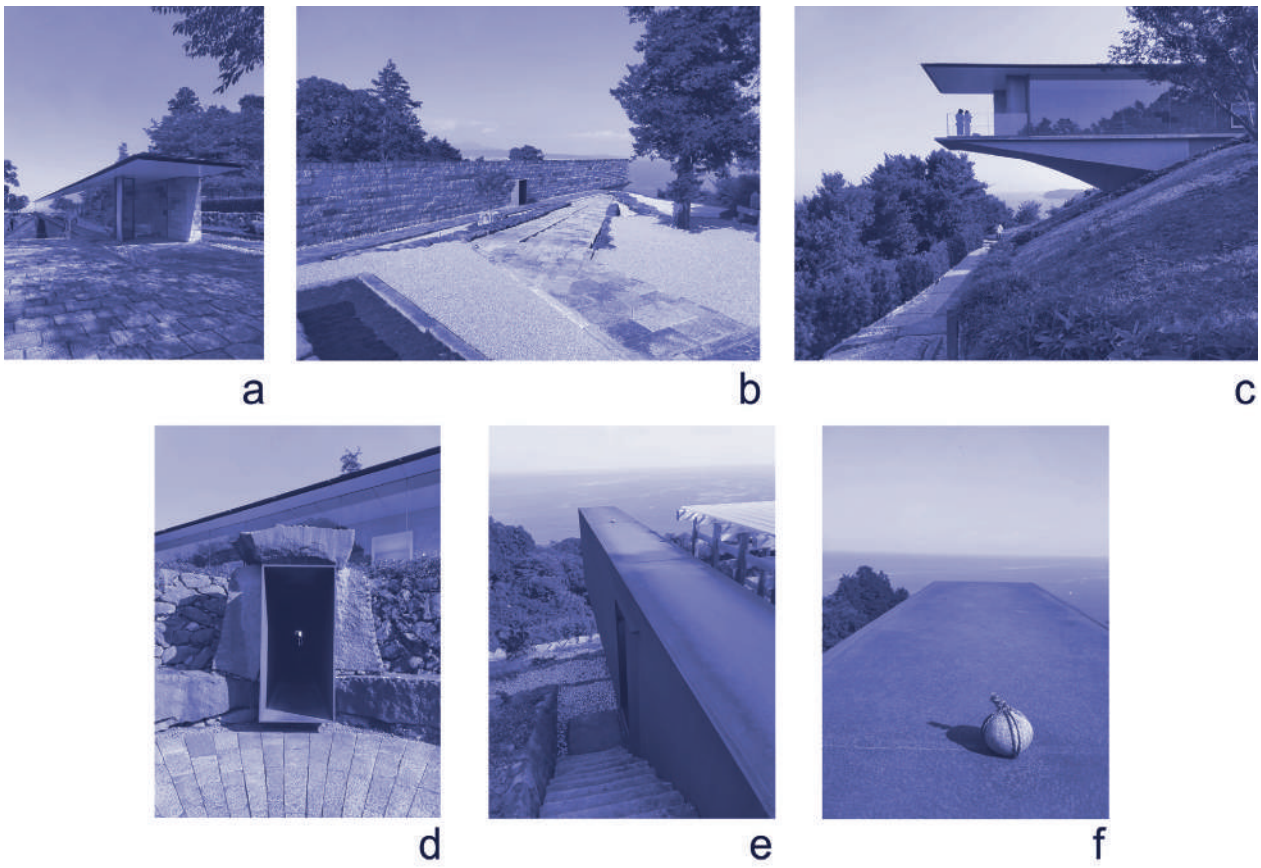

Fig. 2 - Sugimoto Hiroshi, Enoura Observatory, Kanagawa, Japan, 2017: a/b/c) outer views from the Summer Solstice Light-Worship 100-Meter Gallery; d/e/f) outer views from the Winter Solstice Light-Worship Tunnel / Light Well (Photograph credits: courtesy of Soga Haruka).

experiences of nature.

The sub-sections of the text that follow are reserved for the consecutive examinations of the projects titled Summer Solstice Light-Worship 100-Meter Gallery, and the Winter Solstice Light-Worship Tunnel / Light Well designed by Sugimoto in Enoura Observatory (Nebukawa, Odawara, Kanagawa, 2017), and Benesse House Oval (Naoshima, 1994–1995) designed by Ando, the examination considering the concepts that refer to the relationships between time and space in Japanese understanding of placemaking.

3.1 Time as a part of Space through the Cycle of Light in Sugimoto's Projects

The philosophy of (permanent) impermanence and (perfect) imperfections is the fundamental gene of the design of spatial atmospheres in the Japanese way of life. Temporal considerations are weaved inside the spatial ones so strongly that *time becomes the space we live*. In such an understanding, we may come across different modes of time represented via these spaces as the enriching qualities of their atmospheric characters. The first distinguisher of these temporal modes is related to their covering a daily or annual flow, which refers to the relationship between parts and the whole. Therefore, time-based references may also be utilized in naming the projects. For example, the "Summer Solstice Light-Worship 100-Meter Gallery" and the "Winter Solstice Light-Worship Tunnel / Light Well" (Fig. 2), two bridge-like shells designed by Sugimoto in Enoura Observatory illustrates this kind of approach. Thus, the projects have been exposed to natural light over a period of annual time (Sugimoto, 2023). On the summer and winter solstices, the light reaches the farthest or shortest distance in the structures in order to set a mental dialogue between the visitors and time by light-based spatial changes.

Hence, in the projects, ma is atmospherically constructed in-between subjects (visitors) and daylight. In other words, the atmosphere of the space (ma) is *generated* by a "body" (visitor) and a "nonthing-like" or "non-corporeal" phenomenon (daylight) in the sense described by Gernot Böhme (2013, 27-29). The *body* senses the space through its qualities (such as the daylight effects) and understands that s/he is also one of those qualities *by being a part of a larger whole*. The traces of ma generated by a situation of phenomenological *part and whole relationship* can also be found in Nishida (2012, 41), again, who defined time as the "self-determination of the eternal *now*." He believed that time is not a linear progression, but rather a series of interconnected moments generating in a *circle* (Nishida, 2012). Each moment is both unique and part of a larger whole as we may also find in Sugimoto's spatial designs inviting us to feel the circannual time as a whole while showing us the effects of light in the very moment that we stand in a circadian rhythm: by reminding us of the changing seasons, we realize our self-existence at the very moment. Nishida's philosophy of time complies well with Sugimoto's works since his philosophy is based on the concept of place, which is not simply a physical location, but rather a *state of being*. It is the point at

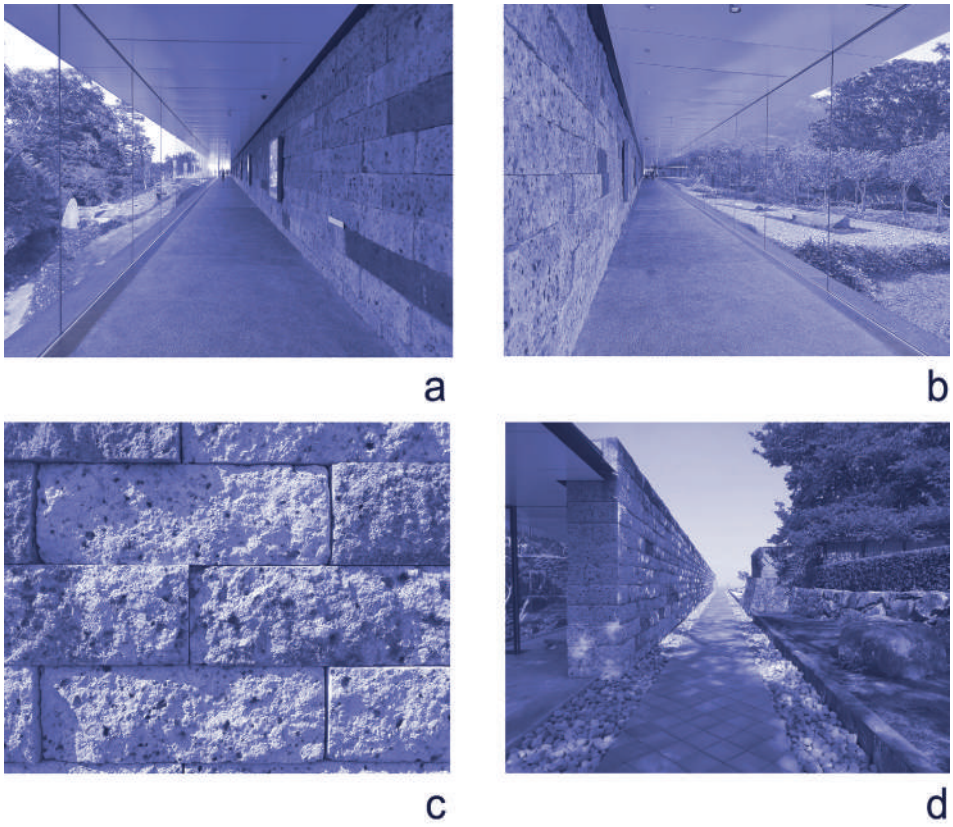

Fig. 3 - Sugimoto Hiroshi, Summer Solstice Light-Worship 100-Meter Gallery, Enoura Observatory, Kanagawa, Japan, 2017: a/b) inner views from the gallery; c) closer view of the Ōya stone structure; d) outer view from the gallery (Photograph credits: courtesy of Soga Haruka).

which subject and object meet, and where the past, present, and future are all unified in the circadian and circannual *circles*.

Kū (void) in Sugimoto's designs works as a shell *framing* the outer world reaching by daylight. This *framing* act is reminiscent of the philosophy of shakkei (借景) meaning the "borrowed scenery" (RomajiDesu, 2023). Though shakkei is a Japanese gardening technique that incorporates the surrounding natural landscape into the design of a garden, it is based on the idea that the garden is not an isolated space, but rather a part of the larger natural world as we may also find in both Nishida's philosophy and Sugimoto's designs. Similarly, the views of daylight that we observe in the Summer and Winter Solstice structures firstly define the spatial qualities of the places entailing a long and partially glass gallery for summer and an underground chamber with a lightwell for winter times, and then, lead us also to comprehend the temporal qualities by observing the changes in daylight cast in different distances in space. Changing daylights in their spatial extremities on solstice days are *borrowed as the scenery* by the visitors to create and sense ma, while mu (transiency) may correspond to the perception of the whole annual time, or the personal past, which is destined to be transient.

If we examine the structures further, we firstly see that the longitudinal facades of the Summer Solstice Light-Worship 100-Meter Gallery were constructed out of Ōya stone (Ōya-ishi 大谷石) and glass (Fig. 3). Ōya stone is found exclusively in the town of Ōya, near Utsunomiya, Tochigi Prefecture, Japan. Therefore, also being a cultural heritage of Japan, Ōya stone plays an important role in reflecting time through the body of the structure: it is an igneous rock, created from lava and ash, and so, referring to a type of tufa with a porous surface open for oxidation (Fig. 3c) (Brownell, 2013). Only one facade is out of Ōya stone, however, while the other one is out of glass acting like a multi-directional hashi (橋; bridge) opening inside space to the outside scenery by passing through the green landscape (Figs. 3a and 3b) and arriving at a destination composed of the convergence of blue voids (kū) of sea and sky, that is, the components of the borrowed scenery (shakkei). Through the glass surface, visitors can observe all kinds of light and colour effects of summertime, as the Ōya stone provides gradual shades blending with different colours of the rusty pores of time engraved on its surface (Fig. 3d). Future and past mingle during one's experience in this hashi structure spanning through space and time, constructing the very ma (scenario) with the help of shakkei (borrowed scenery). In this way, Ōya stone ceases to be a material and becomes a *substance* open to different possibilities of reflecting time; and the space built by it follows not a spatial program but a *spatial situation* inviting the visitors to sense the flux of time atmospherically—as İhsan Bilgin (2016) also noted for the architecture of Zumthor.

The Winter Solstice Light-Worship Tunnel / Light Well refers to the other hashi tunnel, another *spatial situation* 70 meters long (Fig. 4). The shell is buried this time, for which Sugimoto (2023) states that "My goal in making this complex was to reconnect people, visually and mentally, with the oldest of human memories." While passing this rusted metal underground structure, again, one may feel the temporal cycle intertwined with the space. Thus, the hashi (bridge structure) has a ma (interval) making visitors stop at a coordinate point of the past times. At this stop, they find the Well capped and signed with a stone having chisel marks on its surface (Fig. 4c) implying that it comes from the medieval times (Sugimoto, 2023). There is an oculus like opening over the Well to provide a view from the turning kū (sky). The kū is vertically aligned (in section) with the pieces of optical glass covering the bottom of the Well, inviting visitors to observe the raindrops converging with the glass pieces on rainy days, or the sunlight diffused in the void (ma) and reflected by these pieces on sunny days. Therefore, the Well plays an important role in connecting visitors mentally to the daily and seasonal times that they occupy: it is Nishida's (2012, 41) "self-determination of the eternal *now*." After this stop, visitors continue to walk in the hashi of time, and arrive at the shakkei, again, composed of the integrated blue

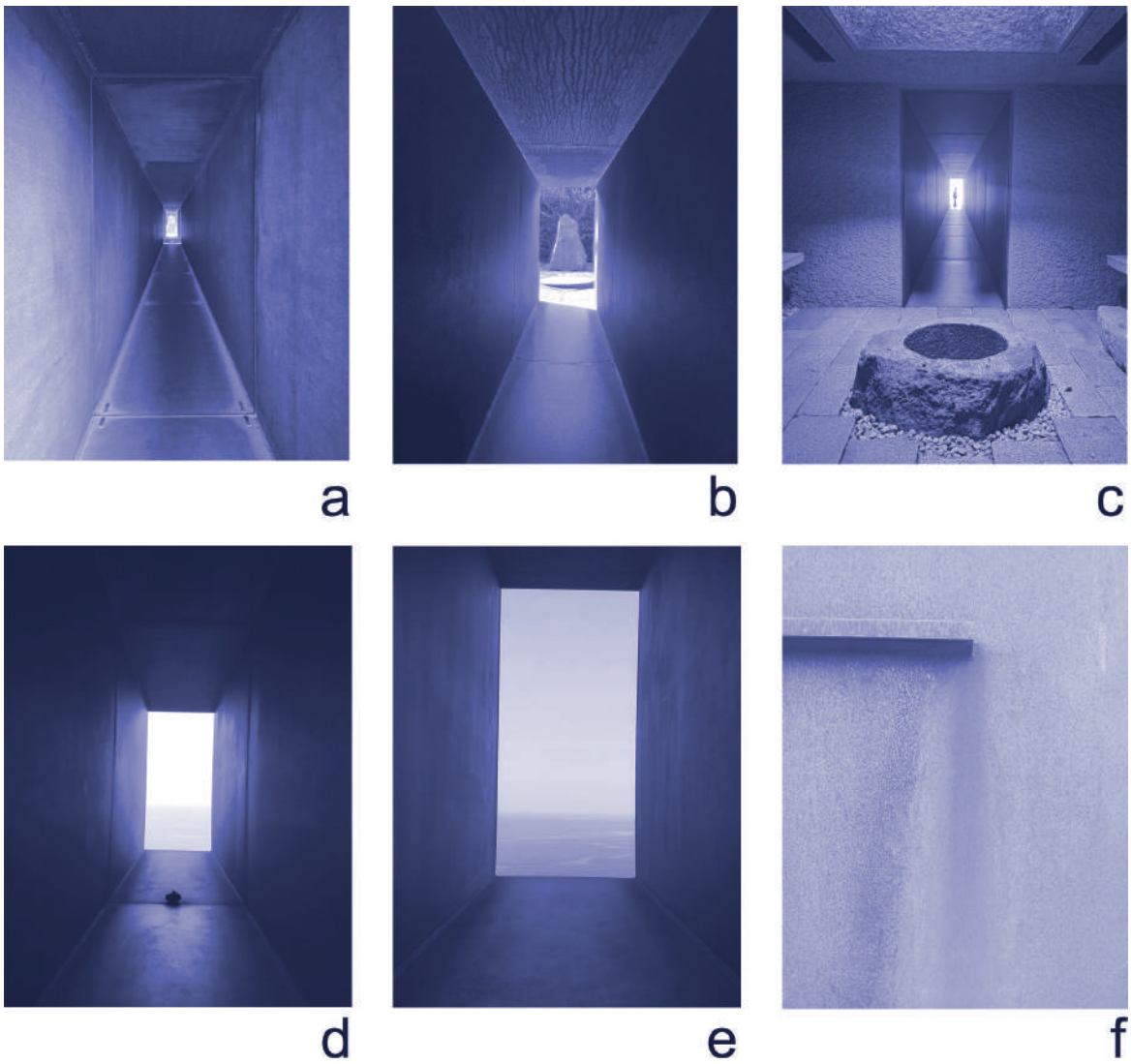

Fig. 4 - Sugimoto Hiroshi, Winter Solstice Light-Worship Tunnel / Light Well, Enoura Observatory, Kanagawa, Japan, 2017: a/b) inner view from the gallery; c) view from the Well capped and signed with a stone having chisel marks on its surface; d/e) inner views from the gallery towards the seascape; f) detail from the outer façade over the side opening to block rainwater (Photograph credits: courtesy of Soga Haruka).

voids (kū) of sea and sky (Figs. 4d and 4e).

Visitors step into the Summer Solstice and Winter Solstice shells to sense the passage of time and feel the effects of light in spatial definition. These spaces primarily appeal to the sense of sight. However, this sight is not only focused, but dominantly "peripheral and unconscious" as Juhani Pallasmaa asserted about "the immediate judgment of the character of space": "This complex assessment also includes the dimension of time as experiencing implies duration and the experience fuses perception, memory and imagination" (Pallasmaa, 2014, 231) that we may also ascribe to the Summer and Winter Solstice projects. Thus, the solstices are already the marks of seasonal changes in time, which is also the sign of transformations in nature. The shells and the Well frames the seasonal transformations in nature by the way of changing daylight. Therefore, although the projects primarily address the sense of sight, the atmospheric qualities may lead visitors to a synesthetic perception shifting between sight and hapticity. This is due to the changing colours, temperature, tactile and visual textures by the daylight effects, which depend on the weather and seasonal conditions. The projects live in both the circadian and circannual cycles of time and climate, and the spaces *spatialize* differently on each day by the changes in light and shade effects. Thus, hanasuki (or wabi-sabi) is provided by a *sophisticated simplicity*, established by the unique experiences of viewing the flowing time through the daylight effects as a measure of space and time; but more than that, as a way of understanding one's self-existence in the immensity of space and infinity of time (in the sense of Nishida).

3.2 Space as a part of Time through the Cycle of Seasons in Ando's Projects

In Ando's project, Benesse House Oval, we may, again, feel a circadian and circannual atmospheric effect making us remember that we are the spatial parts of a larger temporal whole, similar to Sugimoto's projects (Fig. 5). It may be one of the simplistic concepts to locate a pond in the heart of a building to *integrate* the passing time into the space by *mirroring* the temporal changes in kū (sky) and the surrounding environment. The building seems to

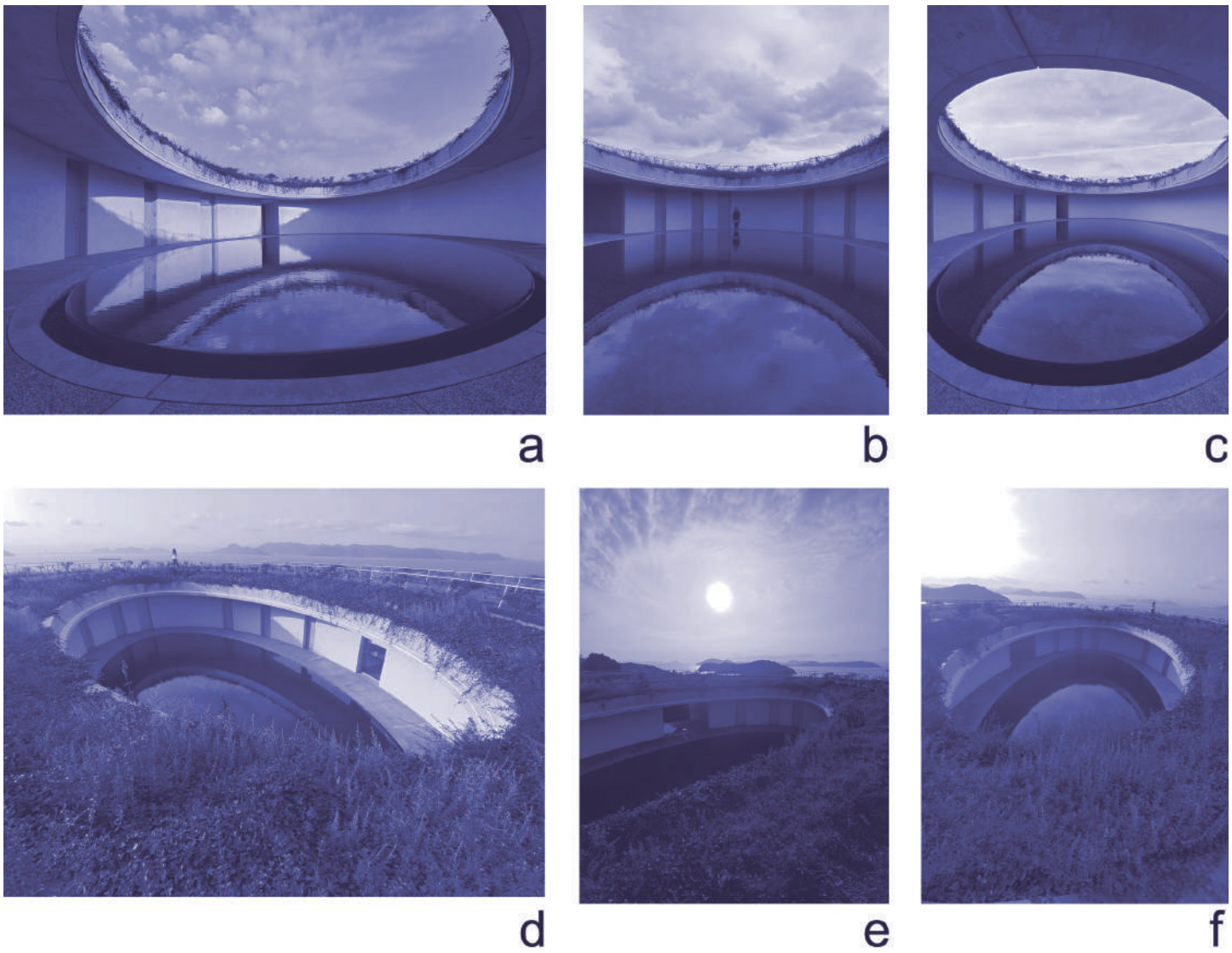

Fig. 5 - Ando Tadao, Benesse House Oval, Naoshima, Japan, 1994-1995: a/b/c) inner views from the Oval structure; d/e/f) outer views from the Oval structure (Photograph credits: courtesy of Pauline Kwok).

be designed to highlight nature and time instead of adding something new in the spatiotemporal context. Thus, Ando (1992) also states about his architecture that "If you give people nothingness, they can ponder what can be achieved from that nothingness", this by implying mu (nothingness) placed in the core of his design ideas. The Benesse House Oval is a museum building inviting the visitors to experience mu in the form of the transient reflections of kū (sky). The scenery is borrowed (shakkei) with the help of this reflection provided by the pond locating at the lowered central void (kū) of the building and (trans)forming it into kūkan with ma. As we also observe in the project, the interaction with nature and time through spatial design (*placemaking* or ma) can be achieved fundamentally by shakkei, as again, denoted by Ando (2021):

"[...] buildings have importance as vessels that allow us to interact with nature. In other words, architecture's function is to let us experience a somatic resonance with the rhythmic breathing and transitions of nature.

Manifestations of this quality can be found throughout the canon of architectural heritage. One such precedent exists in the shakkei, or 'borrowed sceneries', of traditional Japanese gardens and structures."

When you reach to the central Oval you find the reflection of sky (kū) and landscape, within the context of shakkei, as the "nonthing-like or non-corporeal generator" of atmosphere in the sense described by Böhme (2013, 27), which is the indispensable feature of the locus since it creates the genius loci. That is, the genius of the locus in the Oval is transient in its very nature, as again, stated in this poem by Ando (1998, 12; translated from Turkish into English by the author):

"Genius loci never rests.
It always changes its location. It is in other places.
So, its mode of action informs a place, gives it character. It transforms and renews a place.
Genius loci is a plurality, existing simultaneously in different layers.
It flows in the bosom of earth, air and water; just as history flows in your bosom.
These currents meet and mingle incessantly. [...]
It is not a return to the land or to history that will free the genius loci today.
Rather, it is our awakening of land and history.
As I equip architecture and geometry

with renewed vigour, I am running them towards this goal again. [...]

I use architecture to restart the variable motion of genius loci and release it.

Filled with this movement, the vicious conflict between the universal and the regional, the historical and the contemporary, disappears."

If one comes closer and bend over the reflective pond in the project, surely one will also find the image of oneself in the transiency, by feeling mono no aware. After seeing the transiency of oneself in time as reflected in the Oval *mirror*, one may lead to the adjacent walk away from the lowered central void (kūkan) hiding the rest of the scenery, in order to view the whole, and one encounters the immense blue void (kū) of converging sea and sky. Then one may comprehend that one's transiency is a part of a larger but impermanent whole engraved in the cycles of time. Therefore, ma in Ando's design may be very well understood by following the final paragraph of the essay titled "The Thousand Gardens, Shape of Time: Japan" written by Italo Calvino (2013, 172):

"A temple near Osaka had a wonderful view over the sea. Rikyu had two hedges planted which totally hid the landscape, and near them he had a small stone pond built. Only when a visitor bent over the pond to take water in the hollow of his hands would his gaze meet the oblique gap between the two hedges, and then the vista of the boundless sea would open up before him. Rikyu's idea was probably this: bending down over the pond and seeing his own image shrunk in that narrow stretch of water, the man would consider his own smallness; then, as soon as he raised his face to drink from his hand, he would be dazzled by the immensity of the sea and would become aware that he was part of an infinite universe. [...] To the person who asked him about why he had built the hedge, Rikyu would simply quote the lines of the poet Sogi: Here, just some water / There amidst the trees / The sea! (Umi sukoschi / Niwa ni izumi no / Ko no ma ka na)."

Hanasuki (or wabi-sabi) is provided by the *sophisticated simplicity* in Ando's design. This opposition (between sophistication and simplicity) in our emotional and mental conceptions and reactions should be defined in the aesthetic context of Japanese architecture. Although the words, "simplicity is the ultimate sophistication," are ascribed to a Renaissance master, Leonardo da Vinci, we can find the aesthetic traces of this expression directly in the traditional understanding of space design in Japanese culture: the aesthetic conceptions of mono no aware, shakkei, wabi-sabi, and hanasuki preserve the ancestral genes of Japanese architecture; that is, both Sugimoto's and Ando's works derive from the same ancestral genes and reflect similar features in their common temporal ground of spatiality. The simplistic and smart design touches in the projects described above are reminiscent of the spatiotemporal reality inviting us to understand the sophisticated relationships between parts and wholes as well as their circular/cyclical transiency acting as their paralogue.

4. EPILOGUE

The cycles of days and nights, weeks, months, and seasons (or natural light in general) are not only the temporal determiners but also the spatial definers that construct the atmospheric paralogue in Japanese architecture. Time becomes the fundamental generator of the spatial atmosphere in this approach. It sets the rules in spatial regard and makes spaces exist in the flux of impermanence. Thus, spaces anchor themselves in language and nest in culture in order to attain a kind of permanence that never changes in the context of constant change. Impermanence becomes permanent, and the spatiality becomes a cultural reflection oscillating in the temporality of existence. Therefore, the Japanese understanding of temporality and spatiality can be seen as a way of embracing impermanence and change, which, in turn, creates the aesthetic shell for time to mark its progress circularly in the spatial void of existence.

From this perspective, the aim of this paper was to explore the unique way by which Japanese culture and architecture conceive temporality and spatiality as the two intertwined concepts that create the rhythm of ways of living and building in a constant dialogue. The cyclical or circular conception of time in this culture is reflected in the Japanese language, which has a number of key concepts and aesthetic conceptions that refer to the impermanence and transiency of time that connect this thought to the spatiality. Thus, the concepts of ma and mu, for example, are often used in the Japanese understanding of spatial design to create a sense of harmony and beauty supported by the symbiotic relationships between the dualities of time and space. Moreover, the Japanese language and culture are full of words and concepts that refer also to the natural world, and Japanese architecture and spatiality often incorporate natural materials and elements. The aesthetic conceptions referring to turning skies, borrowed landscapes, transiency in nature, and sophisticated simplicity are the traces to follow the features of the *shell* of time in this culture.

Hence the architectural cases chosen for the phenomenological examination of this philosophy reflect the key concepts and aesthetic conceptions of temporality intertwined with spatiality. Time attains a multi-sensory, and even a para-sensory mode in these projects by shaping a narrative character for the spatial experiences of the atmospheres. The architects, Sugimoto and Ando, use different techniques to create a sense of temporality and spatiality in the examined projects, which also share a common goal of creating spaces that are both beautiful and harmonious in their relationships with nature (space/scape) and time. This aesthetic symbiosis or hanasuki finds a room in a gaze toward nature and its perfect imperfectness opens to temporal changes. Therefore, the Japanese understanding of temporality and spatiality can also be seen as a way of connecting to and living in nature. While the Western perspective of time progressing on a linear path needs a wake up call to turn back to

nature in order to integrate with it, this has never been the case for the Japanese understanding of living to which *nature itself is home* (as Bashō's *journey*)—which changes and turns with the temporal cycles of it.

The Japanese understanding of time and space can offer us a new way of thinking about the aesthetic conceptions that we find and/or apply in our architecture. In a world that is increasingly dominated by the linear ways of progression and the material, the Japanese perspective can offer us a reminder of the importance of conceiving and living in the cyclical renewals and the non-material in terms of the construction of the genius loci incorporating the genius temporum. The Japanese understandings of temporality and spatiality can be valuable resources for architects and designers to relook at their own architectural cultures to find the design genii in the shells of history or traditions. In this way, contemporary architecture can be freed from the burden of providing *aesthetics* to buildings only by using smart materials and following complex spatial programs and can discover how to utilize *substances* and create *spatial situations* that invite their inhabitants to have temporal experiences in spatial narratives.

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A Landscape in the Air

Designing on a dynamic environment

paisaje
dinámico
ecosistema temporal
landscape
dune
dynamic
temporal ecosystem

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“Un paisaje en el aire” es una reflexión personal sobre cómo operar en un paisaje dunar. Las dunas de Guardamar del Segura (Alicante) han cambiado mucho en el último siglo, desde el año 1900, cuando el Ingeniero de Montes Francisco Mira i Botella comenzó con las tareas de reforestación de las dunas con la misión de evitar que éstas acabaran engullendo el pueblo. El proceso comenzó con algunas construcciones residenciales en los años 30 entre las dunas y el mar, continuó con su acondicionamiento turístico en los años 70-80, la construcción del espigón que modificó la deriva de las mareas en los años 90, y los nuevos proyectos de restauración del paisaje a partir de los años 2000. Este paisaje ha sido ampliamente intervenido, y sus dinámicas naturales siempre han tenido una respuesta a estos cambios. El presente artículo trata sobre el entendimiento de ese ecosistema natural y sus dinámicas existentes a través de la investigación de los elementos que lo forman, lo deforman o colonizan como son el aire, la arena, el agua, la humedad, vegetación, humanos, etc. Ejemplos tales como la captación de humedad en la condensación del rocío del amanecer para sobrevivir de un escarabajo del desierto, o el crecimiento y la supervivencia de la vegetación sobre las dunas, el funcionamiento de las cometas para mantenerse en el aire, incluso el de las maquinas que caminan sobre la playa de un artista holandés, todos ellos son algunas de las herramientas que ayudan a entender e intervenir sobre el paisaje de una manera dinámica. Mientras que pasarelas de madera, espigones o casas son elementos estáticos que se construyen y destruyen en un sistema cambiante, el proyecto “Un paisaje en el aire” integra y acepta esos ciclos de construcción/destrucción como un elemento más. Allá donde el proyecto tenga éxito sobrevivirán los caminos, se implantará la vegetación o se calmará el impacto de la marea. Y donde la naturaleza no acepte el proyecto simplemente desaparecerá, degradándose rápidamente como un árbol que muere o las hojas caducadas que se lleva el viento.

"A landscape in the air" is a personal reflexion on how to work within a dune landscape. The dunes of Guardamar del Segura (Alicante) have undergone significant changes over the last century. Starting in 1900, when forestry engineer Francisco Mira i Botella initiated the reforestation of the dunes to prevent them from encroaching upon the town, the landscape has witnessed transformations. The process started with some residential constructions in the 1930s, continued with the tourist development in the 1970s and 1980s, the construction of a breakwater altering tidal drift in the 1990s, and new landscape restoration projects from the 2000s onwards. This landscape has experienced extensive interventions, and its natural dynamics have consistently responded to these changes. This article aims to comprehend that natural ecosystem and its dynamics by investigating the elements that shape, deform, or colonize it, such as air, sand, water, humidity, vegetation, humans, etc. Examples such as capturing humidity from condensation of sunrise dew to survive like a desert beetle, or the growth and survival of vegetation on the dunes, the functioning of kites to stay aloft, even the one of the machines that traverse a beach by a Dutch artist, all of them are tools that help to comprehend and engage with the landscape in a dynamic manner. While wooden footbridges, breakwaters, or houses are static elements constructed and dismantled within a changing system, the project "A landscape in the air" integrates and embraces these cycles of construction and destruction as integral elements; in places where the project succeeds, paths will endure, vegetation will thrive, or the impact of tides will diminish. In cases where nature rejects the project, it will simply fade away, rapidly degrading like a dying tree or expired leaves carried away by the wind.

INTRODUCTION

The idea for this project stems from the controversies that arise between natural systems and human interventions. While natural systems are governed by dynamic and ever-changing processes, our interventions are often approached in a static manner. Time and these dynamics are responsible for readapting these interventions toward a new equilibrium.

1. CURRENT STATUS OF THE PROJECT AREA

A breakwater (Fig. 1) has been built at the mouth of the Segura River (Alicante), to divert the outflow of sediment from the river mouth, modifying the coastal tidal drift. Currently, the beach does not have enough sand and is shifting its position slightly. This would not be a problem but for the fact that it impacts tourist activity in the area and affects other areas of the landscape.

The harbour had been a long-awaited facility in Guardamar for years. Designed for both sporting and traditional fishing activities in the town, the port and subsequent constructions now integrate seamlessly into the dune landscape at the river mouth , on the edge of the sea.

Parallel to Viveros beach, there is a road that connects the town to the harbour. Access to the beach is via footbridges over the dunes, and the landscape in this area is enclosed by metal fences for its protection. Previously, this area had other uses such as car parks and barbecue areas, but these facilities have been dismantled to regenerate the landscape. Re-vegetation operations were also conducted here to naturalize the landscape and stabilize the dunes. However, these interventions were later modified by the dynamic flows of the site.

Houses on Babylonia beach, built at the beginning of the 20th century when there was plenty of sand on the beach, will disappear as they are now too close to the water due to the retreat of the sand from the coastline. When they are removed, the landscape behind them will change again, as it will be affected by the altered wind patterns previously deflected by the houses.

Fig. 1 – Current status of nature and constructions on the project area.

The pine forest landscape, established to halt the encroachment of the dunes on the town, is now under attack by insects that are destroying it due to drought and the weakness of the plants. This is primarily because the intervention was planned as a monoculture of pine trees, lacking sufficient biodiversity.

The most recent re-vegetation interventions have mostly failed because they are carried out by companies that do not consider the local conditions and the adaptation of plants to the specific site. While a few years ago, plants adapted to the site were produced, in many current situations plants are sourced from nurseries where no adaptation process has taken place, and they struggle to survive.

2. DYNAMIC REFERENCES

In order to intervene in a manner harmonious with the environment, I have examined examples of dynamic processes with elements that undergo changes over time. It is crucial to recognize that in the project, we are not merely dealing with a spatial dimension but also with temporality. Changes occur in the days, seasons, in vegetation and human interventions, impacting variables such as humidity, wind strength, plant growth, human footfall, tides, and more. All these factors influence the project, where we are not just constructing a static landscape but also devising strategies that will adapt as environmental conditions evolve.

Local vegetation, as a living entity, is an integral part of the landscape, aiding in its regeneration. If unsuccessful, it degrades and becomes nutrients for subsequent plantings. Some plants survive by self-protection, capturing moisture from the dew, dispersing, and growing concurrently with dune expansion. Others collaborate to ensure survival. Simultaneously, some illustrate the consequences of planting in unsuitable locations or adapting to wind and humidity based on the landscape's characteristics.

Intervention projects in dune environments are extensively documented, and there is even a Spanish national manual for interventions in these environments (*Manual de restauración de dunas costeras. Ministerio de Medio Ambiente. Dirección General de Costas, 2007*). This manual provides explanations to understand the terrain's morphology, ecological aspects of these environments, and their vulnerability. It also offers recommendations and guidance for selecting appropriate vegetation, methods for propagation in nurseries, and subsequent maintenance.

Moreover, the manual comprehensively covers various constructions within the studied environment, from walkways for crossing dunes to protection systems and sand collection methods for dune reconstruction, all of which facilitate the establishment of vegetation.

The insect that attacks pine trees belongs to a family of beetles, some of which possess unique water management capabilities during droughts. For instance, the Stenocara Gracilipes (Fig. 2) beetle buries itself and slightly cools its body to create micro-condensation effects on its adapted body, enabling it to extract and consume water from the air.

After studying water catchment, another crucial element within the project is the wind. It creates fascinating interactions among the dunes, buildings, and vegetation, making it an important factor to consider when experimenting with the project's possibilities. Behind the constructions, a significant turbulence is generated. This turbulence prevents sediment to be settled down in the area immediately behind the buildings. We can assume that the houses create the effect of highly pronounced dunes, resulting in a distinct interdune space behind each house.

The pathways connecting the road parallel to the shore with the dunes cause a decrease in wind speed beneath the dunes and lead to sediment accumulation around them. Evidently, the turbulence under the walkways sculpts the dunes, creating a "tube" effect beneath them.

Within the project, one tool for understanding the wind, and how to work with it, has been to look at how kites work. Kites are structures

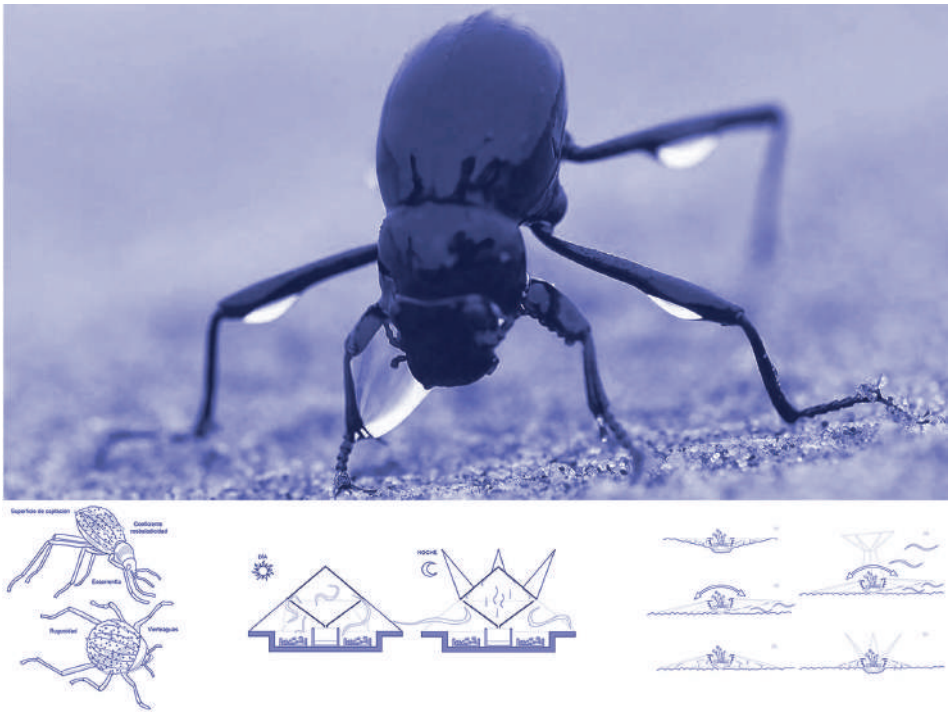

Fig. 2 – Study of water condensation on extreme climatic environment. Water condensation on a desert beetle´s shell, diagrams of greenhouse water and designs for a water condenser pot to introduce on the landscape project.

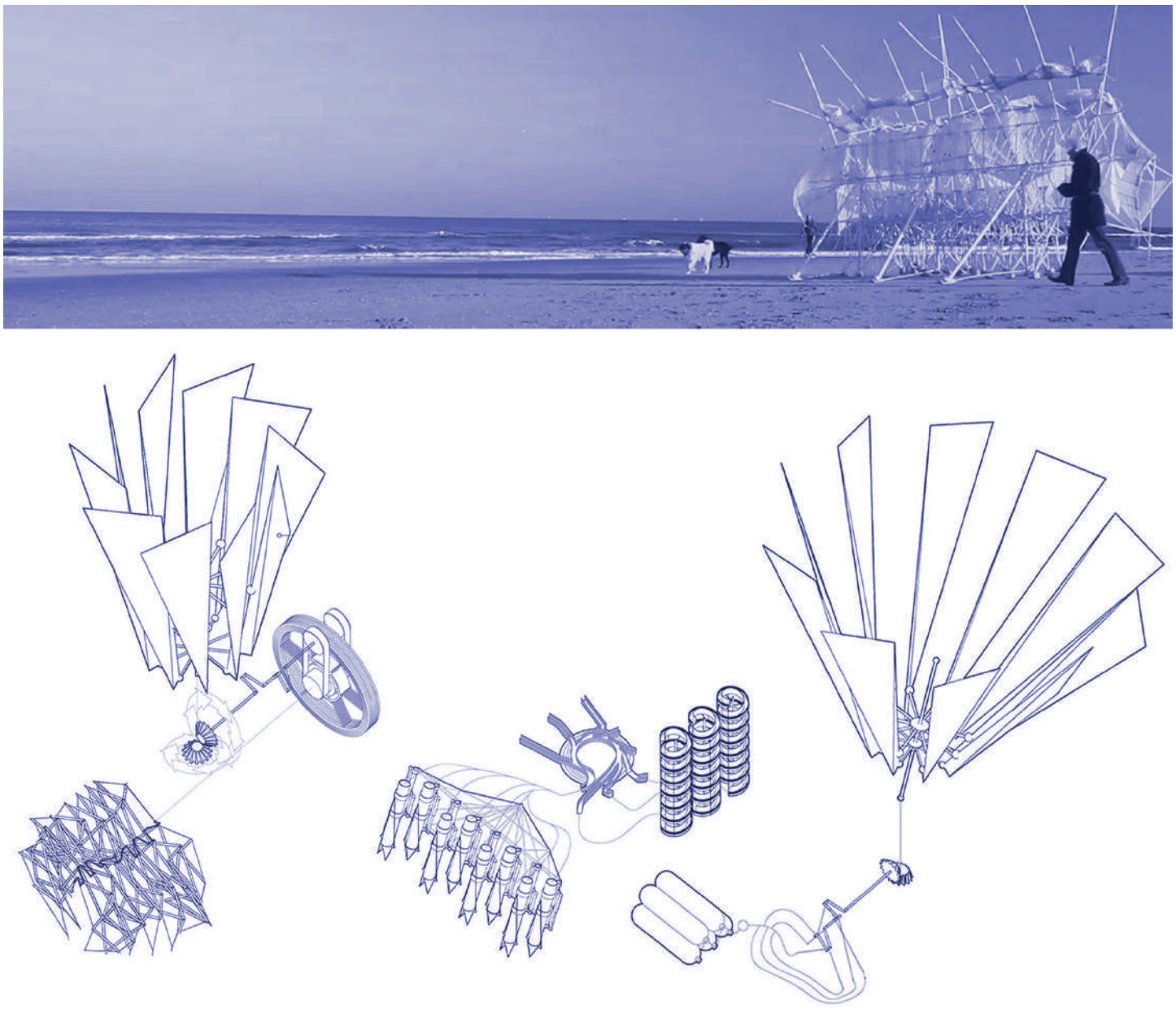

Fig. 3 – Image of Theo Jansen's StrandBeests, and drawings of our theorical designs to adapt his work to the project "A landscape in the air".

designed to harness the wind's power to support themselves, serving as an example of a structure adapted to dynamic forces. They strike a balance between being light and flexible enough to catch the wind and soar, yet rigid enough to withstand the forces of flight. The National Aeronautics and Space Administration (NASA) makes use of kites to explain basic aeronautical principles, and their work with digital wind tunnels aids our understanding of the various components.

On the NASA website, there is a section explaining basic concepts of aeronautics and aerodynamic forces. The site encourages experimentation and understanding of these concepts in practice, even with something as simple as kites. Furthermore, exploring the web tools available, we discover a kite modeller. We use this tool and the data it provides, along with experimenting with various shapes, to design elements for dispersing seeds and plants in our landscape.

All of this informs the design process, enabling us to propose elements that can detach from fixed structures, take flight depending on wind strength, and actively interact with the landscape using their inherent capabilities. We leverage the force of the wind to disperse and deposit them in the dune landscape.

2.1. Theo Jansen, StrandBeests

The Dutch artist Theo Jansen began designing the StrandBeests (Fig 3.) in the late 1980s with the intention of creating creatures to care for local beaches by intervening in the process of sedimentation and utilizing the power of the wind for their function. Over time, these 'beasts' have evolved to incorporate organs and brains that interact with the air, offering insights into the functionality of my own dynamic structures.

Brains of the StrandBeests are powered by a system resembling pneumatic transistors, effectively

a compressed air nervous system. Each 'neuron' consists of two air inlets and one outlet, incorporating an inner piston as a valve. This forms a minimal dynamic system comprising three neurons, all of which continuously change their states.

The muscles responsible for moving various parts of the beasts are essentially compressed air pistons that extend and retract. These muscles indirectly drive the locomotion system; their function is akin to pushing the machine against the ground to initiate movement or change direction.

Its locomotion system itself is a complex arrangement of legs, which can be seen as an evolution of the wheel. These legs transform circular motion into a different trajectory, resembling a very flat ellipse that maximizes surface contact with the ground, ensuring superior traction. To achieve this transformation, the initial leg design underwent a deliberate evolution through mathematical and computer-based processes. The outcome yielded what Theo Jansen aptly termed 'magic numbers,' representing the optimal measurements for each leg component to facilitate this motion transmission. These unique legs and their distinctive method of movement are among the most recognizable features of Theo Jansen's project.

The wings of the StrandBeests serve as a means of propulsion. Initially, these limbs were mechanically linked to the locomotion system, with wing movement driving the motion of the legs. They would only move when there was wind. However, as the StrandBeests evolved and developed internal systems, the wings took on a new role. They propelled air through piston pumps into bottles, effectively 'processing and digesting' the wind to generate energy for various internal organs. This linking of energy capture and utilization now occurs pneumatically, rather than mechanically.

To ensure the machines' ability to function autonomously, sensors were developed to connect them to their environment. These sensors include detectors to assess ground consistency (parts in the feet that detect whether the ground is soft or solid), sensors to determine proximity to water and potential risks of becoming stuck, and others capable of detecting excessive wind, indicating storm danger. Additional limbs can be engaged to stabilize the machine and prevent tipping in high winds. All of these systems, albeit rudimentary, rely on components constructed from tubes and compressed air, forming an interconnected network up to the brain. This network functions as a nervous system that becomes increasingly complex and sophisticated with each evolution, aiming to maximize autonomy and enhance the chances of survival in the future. Building upon the organs and biology of the StrandBeests, the project incorporates an adapted evolution of these creatures (Fig. 3).

In this project, new organs have been introduced to enhance their autonomy. Utilizing the wind, they can independently generate air pressure reserves. Alternatively, by employing clutches and gears, they can accumulate enough pressure to propel themselves directly on air, functioning as a 'direct gear.'

Additionally, new functionalities have been developed, including a planting trolley. This trolley, powered by StrandBeests mechanisms, employs gear systems, pistons, and pressurized air to perform planting work in the landscape. Its purpose is to create natural structures in the form of paths or dune barriers.

3. ELEMENTS OF "A LANDSCAPE IN THE AIR" PROJECT

The project is centred around adapting to a dynamic environment, which undergoes spatial and temporal changes driven by various natural and human processes such as wind, tides, vegetation, humidity, sand, infrastructure, and other structural impacts. Structures are designed to inhabit, evolve, and even decay within the landscape. The adaptation of these elements may result in success, they may survive, be transformed, completely change, or disappear. Temporality, mirroring the natural life of the environment, plays a pivotal role in determining the project's success or failure in finding its place in the landscape. Much like a seed lying dormant until the conditions of humidity, aeration, and temperature are conducive to growth or decay, the project will either evolve and integrate seamlessly into the landscape or fade away as if it had never been there.

4. REGENERATING TREE

This piece is designed to integrate the intervention seamlessly into local dynamics in a continuous and cyclical manner (Fig. 4). It utilizes materials with greater longevity and incorporates plant structures for intervention activities. The piece autonomously constructs mesh networks where plants will grow, later dispersing them throughout the landscape, contributing to its self-reconstruction.

The piece nurtures vegetation by providing a humid environment at its base, facilitating plant growth for the elements that will eventually take flight and disperse throughout the landscape.

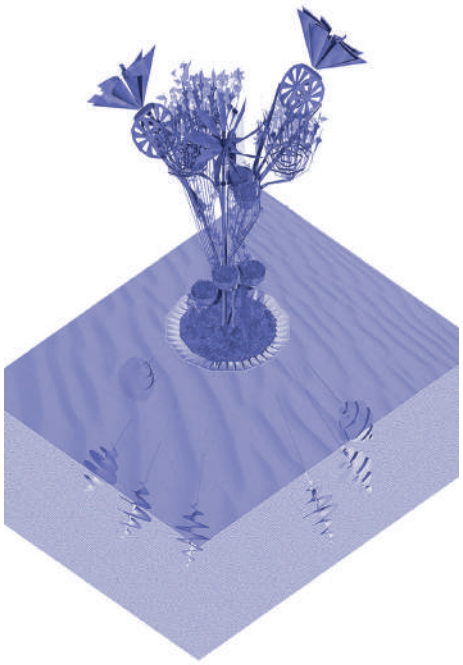

Fig. 4 – Regenerating Tree.

On days with strong winds, these plants are carried into the air, with the most successful ones landing in areas where they can enhance the landscape. They help capture moisture for surrounding plants and contribute to dune growth by trapping sand. The intervention achieves self-reconstruction over time by employing mechanisms and wind energy to supply and store pneumatic energy for these functions. While these plants are part of the tree, they contribute to transitional constructions, generating cool and shaded spaces within the environment.

4.1. Dynamic breakwater

TThe dynamic breakwater shares functions similar to the regenerative tree, but it also interacts with the tidal dynamics that have been previously altered by the breakwater itself (Fig. 5). One of the most critical aspects of sedimentation cycles is the impact of storms, which carry away excess sediment from the beaches, leading to gradual sand loss. To mitigate this dynamic and reduce the impact of strong winds on the beach, an apparatus designed to protect plants from wind would be activated during excessive wind conditions. It would submerge into the sea to calm the currents and counteract the effects that severely erode the beach during the most aggressive sea conditions.

As it changes its position, this structure would expose the plants, allowing them to disperse and contribute to revegetating the landscape, while also playing a role in regulating humidity uptake, dune stabilization, sedimentation, and other related processes.

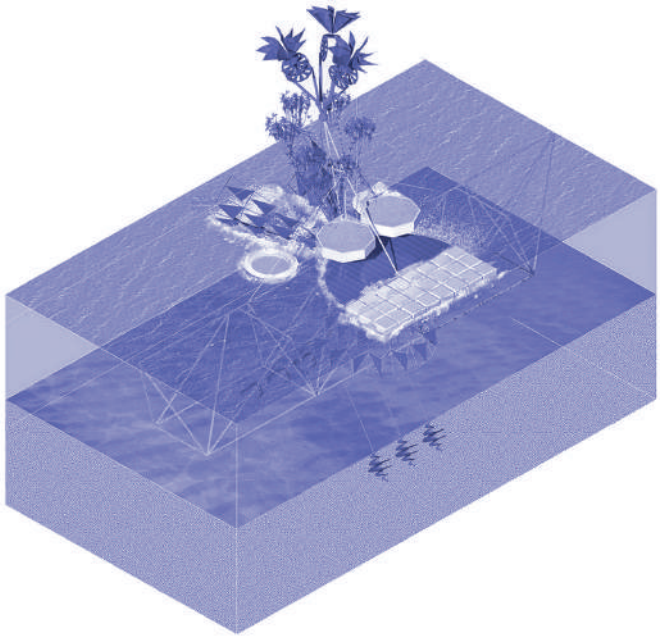

Fig. 5 – Dynamic Breakwater.

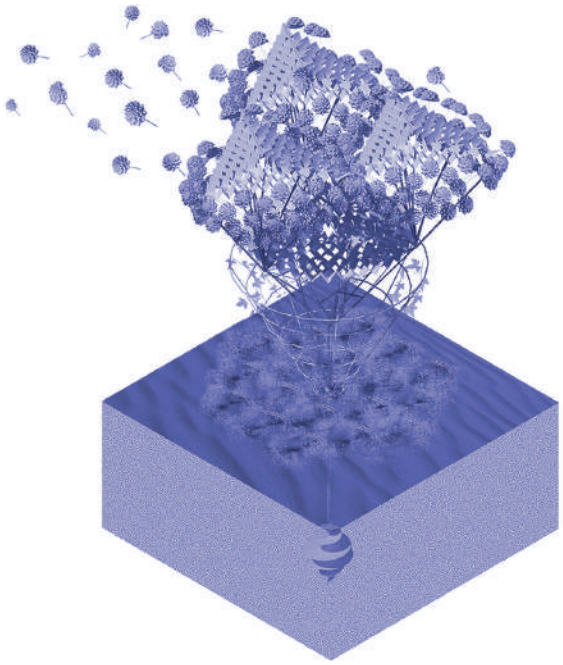

Fig. 6 – Deciduous Tree.

4.2. Decidous structure

This intervention would be constructed like StrandBeests, specially adapted for this purpose, continuously traversing the landscape and rebuilding it with each changing season (Fig. 6). The piece comprises several components, resembling those of a plant: a base, a stem, and a canopy.

The base serves as a water collector and anchors the structure to the ground. It generates a small condensation effect within, which is utilized to nurture the growth of plants inside and improve soil humidity for neighbouring vegetation to capture.

The canopy is gradually shed in response to the force of the wind, aiding in the dispersal of seeds enclosed within these pieces throughout the landscape. This colonization process leads to various beneficial effects, including enhancing soil humidity, enriching the substrate, stabilizing dunes, and contributing to the sedimentation process where the wind carries these pieces away. The smaller components are carried by light winds, while the larger ones are dispersed by occasional but recurrent strong gales in the landscape.

4.3. Landchap bower

The primary function of this massive beast is to construct and embed the deciduous structures within the landscape. It houses

disassembled pieces compactly within its body, and as they traverse through its internal mechanism, the structures are fabricated on a living assembly line. Its mission involves the continual reconstruction and maintenance of the landscape until a point of equilibrium is achieved, allowing human and natural dynamics to coexist and mutually benefit. These beasts would navigate through the landscape, intervening in locations they deem suitable, such as interdune spaces, established paths, or previous interventions. The creature carries sufficient materials and energy to sustain itself autonomously for a duration, enabling it to return to its point of assembly to resume its work.

In the evolution from the StrandBeests designed to function in our dune environment, I propose a transmission system that combines several concepts to facilitate movement in this complex setting. We will incorporate an energy accumulation system to directly power the legs pneumatically. Additionally, there will be a direct transmission of movement from the wings to the legs when the machine gains enough inertia and can move using wind energy. We will also introduce a flywheel that can store kinetic energy for use when the beast needs to overcome a slope or initiate movement. These three systems (wings, flywheel, and legs) will operate independently but can assist each other pneumatically or mechanically through a system of clutches and transmissions.

To harness wind energy efficiently, we have made slight modifications to the wing design. The wings will move radially, allowing them to capture wind from any direction as they follow a more variable path than the original creatures. Furthermore, the wings will have joints to adjust the radius of the circular motion. By altering their position, they can adapt to light or strong winds. In a wider configuration, they will have greater inertia and capture more air, while in a more closed configuration, they can operate more slowly in strong winds to avoid overloading the pumping system. This system will be coupled to a transmission system that pumps air into the stomachs, where the energy is processed and distributed to the animal's various systems.

One approach to how the beasts will interact with the landscape involves deploying a system for dispersing elements across the terrain, particularly vegetation, in a consistent manner over time, depending on environmental conditions. This system consists of accumulating these elements, assembling them in a somewhat random manner, and utilizing a tool for planting the vegetation. While this concept is still in its early stages, the idea is to equip the beasts with everything necessary for the continuous landscape reconstruction process. In the project, this last evolution called Landchap Bower MkIII (Fig 7) is the one that would live at the dunescape.

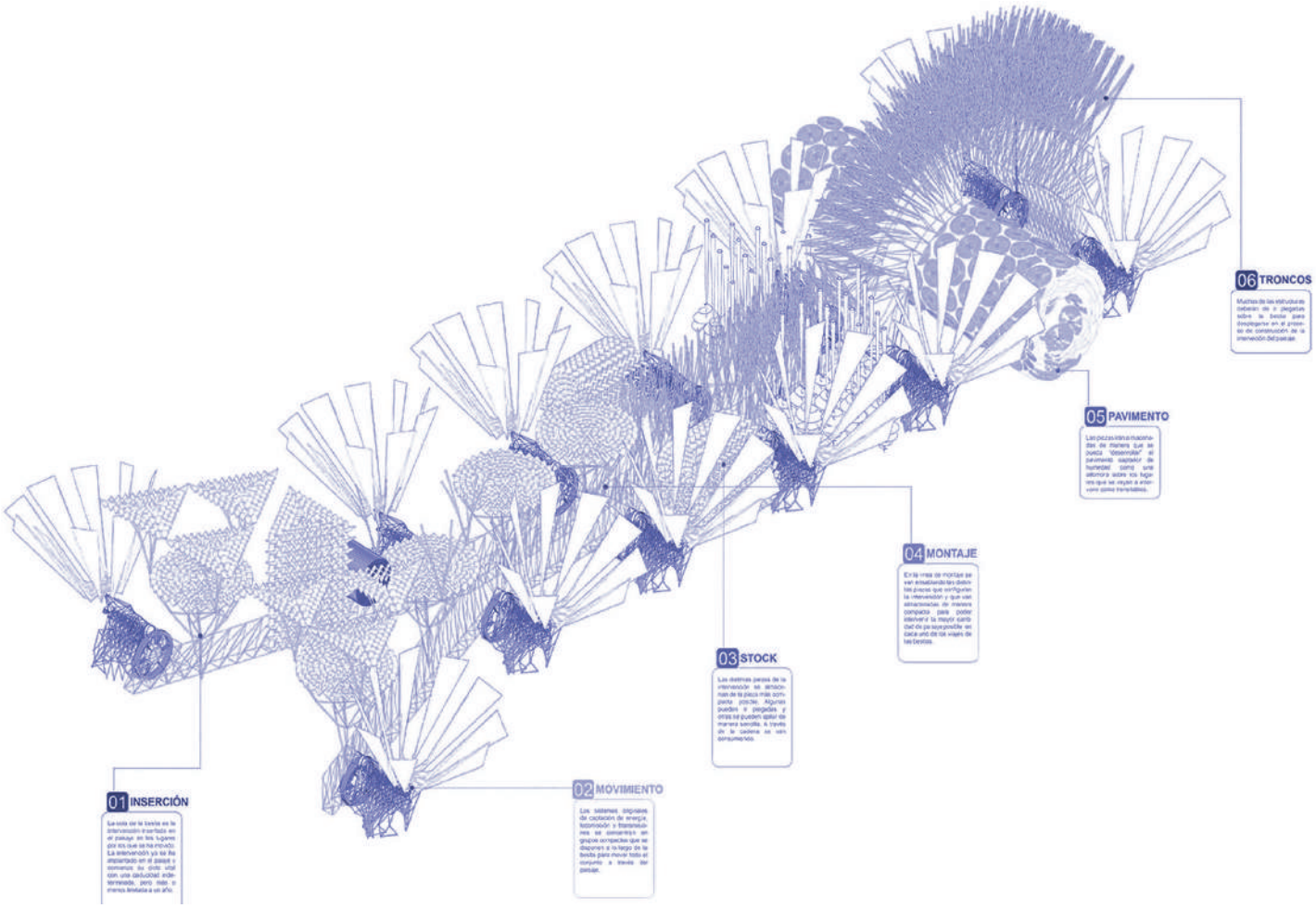

Fig. 7 – Landchap Bower MkIII.

Fig. 8 – Infographic of the landscape built with the dynamic trees adapted to the dune environment.

One approach to how the beasts will interact with the landscape involves deploying a system for dispersing elements across the terrain, particularly vegetation, in a consistent manner over time, depending on environmental conditions. This system consists of accumulating these elements, assembling them in a somewhat random manner, and utilizing a tool for planting the vegetation. While this concept is still in its early stages, the idea is to equip the beasts with everything necessary for the continuous landscape reconstruction process. In the project, the latest evolution, known as Landchap Bower MkIII, is designed to inhabit the dunescape, moving in response to the intensity of the wind. Its purpose is to create a landscape featuring self-sustaining vegetation paths and dynamic trees, establishing connections and integrating spaces for human use, such as the port or urban areas, with the beach, dunes, and forest.

4.4. Evolution of the project in the landscape

The Landchap Bower MkIII traverses the landscape, selecting suitable locations for the installation of these structures. It harnesses its own energy to enhance its autonomy, and its body and limbs are designed for movement through the dunes. This great beast serves as a generator of structures and dynamic trees (Figs. 8 and 9) that must colonize the landscape, adapting to the site's requirements or fading away.

The initial implantation is aggressive, capitalizing on existing features like paths, walkways, and revegetation areas, like static interventions. This has implications for the site, but over time, these impacts are softened as the project adapts to the environmental balance.

With the passage of time, the implantation has evolved. Some structures and purposes endure, while others are lost. The deciduous structures continue to shape pathways intertwined with the vegetation they've nurtured. Certain aerial components have thrived, introducing humidity, providing shaded spaces, or stabilizing dunes where the wind has deposited them. Protections and boundaries vanish as vegetation itself defines spaces, preventing cyclical degradation while maintaining areas for leisurely walks and enjoyment of the landscape (Fig. 10).

As a conclusion to this article and the project's process, I like to envision the possibility of working differently. Our current approach involves constructing rigid, immutable, permanent, and inert environments using materials like concrete, asphalt, steel, glass, etc. However, there is an alternative, we can also work with time,

Fig. 9 – 1:1 scale model of the dynamic trees by Iván Torregrosa, at the Alicante School of Architecture as part of his Final Project.

embrace perishable processes, and incorporate living or dynamic elements into our projects.

In an ideal future, this project will evolve, change, and eventually expire. Pieces carried by the wind will find their place, undergoing evolutionary processes within the landscape. They will generate spaces, alter topography, and influence the humidity or temperature of the areas they colonize. Protections and boundaries vanish as vegetation itself defines spaces, preventing cyclical degradation and leaving room for transit and the enjoyment of the landscape. Over time, many of these elements will fade, making way for unforeseen ones.

This evolution ensures that the initial project becomes unrecognizable, mirroring the life cycle of any living being in nature, born, changing, reproducing, evolving, and eventually passing away.

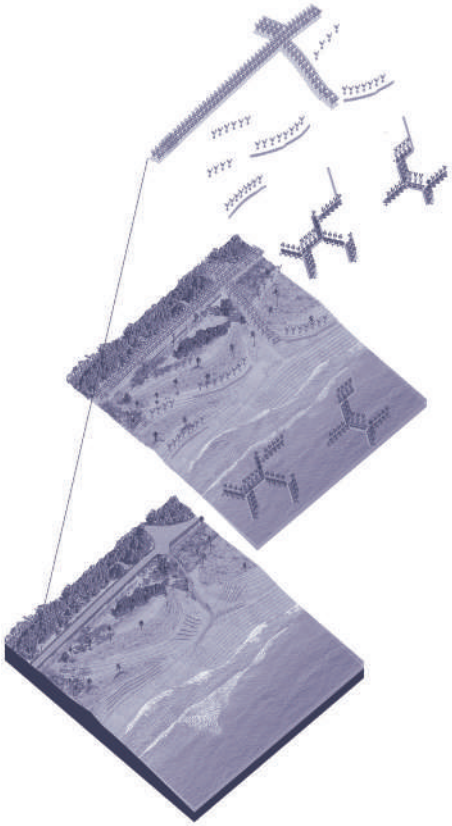

Fig. 10 – Landscape implantation with the dynamic strategy.

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L'orizzonte della Memoria

Duration, Change and Extended Time in the Ecumenical Cemetery of Caltagirone

tiempo
duración
proyecto
filosofía contemporánea
necrópolis
time
duration
design
contemporary philosophy
necropolis

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Como parte de una línea de investigación basada en la práctica arquitectónica especulativa del autor, la presente contribución emplea un reciente proyecto de concurso de intervención en un cementerio histórico situado en Catania (Italia) como medio para identificar y explorar las dimensiones temporales de la arquitectura. El texto sitúa estas dimensiones en relación a una serie de corrientes filosóficas contemporáneas, focalizadas en la experimentación con nociones de "tiempo" que trasciendan la relación del mismo con la experiencia humana.

Para ello, el presente trabajo pretende enmarcar la intervención (y su proceso de proyecto) en términos de una temporalidad fluida, transformadora y extendida, planteando metodologías que permitan exceder el ciclo de vida "visible" de la propuesta arquitectónica. Apoyándose en material visual extraído de la propuesta de concurso original, el texto articula las diferentes decisiones de proyecto en relación a posiciones teóricas específicas, desarrollando definiciones de "temporalidad arquitectónica" en términos programáticos, materiales e instrumentales. Este triple enfoque da lugar a una exploración exhaustiva de las dimensiones interrelacionadas (y potencialmente entrelazadas) de la "temporalidad," formulándolas a través de tres principios activos y estructurantes del proyecto arquitectónico: La extensión programática del tiempo asociada al propio carácter espiritual de la necrópolis, la constante evolución —dentro y fuera de las secuencias temporales humanas— del proceso proyectual, y el entendimiento de la materia más allá del momento efímero en que los componentes materiales se manifiestan como un objeto arquitectónico.

This contribution uses a recent competition project for a materially lightweight intervention in a historically significant cemetery in Catania, Italy—developed as part of the author's research-led design practice—to articulate and explore the interrelated temporal dimensions of architecture. In so doing, it maps these dimensions against a series of contemporary philosophical positions, which interrogate the notion of "time" beyond its relation to human experience.

To this end, this contribution seeks to frame the intervention (and its originating design approach) in terms of its fluid, transformative, extended temporality, demonstrating how it may exceed its "visible" life cycle as an architectural proposal. Developing as a discussion that articulates design decisions in relation to their associated theoretical frameworks, the text proceeds to flesh out "architectural temporality" in programmatic, material, and instrumental terms. This threefold approach aims to offer a comprehensive exploration of the interrelated (and potentially intertwined) dimensions of "temporality," with a view to positing them as three active principles for structuring design: The programmatic extension of time embedded in the spiritual character of the necropolis, the constantly evolving nature of the design process —both within and outside the human temporal sequence— and the consideration of materiality beyond the ephemeral moment when material components become an architectural object.

INTRODUCTION

Human memory is a marvellous but fallacious instrument. The memories which lie within us are not carved in stone; not only do they tend to become erased as the years go by, but often they change, or even increase by incorporating extraneous features.[1]

Primo Levi
The Drowned and the Saved (1988)

Extracted from his lucid account of the violent intertwining of life and death he confronted during his internment in a German concentration camp during WWII, Primo Levi's quote foregrounds how the passage of time has a transformative effect on memory, altering and expanding it beyond actual lived experience. The quote is of particular interest to us inasmuch as it seems to challenge some prevailing contemporary interpretations of time in relation to architecture. A prominent example of such interpretations is Juhani Pallasmaa's phenomenological account of the architectural object as a container of time and space[2] and as a device to bring our minds back to an emotionally charged past.[3] Pallasmaa's position strongly resonates with the views put forward by Peter Zumthor—another prominent phenomenologist. In his short essay entitled "A way of looking at things" Zumthor describes architectural materiality as a mnemonic device, capable of bringing sensual memories from the past into our experience of the present.[4]

Pallasmaa's and Zumthor's takes on the relationship between architecture and time have clear points in common. In both of them, the built form is approached as an instrument of human memory, inasmuch as it performs experientially as a permanent manifestation of the past. A key implication of this approach is that the realms of experience and time are considered solely through a human perspective and linked conceptually through human memory. However, as Levi points out, there is room to argue that memory itself is far from the stabilised construct that we consider it to be, and thus its ability to faithfully encapsulate the past is, at best, highly limited.

Rather than memory, time emerges in Levi's writing as a stronger structuring force—both in relation to human experience and to the built environment—though it exerts its influence through gradual transformation rather than systematic consolidation. Following Levi, and in considering an alternative discourse that extends beyond the strictures of human memory and experience, we might contemplate an extended "temporal" architecture that encompasses an expanded range of transformations afforded by the passage of time.

To this end, this essay leverages a speculative design scenario—an entry to an architectural competition developed in 2021—as a platform to investigate and unpack the interrelated dimensions of temporality in the built environment. In so doing, it seeks to address the following questions: How can a small architectural intervention foreground and articulate several temporal cycles at once? How can these cycles be meaningfully intertwined to become a conduit for time-driven design decisions? How are these intertwined dimensions of temporality ultimately manifested—both materially and immaterially?

At the core of its argument, this essay posits temporality as a threefold dimensional system: One which encompasses the full life cycle of material components (before, during and after their presence in an architectural assembly), the programmatic and spatial embodiment of this assembly into longer temporal landscapes, and the time-inflected instrumental qualities foregrounded through specific design processes.

1. A TEMPORALLY INFLECTED DESIGN SCENARIO

Titled "L'orizzonte della memoria," as a direct reference to Levi's written accounts of the limitations of human memory and reflecting the aspiration to encompass expanded temporal cycles through architecture, the work serving as a conduit for the ideas presented in this essay is an architectural design competition proposal for a lightweight, low-impact, low-carbon extension to the Ecumenical Cemetery in Caltagirone (Catania, Italy) (Fig. 1).

This cemetery is a historical, monumental "city within the city," originally conceived and designed by architect Giambattista Nicastro in 1866. It is situated on the outskirts of Caltagirone, a town and municipality within the broader Metropolitan City of Catania in central Sicily. Its specific location combines peri-urban and rural characteristics. On the one hand, the cemetery site is directly

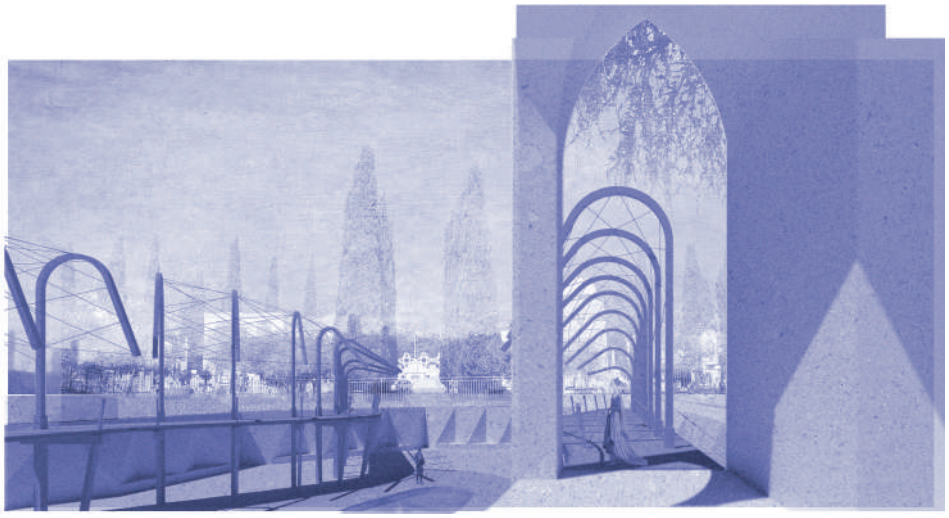

Fig. 1 – Perspective of the design intervention through the existing porticoed structure. Analogue-digital collage.

connected to and surrounded by a network of roads and rail infrastructures that link Caltagirone with its wider regional context. Several light industries operate along these infrastructures in the immediate vicinity to the south of the site, while remaining visually separate from the architectural ensemble projected by Nicastro. To the north, east, and west of the site, a vast landscape of agricultural and forestry land extends into the far-reaching horizon. Large swathes of arable land are interspersed with areas of mature Mediterranean forests and shrublands, as well as small farming settlements. The initial impression is that of a deceivingly pastoral landscape which, upon closer scrutiny, quickly reveals itself as a highly humanised environment that has been inhabited since prehistoric times (Fig. 2).

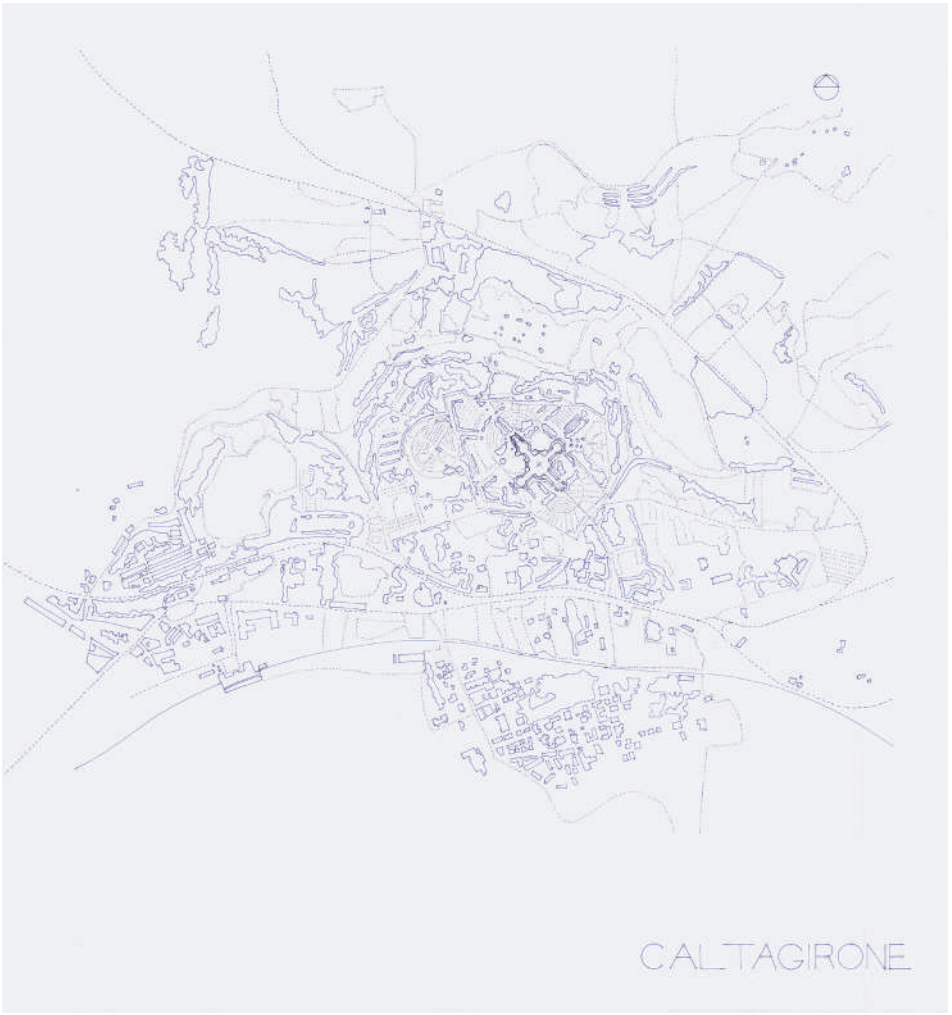

Fig. 2 – Extended site plan of the human and natural landscapes surrounding the Monumental Cemetery of Caltagirone. Drawn to scale 1:5000. Brown ink on velum.

Gradually built in multiple stages and over a long period of time throughout the second half of the 18th century, the Ecumenical Cemetery was eventually left unfinished, and has remained so until the present day.[5] Nicastro designed the structures of the necropolis in a characteristic neo-Gothic Sicilian style, and built them using several types of local stone—ranging from white Ragusa stone to volcanic stone from the Etna region and terracotta from Calatino—. Richly decorated with ceramic ornaments, the structures convey a strong polychrome impression that reinforces Nicastro's aspirations to monumentality. The architectural ensemble is organised as a bi-axial composition, with a main northwest-southeast axis that runs through the site and is linked to the cemetery entrance gate and to the access road that traverses the adjoining neighbourhood. The central element of this bi-axial composition is shaped as a large Byzantine cross made of 170 arched stone porticoes (Fig. 3). These outline the ends of each of the arms of the cross as octagonal squares, which are themselves enclosed by the succession of arches in continuity with the arms. An exception to this enclosure is the tip of the northwest-southeast axis, which opens into a large void. This space was originally intended to be occupied by a chapel and, although several projects were drawn up for it over the 19th and 20th centuries, none of them were ever realised.

This remaining void in Nicastro's structure became the focus of an international competition, jointly organised in 2021 by the Chamber of Architects of Bologna and the Chamber of Architects of Catania. The competition called for a built intervention that topped off Nicastro's axial structure and provided formal closure to the porticoed construction while simultaneously articulating a broader connection to the surrounding areas of the cemetery.

Fig. 3 – View of axial porticoed structures within the necropolis landscape, Monumental Cemetery of Caltagirone. Source: Wikimedia Commons (CC).

This intervention was meant to serve as an ecumenical space of quiet reflection, which reiterated the poetic themes expressed by Nicastro's circulatory system in a contemporary manner.[6]

The goal of participating in the competition was to develop a design process (and a design proposition) that would jointly demonstrate how the problem of time as an intellectual question could be woven into the production of architecture at multiple levels and scales. In so doing, the passing of time was deliberately foregrounded as the principal driver of the design process, as well as a fundamental programmatic feature and a material strategy. A further goal of the competition development was to investigate how the different aspects of this "architectural time" and their potential interactions could be successfully manifested.

The structure of the text will develop in reference to this intellectual framework of temporality. Following a factual initial description of the design scenario and its context, I will establish three temporally inflected dimensions, referencing them against the intellectual positions from the recent history of ideas that they emerge from. In so doing, I will clarify their role in shaping the development of the designed output, supporting this argument through explicit references to a selection of the visual materials (drawings, sketches and digital collages) that were part of my original submission to the design competition. These visual materials are presented as captioned illustrations, providing further context on the material media and techniques through which they were originated. The textual argument will highlight how the aforementioned, temporally inflected dimensions are not separate but interdependent. On the contrary, they structure and augment each other, articulating a design framework that is driven by the passing of time—not as a passive accumulator of change but rather as an active principle of organisation.

1.1. Programmatic Temporalities [duration]

As an architectural programme, the central theme of the necropolis is the establishment of a built threshold between human life and death. It opens up a permeable boundary between two states, but also a place where the transition between such states can be spatially experienced and inhabited. On the one hand, this functional theme is inherently charged with symbolic content—even when we try to spell it out in strictly factual terms. On the other hand, a more expansive consideration of its architectural manifestation can help resituate it beyond the strictures of symbolic interpretations.

Thus, we could argue that the necropolis programme activates two fundamental expressions of the interplay of life and death through architectural means: the persistence and transformation of memory, and the notion of temporal continuity. As accounts of change and transformation, both can be framed conceptually through the work of philosopher Henri Bergson. For Bergson, memory and perception are two fundamentally different mechanisms—discussed in his own terms, he notes that they are different in "kind" as opposed to simply different in "degree." Whilst memory is fully relegated to the past and therefore not readily accessible, perception is the realm of "actual sensations" and therefore it is materially active in the present. That is, for Bergson perception captures and co-produces reality as it unfolds. However, he also noted that both systems are linked through the mechanism of image-memory, whereby the past becomes actualised in a present image. In so doing "pure" inaccessible memory from the past "borrows something from perception" as it emerges into the present and becomes mediated by it.[7] This mechanism is strongly resonant with Levi's quote on the articulation of the past and the present: Pure memory—the consolidated past—does not really partake in the present, but rather emerges in a mediated form, enmeshed into our unfolding reality.

From a conceptual standpoint, the project reflected this mechanism of transformation of the past into the present by drawing further from Henri Bergson, and specifically from his notion of Duration. For Bergson, this is a process of continuous yet heterogeneous transformation that is expressed over the passing of time. Duration encompasses the perpetual state of change of reality "as a whole" rather than as a series of discrete fragments, and independently of our ability to perceive this continuous transformation.[9] As Gilles Deleuze puts it, Duration is a form of change that endures, inasmuch as it is "substance itself."[10] Within this framework, time is simply our fragmentary perception of this continuous unfolding of the present.[11]

Tapping into this theoretical scaffolding, the competition proposal aimed to present material and spiritual permanence—and the mediated memories that they might activate—as continuous processes of heterogeneous transformation, encompassing both human and non-human entities and inserted into a much broader framework of uninterrupted temporal—and substantial—change.

In keeping with this aspiration, the design made use of tectonic and material languages that contributed to conceptually frame it as an intervention in the landscape rather than as a built object. That is, the intent of the design is not to produce a building, but rather a unitary intervention that links the stone arcades with the broader spatial and material organisation of the site. This strategy allowed the design to retain the spatial footprint allocated by the competition rules, while simultaneously embedding it into the elongated temporal cycle of the necropolis. An obvious precedent for this expansive landscape strategy can be found in the Igualada Cemetery designed by Enric Miralles and Carme Pinós, which has been widely characterised

as an "architecture of time."[12]

In his own brief account of the Igualada Cemetery, Miralles describes the lighter tectonic components of the intervention as devices to "blur the edges" of other, more permanent material, solid cuts in the terrain. Furthermore, he notes how the place itself is something to be occupied with "small individual actions".[13] The themes of the dissolution of human-made actions and the extended duration of the site beyond the moment in which the project has been constructed already appear as key themes here. As Miralles poetically noted "to use this place is to make it disappear".

The competition project aimed to incorporate similar mechanisms for functional and formal "blurring" that would challenge the prescriptive processional organisation imposed by the existing architecture. Thus, without resorting to formal or material replicas of the stone arcades designed by Giambattista Nicastro, the proposal continued and consolidated the public circulation routes that characterised the original design[14] while simultaneously introducing opportunities for a broader range of "small individual actions" akin to those insinuated by Miralles and Pinós in their drive to make a place "disappear." The sheltered walkways covered by the arcades were extended and connected to the northern sectors of the cemetery by means of two lightweight raised platforms (Fig. 4). These allowed visitors to gaze over the central open space left unfinished by Nicastro and provided an access to it via the adjoining stairs. However, the role of the connective platforms was not just to reach the central space as a culmination of the arcades, but also to foreground a further flow of circulation that continued "beyond" them, leaving the stone architecture behind to enter the large arboreous landscape that extends to the north-west of Nicastro's work.

This connective gesture dissolved the prescriptive processional character of the arcades and the focal, axial space they led to, offering instead a continuous circulatory connection that invited perambulatory movements and drew users into the wider site of the cemetery and its adjoining territories. In this manner, both Giambattista Nicastro's architecture and the proposed intervention were intended to appear as short, yet unfinished "moments" within a fluid, elongated cycle of existence.[15] In that sense, the goal was to manifest the programme of the necropolis in durational terms: a spatialised process of ever-evolving, continuous transformation (rather than as a "hard" threshold between the past and the present). Critically, such means of manifesting the programme provided a narrative where the cycles of human and non-human time appeared as overlapping - yet equally important - realities (Fig. 5).

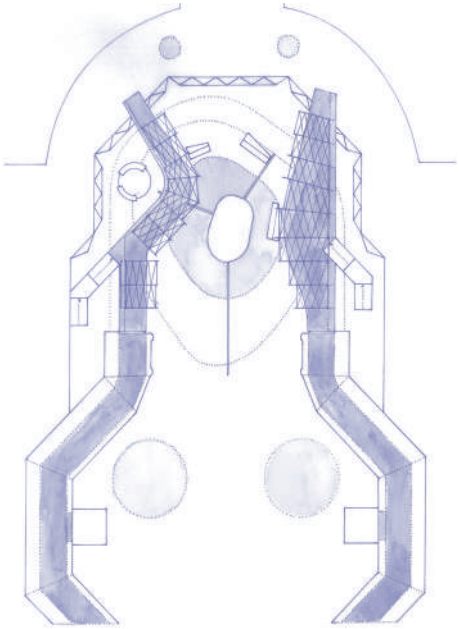

Fig. 4 – Sketch of proposed intervention in continuity with landscape and existing structures. Ink and watercolor on paper.

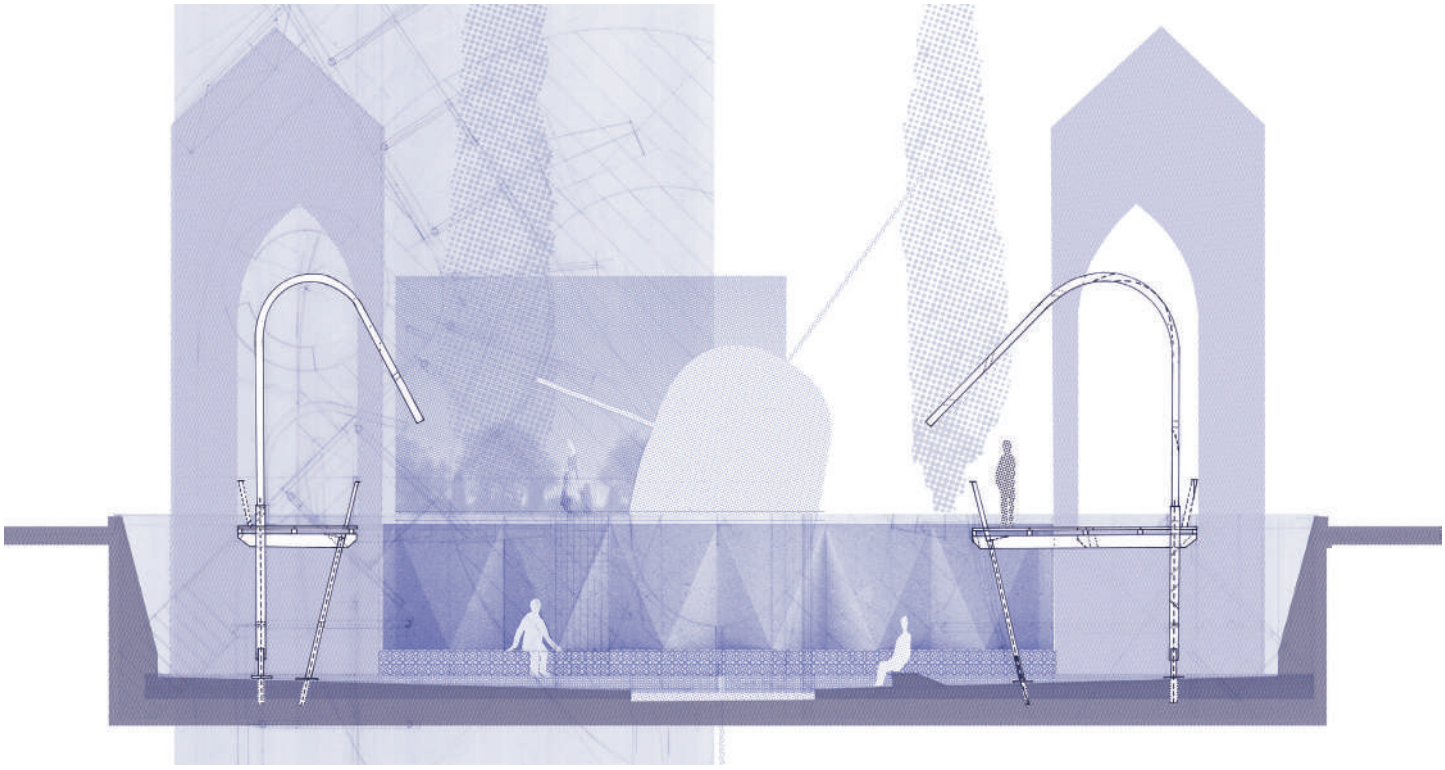

Fig. 5 – Overlay of cross-section and plan of proposed intervention. Ink on velum and digital collage.

1.2. Material Temporalities [change beyond human experience]

The temporally inflected material strategy for the competition proposal intends to challenge conventionally established relationships between matter and design. This is achieved by testing how the lens of an extended temporal framework may destabilise the prevalent notion that the former is subservient to the latter. This prevalent notion stems directly from the western, Aristotelian philosophical framework of hylomorphism: The idea that matter exists as an infinitely malleable, pliable substance, lacking in properties other than the potential to be shaped by human hands. In other words, hylomorphism suggests that "form" is something to be imposed on "matter" at once.

In a book that critically challenges the dominant paradigm of design as a hylomorphic imposition on matter, Simone Ferracina puts forward two key concepts that challenge the act of "design" as a singular, pivotal moment in the existence of a piece of architecture (and by extension, in the existence of any human-manipulated object). For Ferracina, these two vectors are potentiality and change.[16] Potentiality encompasses the possible affordances and relationships into which objects may have entered in the past, and the ones they may enter in the future. Change encompasses the potential of an object for transformation and alteration over time—be it by reassembly, weathering, disassembly, decay, adaptation, reuse, recycling or any other occurrence (human or non-human). These occurrences will not necessarily turn a given object into a different one, but rather make that object progress into *a different version of itself.*

Both potentiality and change are inherently temporal. That is, they emerge over time and are also detached from human temporal cycles. The process whereby an object turns into a different version of itself may exceed human time or, on the contrary, take place in such short spans that they are not easily apprehensible through human cognition. At the core of both ideas is an understanding that, in any design workflow, objects exist and operate within a broader relational framework, yet always still maintain a certain degree of autonomy. Ferracina refers to this autonomy as a quality of "withdrawal" in the relation between an object's reality and its sensual qualities—a reference which itself draws from philosopher Graham Harman's own ontological framework, known as Object-Oriented Ontology.[17] In a succinct explanation of what he means by objectual withdrawal, Harman describes how the objects that are in front of us are only partially present in our minds. That is, human observation constitutes only a small aspect of the real. Objects only offer a partial manifestation of themselves to the human sensual domain and develop complex sets of relationships independently from it.[18]

This extra-human dimension of objects is aligned with both realist and materialist philosophical traditions. Whilst realism posits the idea that objects in the world exist outside (and independently of) human cognition, materialism considers that all entities are, to some extent, historically constructed. That is, they do not exist as unmovable singular "things" but rather as assembled entities that develop (and evolve) over time.[19]

The conceptual framework summarised above—combining an awareness of continuous transformation through change and potential with an understanding of the ability of matter to "exceed" domain of human sensation over time—drives the approach to material organisation in the competition proposal. A key design decision emerging from this position is the use of glulam as the material of choice for all structural elements. Also referred to as glued laminated timber, glulam is a structural, engineered wood product made up of layers of sawn timber bonded together with adhesives. In this manner, the main organisational rhythm of the project was provided by glulam pillars, extended vertically to form large, laminated timber pergolas, which in turn were partially covered with a diagonal mesh of tensioned steel wire (Fig. 6). The structure responded to the spatial rhythm and the span of the arched naves of the arcades, but also to the arboreal elements that determine the broader circulatory rhythm of the necropolis: Its changing geometry sought a gradual accord between the monolithic, monumental sequence of Nicastro's architecture and the "ligneous" rhythm of the trees and the vegetation that articulate the cemetery.

Moreover, the choice of glued laminated timber—unconventional in this geographical context—also reflected the intention to build lightly and with consideration to the broader temporal impact of human construction. From a propositional angle, this translated into a desire to leave as few permanent traces as possible in the event of a future decommissioning of the structure. This, in turn, extended to a consideration of how materials are initially sourced, but also how they are disassembled and eventually disposed of. With this in mind, and considering their entire life cycle through a Life Cycle Assessment protocol (LCA), it was determined that using glulam elements would yield the overall lowest ecological footprint before, during and after their use in the project. Key factors in this assessment included the carbon emission mitigating potentials of cradle-to-grave recycling strategies associated with glulam, and the ability of timber to sequester carbon over long periods of time (which extend well beyond its use as a construction material).[20] An important goal of the design proposal emerged from the way in which the architecture of the stone arcades could be regarded as a material index of the broader regional landscape in which it they are embedded.

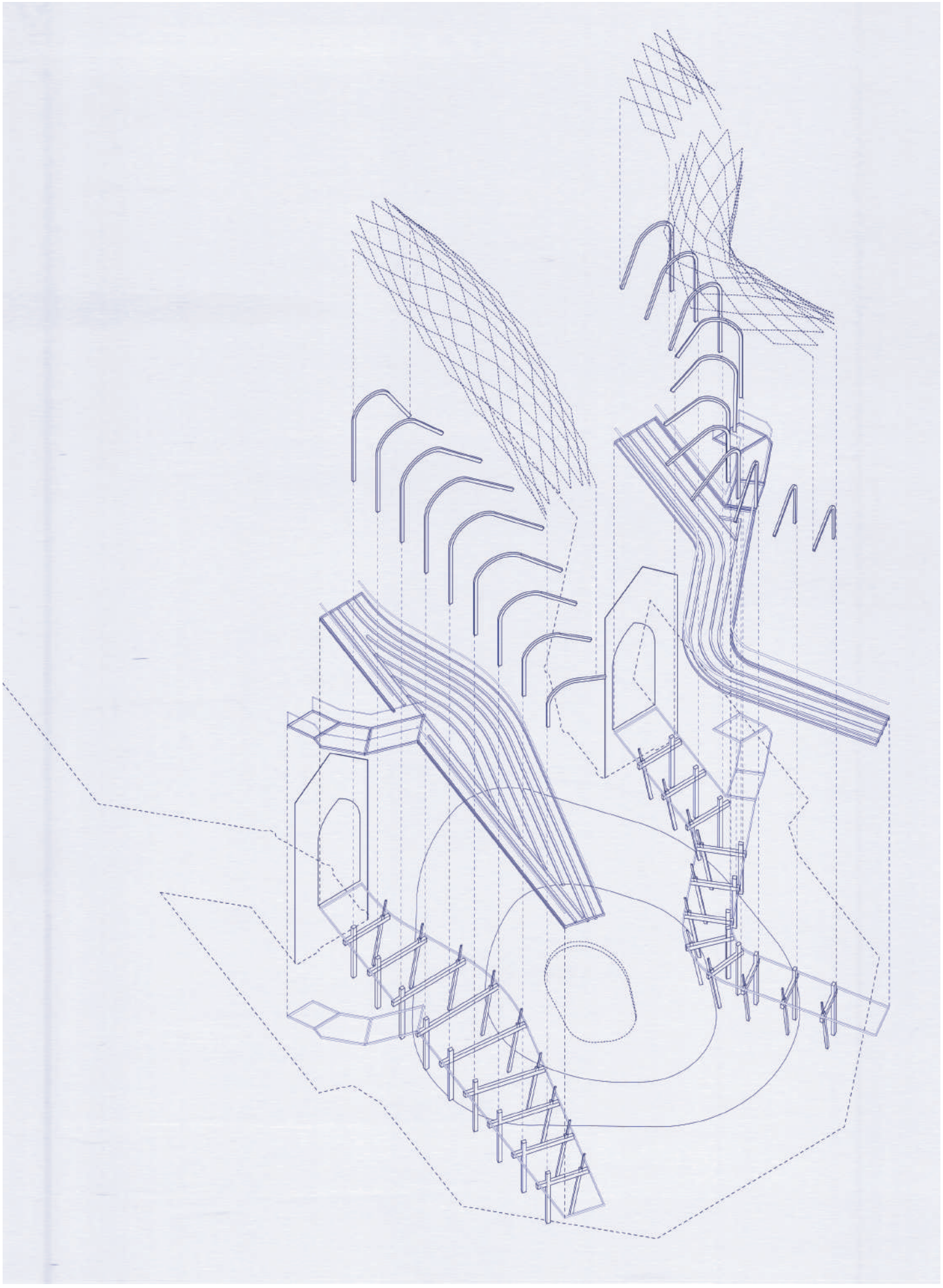

Fig. 6 – Structural axonometric of proposed intervention. Ink on velum.

As noted in previous sections, the arcades were constructed using a remarkable range of different stone types, brought from different parts of Catania and Sicily.

The glulam structural geometry added a ligneous layer to this material index, which also encompassed the human remains lodged into the niches and the transient, fleeting human traces of visitors. Like a solar clock, the serialised rhythms of the structural ribs projected ever-changing layers of shadow onto the open ground space of the lower level, emphasising its use as an area of quiet reflection on the perpetual rhythms of the natural world. In keeping with the stated aspiration to address matter "beyond" human time and the human mind, this overarching material strategy framed the intervention as an action that extended beyond the "visible" life cycle of the architectural proposal. In Western cultures, cemeteries provide a metaphorical device that helps situate the cycle of human life within a broader temporal sequence, suggesting that our existence surpasses the point of physical death in one way or another. In line with this, the intervention sought to attune this broader framework of existence to the non-human components of the project: Its extended material substrate and the temporality of the natural landscape it is embedded into.

1.3. Instrumental Temporalities [unfinished processes]

The third temporal dimension tackled in the competition proposal for the necropolis of Caltagirone pertains to the methodological approach to the design process itself. As was the case with the other two dimensions presented in this essay, the idea of temporality as a form of continuous transformation was explored as a productive condition that could be embedded into the core of the design workflow. As anticipated in earlier paragraphs, this resonates with the aspiration of contemporary practices that deliberately seek to both extend and blur their design processes. In so doing, they attempt to destabilise the idea of design as a particular "moment," opting instead for presenting it as a continuous transformative endeavour that does not make a distinction between "work-in-progress" and "final results." Critically, such destabilisation also extends this transformative production beyond the agency of the human designer and its inscription into human time.

Once again, the work of Enric Miralles and Carme Pinós provides abundant cues to better understand this approach. In a short essay prefacing a series of works under construction, Miralles notes that "construction" is certainly not the final state of the process, but rather "another of the unconnected instants that are always demanding a new response".[21] Working within the conceptual and disciplinary tradition of Miralles and Pinós, the practice of Eva Prats and Ricardo Flores has provided the most comprehensive contemporary account of how this aspiration can be mobilised through a design methodology that is grounded on an intentional, restricted use of representational methods and techniques. As Juan José Lahuerta notes, Flores and Prats' work "takes its time and lingers in an unarmed experience" and both hand and tool operate in a continuous process "with" the work.[22] In order to establish these working conditions, Flores and Prats put great emphasis on harnessing the instrumental implications of their chosen means of architectural representation—namely hand-based drawing and model making.

Although on the surface it might be perceived as a purely visual or stylistic decision—seeking to establish the practice as an "artisanal" alternative to the heavily prevalent aesthetics of digital production in architecture—the intent of Flores and Prats cannot be reduced to a simple preference for "drawing using analogue instruments." On the contrary, Flores and Prats articulate their method through the notion of "thinking by hand": a form of material engagement with the project that is intellectually multi-layered, deliberately extended and, most importantly, formulated as an endeavour that is not marked by either beginnings or ends.[23] The iterative approach afforded by the instrumental conditions of hand-based drawing is also clearly prominent throughout Carme Pinós' long-spanning solo practice career. In a recent interview, Pinós elaborated on the "tentative" yet also resolutive nature of her pencil drawings. For Pinós, these drawings are the key locus of design organisation, and can be returned to whenever key decision-making moves are required.[24]

In keeping with the pursuit of a temporally-driven modality of engagement with design as a process, work on the Caltagirone competition proposal sought to tap into the instrumental development methods explored—among others—by Miralles, Pinós, Flores and Prats. In so doing, all key documents of the project were drawn entirely by hand, using pencil and ink on large-format velum sheets.

Again, rather than a stylistic choice to set the work against sophisticated means of digital production, hand drawing served as a deliberate method to defer the identification of an "end result" indefinitely, ultimately discarding the possibility of "completion" altogether. Working in this manner, drawings are never a finalised blueprint that guides—and marks the beginning of—a separate stage of material assembly and construction. On the contrary, they become a series of continuous, overlapping "constructions" that extend over a potentially infinite period of time (Fig. 7).

At an instrumental level, some of these "constructions" are enabled by the physical overlaying of large velum sheets, whereby parts and fragments emerge to conform a fluctuating whole with potential for rearrangement and recombination. This configuration also leads to

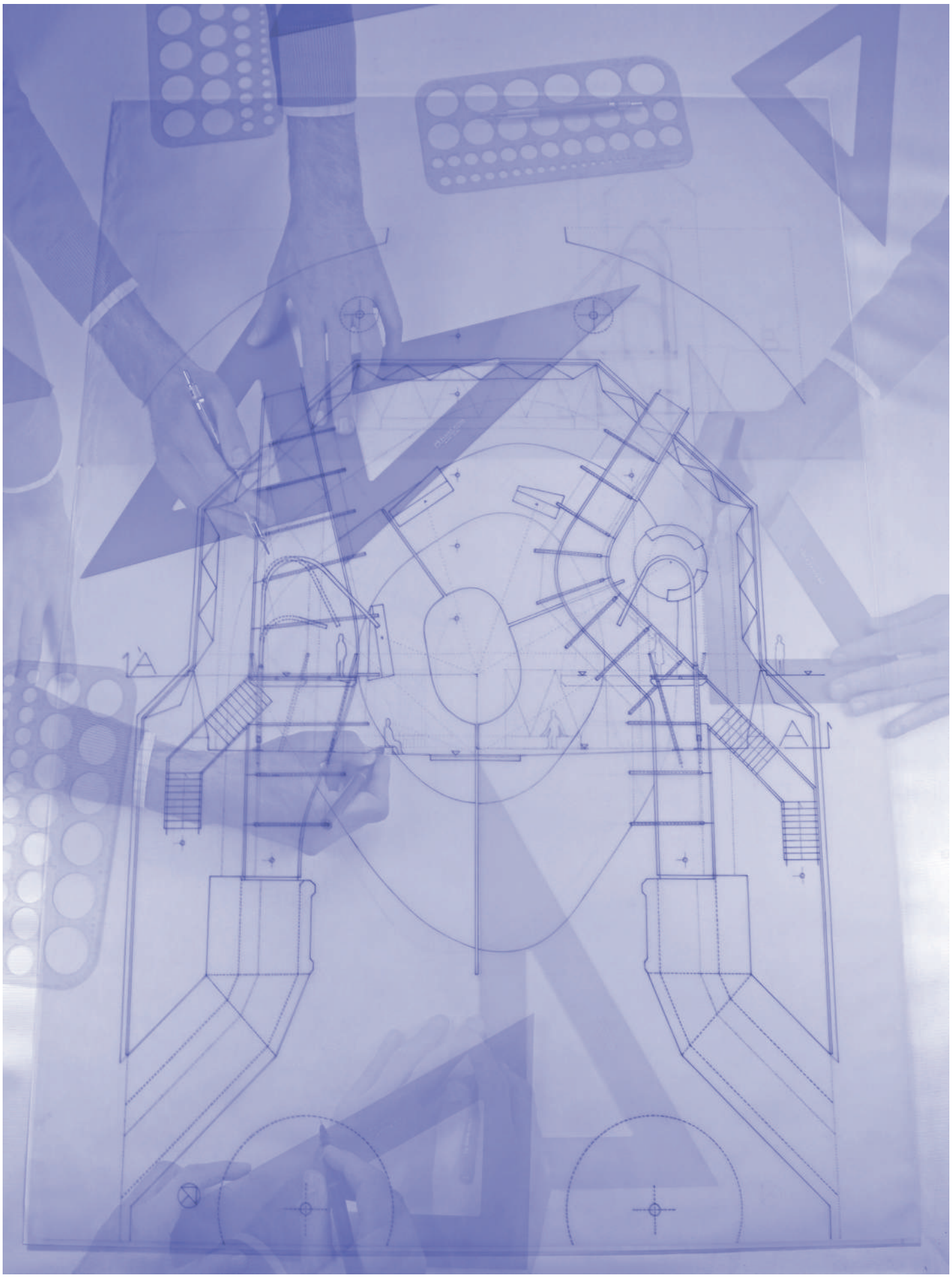

Fig. 7 – Photographic overlay of the development of the proposed architectural plan, elevation and cross sections. Ink on velum and digital collage.

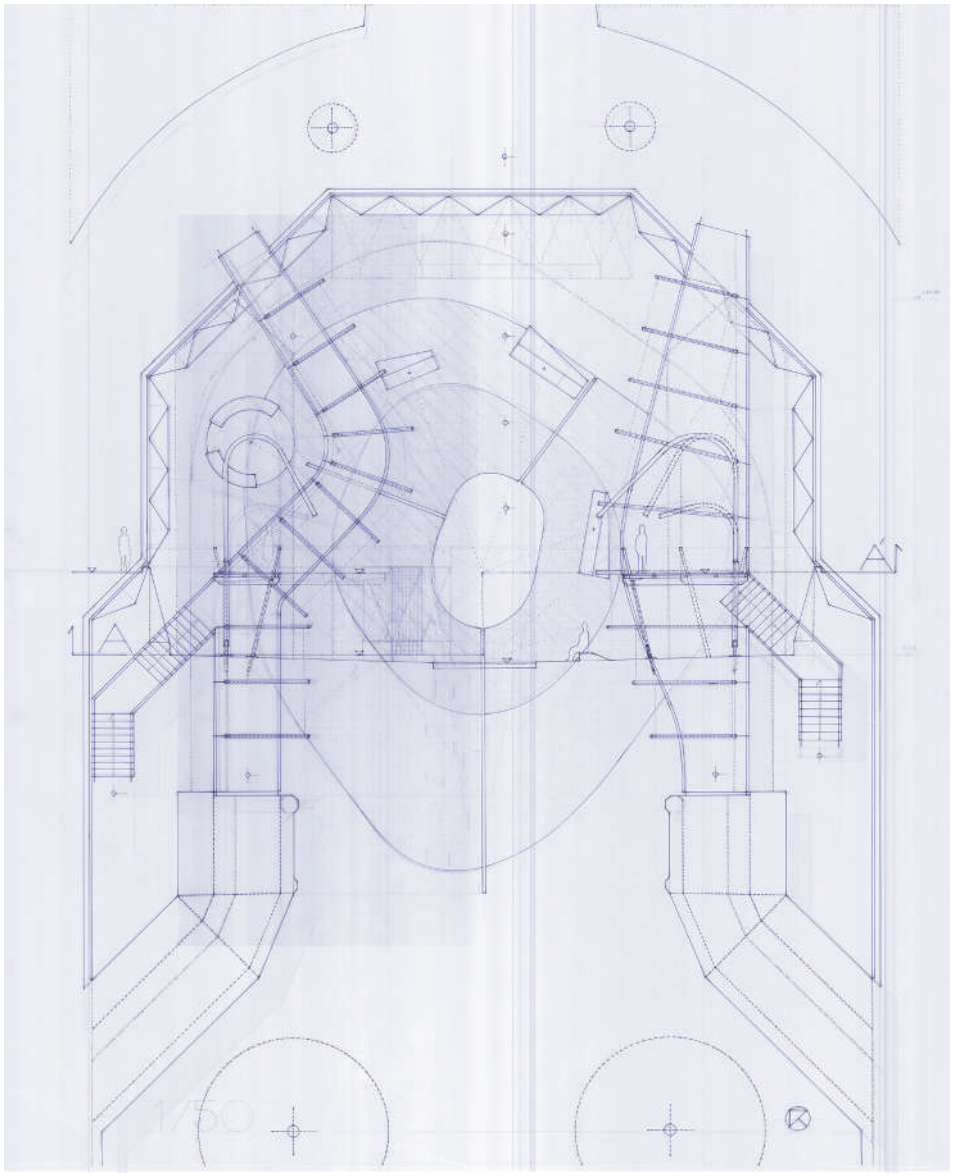

Fig. 8 – Overlaid plan, elevation and cross section of proposed intervention, drawn to scale 1:50. Ink on velum.

the collapsing of different drawing projections—plans, projections and elevations—into one single drawing sheet. This intertwining of projections—both geometrical and spatial—is, in turn, expanded through the deliberate use of a single line weight throughout the drafting process. In so doing, an additional form of fluid continuity is established by blurring the hierarchical distinctions between background and foreground, section and projection, object and landscape.

A key aspect of this instrumental methodology, the manual commitment of lines and curves to paper means that slight design variations gradually emerge as the drawing develops, giving rise to a certain degree of inconsistency across different projections (Fig. 8). Rather than a liability, these deliberate inconsistencies challenge the fiction that the finished intervention will be an exact, scaled-up replica of a set of fully precise design documents: A number of design decisions will unavoidably be delayed until the work is on site, eventually blending into a wider set of "small individual actions" —human and non-human alike, and pertaining to the extended inhabitation of the site— that Miralles referred to when describing the cemetery in Igualada (Fig. 9).

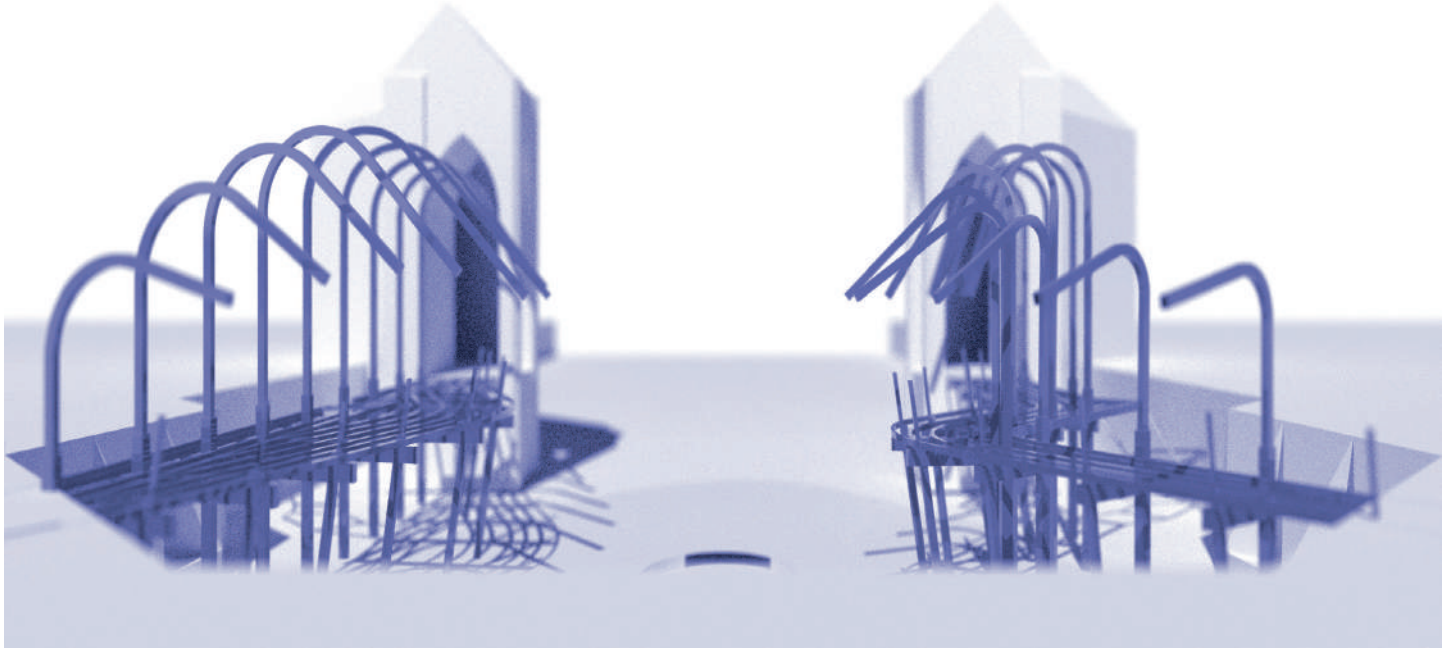

Fig. 9 – Axial perspective of proposed intervention. Digital maquette.

CONCLUSION

Working within a functional programme that is inherently charged with symbolic content, the proposed intervention aimed to challenge established assumptions about how architecture may relate to the passing of time—in terms of its embedded material culture, its originating processes, and its spatial and aesthetic organisation.

In presenting this body of design work in relation to the textual counterpart of its intellectual framework, this essay is an attempt to explicitly map the different dimensions of architectural temporality unpacked by the visual materials against a relevant, contemporary philosophical discourses.

Besides the well-known connections between their respective theoretical lineages, these strands of discourse are linked by their shared interest in situating time as a domain of continuous transformation. Critically, they posit this domain as being connected (but not dependant on) human agency and perception. Thus, the three temporal dimensions of architecture presented here can be effectively regarded as three intertwined manifestations of time as a continuous sequence of perpetual, heterogeneous transformation.

Ultimately, this essay endeavours to explore the question of architectural temporality in the broadest possible sense, but also to deploy it as a cohesive intellectual discourse, which can be mobilised as a series of design decisions—material, programmatic and instrumental alike—.

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The potential Roles of Design and Designers within a Time-based approach

Multiple temporalities: projects, processes, and communities at SS. Trinità delle Monache in Naples

patrimonio
riuso
processo partecipativo
terza missione
transizione
heritage
reuse
participatory process
third mission
transition

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Il contributo propone un'analisi critica circa una lunga ricerca che ha interessato l'ex convento della SS. Trinità delle Monache a Napoli. I molteplici contesti della ricerca hanno avuto tutti come obiettivo il recupero, la valorizzazione e l'apertura alla città dell'ex convento. Il contributo, incentrato su questo caso di studio, individua possibili ruoli per il progetto e il progettista nell'ambito di un approccio basato sul tempo. Partendo dal presupposto della complessità e della coesistenza di molteplici temporalità, si può ampliare lo spettro d'azione del progetto stesso. In questo senso, il contributo propone sei connotazioni del progetto, attraverso l'esame di altrettante esperienze progettuali, alle quali corrispondono finalità, comunità, scale e - soprattutto - temporalità diverse. Si ritiene che il caso di studio qui presentato fornisca un possibile esempio di progetto processuale e minore sviluppato secondo un approccio basato sul tempo, in cui il progettista-ricercatore svolge il ruolo di architetto corale. All'interno di questo quadro teorico, è dunque dirimente il riconoscimento di temporalità multiple e interrelate come strumenti indispensabili per il progetto contemporaneo.

Considering the urgency of updating design disciplines in response to current time of transition, this paper proposes a critical analysis based on extensive research involving the former Convent of the SS. Trinità delle Monache in Naples. Multiple research contexts have been aimed at the recovery, valorization, and opening of the former convent to the city. Focusing on this case study, the contribution identifies possible roles for design and the designer within a time-based approach. Recognizing the complexity and coexistence of multiple temporalities, one can broaden the spectrum of the project's actions. In this sense, the contribution proposes six connotations of the project through an examination of as many project experiences, each corresponding to different purposes, communities, scales, and, above all, temporalities. It is believed that the case study presented here provides a possible example of a minor and processual project developed within a time-based approach, where the designer-researcher plays the role of the choral architect. Within this theoretical framework, the recognition of multiple and interrelated temporalities as indispensable tools for contemporary design is shown to be urgent.

1. RESEARCH FRAMEWORK

1.1. Cronocaos

Embedded in huge waves of development, which seem to transform the planet at an ever-accelerating speed, there is another kind of transformation at work: the area of the world declared immutable through various regimes of preservation is growing exponentially. [...] The current moment has almost no idea how to negotiate the coexistence of radical change and radical stasis that is our future.

Koolhaas 2011, 119.

After more than a decade since Koolhaas' publication, it can be said that the future he was referring to is now here. The negotiation he identifies as necessary between radical change and radical stasis precisely corresponds, perhaps, to the recognition of multiple and interrelated temporalities. The latter are indispensable tools of contemporary design in relation to a necessarily renewed interpretation of the concepts of heritage and conservation.

Indeed, assuming cities, which have become "Cronocaos" – i.e., places of conflict and paradoxes of time – as the inheritances from which to constantly renew, already in 2011, Koolhaas stated: "Time cannot be stopped in its tracks, but there is no consideration in the preservation arsenal of how its effects should be managed, how the 'preserved' could stay alive, and yet evolve" (Koolhaas 2011, 119). On this basis, two times can be identified: the evolutionary and vital time, which is sometimes short and immediate, and the static and conservative time, which is instead long and aspires to permanence. Kevin Lynch opened his book "What Time is this Place?" by stating: "Change and recurrence are the sense of being alive" (Lynch 1972, 1).

1.2. Transition

At a time when the word 'transition' (Russo and others, 2023) becomes so representative of the way in which we live, as it is capable of condensing the constant and progressive evolution with no prefigurable states of equilibrium; architectural design can no longer remain unaffected.

The global, liquid (Bauman, 2013) and polycritical (Morin, 2020) context in which we live, constantly imposes the need to reshape spaces, to rethink the relationships between architectures, and to renegotiate urban limits according to contextual conditions that are constantly in transition.

Indeed, what Kevin Lynch states when defining the environmental image of time-places as a central topic remains relevant to deal with both the structure of reality and the structure of our minds and bodies:

Our real task is not to prevent the world from changing but to cause it to change in a growth-conductive and life-enhancing direction.

Lynch 1972, 241.

As part of this necessary movement toward a future yet to be defined, contemporary heritage, subjected to dramatic processes of obsolescence (Abramson, 2016), is moving away from the idea of an everlasting architecture made to last without compromise, without negotiating new forms of survival.

In this sense, although the times of design, construction, abandonment, ruin, and reconstruction were all previously considered as inoperative, i.e., times of stasis, today they have all become fundamental and structuring times of transition in a broader vision of an open project (De Carlo, 2013).

This is to the point where it is believed that: «the act of "letting be," when performed intentionally and attentively, can perhaps form the foundation for a post-humanist heritage paradigm. [...] Attending to processes of decay and disintegration can be as productive of heritage values as acts of saving and securing, but these may be different values than we are used to identifying with heritage practice» (Desilvey 2017, 184).

1.3. Temporality, complexity and possible implications

The current complexity of planning and design processes, on the one hand, and the impoverished state of inherited heritage on the other, impose the need of dealing with multiple temporalities, whether very long or very short. The linearity of the city's historical transformative processes is overcome by a constant interweaving of emergencies, funding channels, and potential actors. Within this complex context (Morin, Ciurana, Motta, 2009), the reuse of heritage is regarded both as a prerequisite and as a driver of the complex interplay of planning strategies, projects and processes.

In light of this, the paper intends to offer a critical analysis based on extensive research involving the former Convent of the SS. Trinità delle Monache in Naples. The multiple research contexts have all been focused on the restoration, valorization, and opening to the city, of the former Military Hospital, a monumental convent complex built in the early 17th century.

Situated just north of the densely populated Quartieri Spagnoli (Fig. 1), near the transportation interchange between the Cumana railway station and the Montesanto funicular, the SS. Trinità delle Monache complex is located in a historic part of the city that is densely inhabited by residents, students, and tourists. Following the suppression of the monastery in the early 19th century, the complex served as a military hospital until 1997 when it was transferred to the City of Naples on a concession basis, while still remaining state property.

The 17th-century convent was located on the edge of the urban system, close to the San Martino hill, and established a margin where nature and architecture converged within the cloistered space. This monument consists of several buildings arranged on two main terraces, which adapt to the varying elevations of the surrounding urban areas. Due to the close

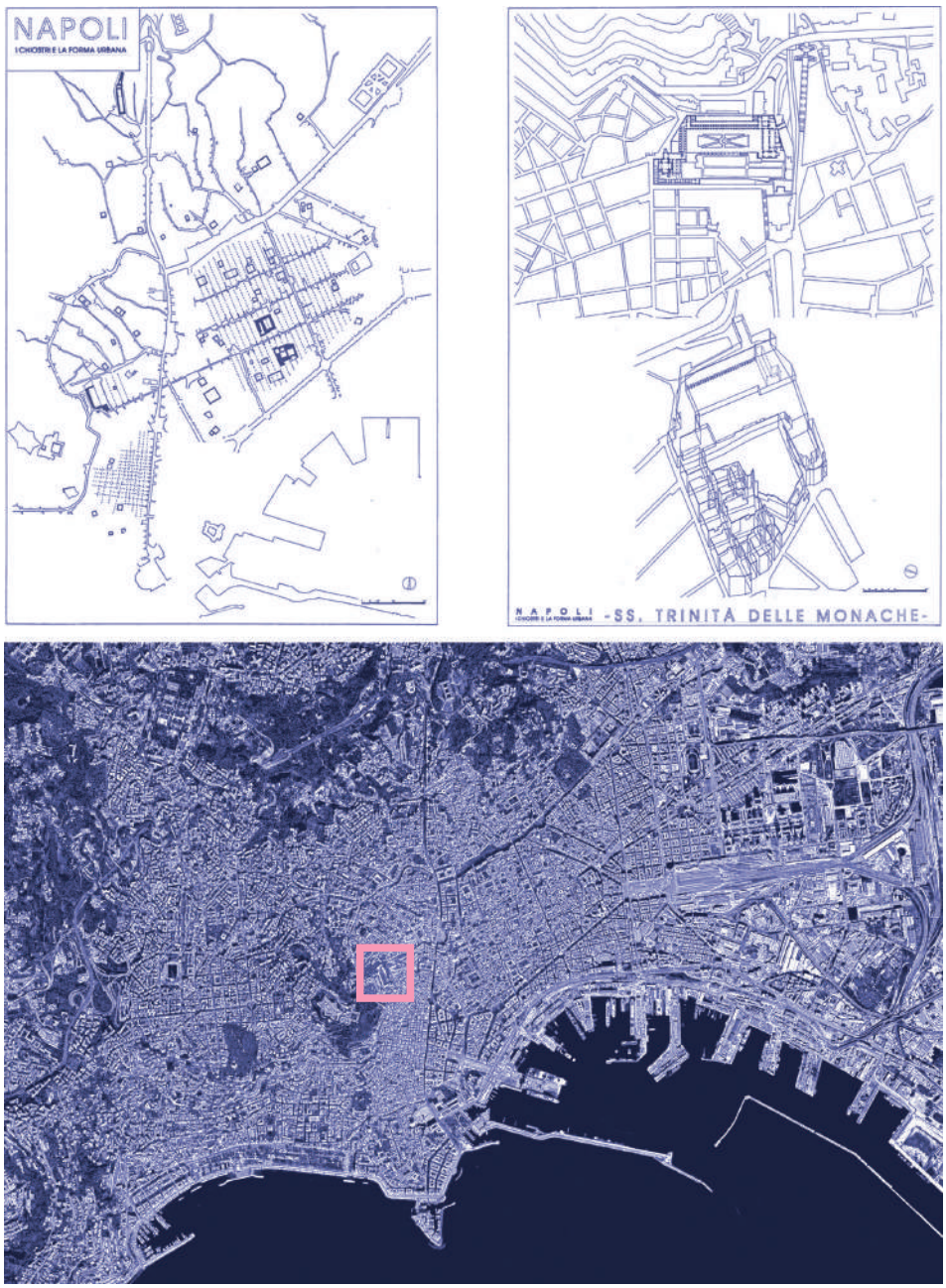

Fig. 1 – The SS. Trinità delle Monache Convent in the city of Naples: drawings conceived and made by Angela D'Agostino, published in the book "Monumenti in movimento. Scenari di città". Orthophoto of the city of Naples with the highlight on the case study.

relationship between architecture and geography, the monastery exemplifies an 'open cloister' design that interacts with the landscape. The original typological layout included three buildings arranged in a U-shape around the open cloister, oriented toward the landscape (D'Agostino, 2017).

This contribution, through the case study, seeks to identify potential roles for design and the designer who grounds their actions in a time-based approach. In fact, by acknowledging the complexity and coexistence of multiple temporalities, one can broaden the scope of the project itself. In this regard, the contribution introduces six connotations of the project, examining as many project experiences, each aligning with different purposes, communities, scales and – above all – temporalities.

2. METHODOLOGY

2.1. Aim: the reuse of abandoned heritage

By imagining the project as a research product (Amirante, 2018) and as the primary tool of investigation for the designer-researcher, this contribution presents a case study of the former convent of SS. Trinità delle Monache as an exemplary case that showcases the potential roles and temporalities of the project when defining strategies for the transformation of the territory, particularly in the context of built heritage.

The research, conducted in various phases, primarily aimed at the valorization of an under-used asset of significant value, employing research-by-design as the common methodology. The approach involved updating knowledge about the complex and formulating strategies for its reactivation. Within this framework, political actors, academic institutions, and residents played different roles in the multiple phases, yet a complex and multi-stakeholder process remained a constant feature of the research. The ultimate objective was to reintroduce an active design perspective to a wreck (Antoniadis, Stendardo, 2018) that appeared to have reached the end of its life cycle for the second time from a traditional consumerist perspective (Bocchi, Marini, 2015).

Over time, particularly during its use as a military hospital, the SS. Trinità delle Monache complex underwent a series of extensive transformations. Nevertheless, due to its typological and morphological characteristics, the monastery remained a closed space inaccessible to the city for many years. The change in function from a convent to a military hospital resulted in various architectural alterations – demolitions, new constructions, and replacements – but it retained the 'exclusive' nature of the site. These transformations contributed to a persistent sense of marginalization and otherness, ultimately leading to the current state of abandonment and deterioration. Today, the former cloister only retains its essence in the character of a tree-lined area; its current configuration has lost its original formal definition and has become a singular entity with the space of the bastion upon which it was built.

Fig. 2 – The SS. Trinità delle Monache complex seen from the city – from the street on the back (bottom), from the other side of the valley (top) – and in the city – how the southern inhabited wall looks like in the dense neighbourhood (central pictures).

In the years immediately following its decommissioning, the municipal administration's initial action was to open the upper terrace, known as the 'Parco dei Quartieri Spagnoli,' to the public. Consequently, the complex, previously unknown to most and concealed by high walls that preserved its seclusion and later its military use, began to be discovered, explored, and partially inhabited. Most importantly, its potential was recognized.

Given its strategic location, it could be considered a potential link between the San Martino hill and the old town. Despite its persistent state of decay, its morphology provides a rare, large green space (the Parco dei Quartieri Spagnoli) within the dense urban fabric of the historic center (Fig. 2). As a result, it offers various possibilities for contemporary reuse, contingent on multiple temporalities.

2.2. The phases: institutional and community contexts

The current exceptional diversity of agents of transformation – projects, actors, actions, and funding – concerning the former Military Hospital of Naples well exemplifies the complexity of the transitions we are currently experiencing. Considerable institutional fundings and interventions by associations operating with different temporalities are simultaneously directed toward this place. As a result, it becomes a kind of 'loom' where multiple threads are interwoven, occasionally producing patterns with unexpected geometries.

This condition, expressed through different timescales and durations of intervention, consistently aims at reactivating this heritage. Recent projects all share the awareness that more or less permanent initiatives should become instruments of knowledge and experimentation in this place that holds enormous unexpressed potential from which the city of Naples could benefit.

The current fervor has its roots in the URBACT project, a European exchange and learning program that promotes sustainable urban development. This initiative fosters cooperation between cities and the sharing of best practices to address major urban challenges, integrating economic, social, and environmental dimensions.

In 2016, an important moment of collaborative planning was marked by the selection of the complex as a case study within the European URBACT III project titled '2nd Chance - Waking up the sleeping giants'. This program involved 11 European cities, with the Municipality of Naples serving as the project leader. The primary challenge of this Action Planning Network was the activation of vacant buildings and complexes for sustainable urban development by self-organized groups. Indeed, in most European cities undergoing gentrification, a common issue is the need to encourage the revitalization and redevelopment of urban areas when faced with limited resources, power, and control to implement formal masterplans (Bishop, Williams, 2012).

To awaken the Neapolitan 'sleeping giant,' a participatory process was initiated, involving various stakeholders, including the Department of Architecture at the University of Naples Federico II. Over two years, from 2016 to 2018, citizens, associations, and institutions collaborated on the development of a Local Action Plan (LAP). This plan includes a range of material and immaterial actions proposing interventions to be implemented in different phases and timescales. These interventions pertain to various aspects, including the built heritage, the vegetation heritage, the cultural heritage, and the economic heritage, all of which require contemporary reinterpretations of the concept of patrimony. In this sense, priority is given to the enhancement of the large outdoor spaces of the terraces, rich in vegetation, and the development of internal and external connectivity systems integrated within the complex. These elements collectively transform it into a potential multifaceted urban asset. Due to its location in the city, its architectural configuration, and the ongoing and planned processes, the SS. Trinità delle Monache complex can assume various roles and accommodate multiple uses.

However, even after the conclusion of the European project, the complex remains only partially accessible and awaits potential futures. Following the completion of the URBACT 2nd Chance program and the development of the LAP, the City of Naples acknowledged the Community of the Parco dei Quartieri Spagnoli. This seems to be the most significant legacy of the initial phase of reactivation: an open community that finds its identity in a place, a group of engaged citizens investing their time and resources in it.

A second phase emerges when this heritage community – also part of the Rete Faro Italia within the Faro Convention Network – established itself as the Association Parco dei Quartieri Spagnoli. This association, with the scientific collaboration of DiARC, introduced the project 'Community Hub - Parco dei Quartieri Spagnoli,' which received funding under the 'IQ - I quartieri dell'innovazione' program, co-funded by the European Union.

The proposal followed the guidelines set forth in the previously mentioned LAP. It presented initiatives aimed at innovating the management of the complex and revitalizing the Parco dei Quartieri Spagnoli. Consequently, the 'Community Hub - Parco dei Quartieri Spagnoli' project stems from the desire to enhance the park by organizing workshops, cultural events, and territorial animations within it. This initiative seeks to highlight its value as a public space accessible to various communities. This second phase, as mentioned, has not been concluded and is currently characterized by the presence of multiple agents of transformation. Of particular interest is the simultaneous coexistence of a bottom-up action, represented by the community as described earlier, which intersects and interfaces with an ongoing top-down action. The SS. Trinità delle Monache complex is currently funded by 6 million euros from CIS (Contratti Istituzionali di Sviluppo) funds, allocated for the realization of projects aimed at enhancing the accessibility of the monumental complex, conceived as a sequence of public spaces.

2.3. The project: a tool and possible connotations

After clarifying the objectives and contexts of the research conducted, this contribution proceeds to provide a critical review of the activities carried out. It does so by referring to a variety of projects that served as a continuous tool of the research throughout various phases and in relation to different actors.

Starting with the complex process involving the SS. Trinità delle Monache convent, the contribution highlights six projects. Furthermore, within each scenario, the University institution operated with different aims; within this context, potential roles for the designer-researcher are proposed.

Throughout all phases, the fundamental research issue has always been the formulation of potential project requirements designed to reactivate the underused monument. In other words, echoing Koolhaas, the goal has been to identify effective strategies for keeping the heritage alive, preserving it, while allowing it to evolve rather than confining it to its history.

The projects that will be referred to later – as products of research – have a significant impact that can be quantified more in the questions they have generated and the processes they have activated than in the answers they present. In fact, the project – in the sense of the direct execution of work – did not directly embody the purpose of the research conducted. The project was understood as a valorization strategy, a vision, a didactic activity, a dialogic device, a manifesto, or even a text. The project was definitively perceived as a trigger for multiple temporalities.

Thus, the project is separately understood as a tool for demonstrating, for unveiling, for dialoguing, for competing, for convening, and for verifying.

3. FINDINGS

3.1. The project as a tool for demonstrating

The 'project as a tool for demonstrating' is inferred from the 'A catalogue of possibilities' project (Fig. 3), which, together with the proposals developed by the other design teams involved, aimed to demonstrate the potential of the complex by outlining possible strategies for its valorization.

The temporality investigated through this project is long-term; it is a reactivation strategy aspiring to permanency, aiming to provide the city with an architectural device to ascend San Martino Hill. As mentioned above, within the framework of the European program URBACT - 2nd chance in Naples, the integrated action plan was intended as a tool to define a plan for heritage valorization.

The drafting of the LAP was coordinated by the municipality of Naples and has seen the active cooperation of the community, the Department of Architecture and many associations involved in the cultural, social and economic revitalization of the surroundings. In this context, the participation process itself represented the first step in reactivating the complex, as stakeholders gathered in the spaces of the former convent.

In this context, long-term and short-term visions have been proposed. With reference to the former, through design studios, workshops and internships, students of various levels,

Fig. 3 – "A catalogue of possibilities": project proposed within the national design seminar "Across the giant". Design team: A. D'Agostino, G. Multari (coordinators), M. P. Amore, R. Auriemma, M. Cozzolino, G. D'Ascoli, V. Riccio, F. Talevi, R. Tieri, G. Vannelli, P. Zizzania. November, 2017.

researchers and professors from the Department of Architecture of Naples and also from other Italian universities (D'Agostino, 2023), have collaborated in the drafting of the Local Action Plan, also by producing design visions and knowledge useful for the future long-term transformation of the monastic complex.

In particular, a National Design Seminar was organized. The design activity was based on the requests and goals raised within the ongoing participatory process. Fourteen architectural projects were proposed on the basis of the interpretation of the seven key topics identified by the community involved in the URBACT program. Some projects emphasized the potential relationships between the giant monument and the city, proposing strategies to bridge and reconnect the monument with its surroundings. Other proposals focused on the outdoor spaces of the monumental complex, considering the park as a central starting point for future developments.

A few teams selectively reinterpreted certain buildings within the complex, focusing on two primary themes: the relationship between architecture, geography, and the underground, and the relationship between architecture, the enclosure wall, and the landscape. Some proposals presented hypotheses for temporary or permanent reactivation through the logic of grafting, which involved reinterpreting existing spaces and relationships. Additionally, other teams concentrated on defining a project as a process with potentially interrelated but independent actions that could be carried out partially.

The project coordinated by Angela D'Agostino and Giovanni Multari, aimed to define potential walk-through scenarios for the monument by reusing both indoor and outdoor areas of the monastery as public spaces, serving as a common good. Consequently, this project turned into a manifesto

Fig. 4 – "NaScala – Stairway to heaven", project proposed by G. Vannelli and P. Zizzania within the "URBACT 2nd chance - Waking Up The Sleeping Giants."

for the theme of 'bridging,' which has now become central in the current investment planning for the complex.

Thus, the project aimed to demonstrate the specific potential of the convent, addressing a long-term perspective while also influencing more immediate short-term decisions.

3.2. The project as a tool for unveiling

The 'project as a tool for unveiling' is the connotation derived from the 'NaScala' project (Fig. 4), which aimed to reveal possible imageries that could reconnect the city to this place, employing the design paradigm of the 'event'.

The temporality investigated through this project is mid-term. It is a reactivation strategy aimed at creating a spectacular effect – almost a performance – in order to spotlight on what is good, to seduce and invite, and to stimulate desire. In contrast to the previous proposal, which was developed through a top-down approach by the universities involved and directed towards the community driving the participatory process, 'Na Scala' presents a bottom-up vision created within the student community and directed towards institutions and stakeholders.

The 'NaScala - Stairway to Heaven' proposal is situated within this context and aims to provide physical and symbolic, mediatic and temporary accessibility, designed to draw attention, raise interest, and reveal the potential of a beauty that has remained unexpressed, hidden, and veiled.

The 'Gradini Paradiso' connect the Montesanto station with the lower entrance to the complex, and they have been inaccessible for many years due to regulatory concerns. This institutional issue is proposed to be temporarily bypassed. In this regard, 'NaScala' is a proposal for ephemeral architecture that utilizes elements typical of event staging in order to create an access to the SS. Trinità delle Monache complex ascending from Piazza Montesanto.

The new stairway, being visible to the large number of people crossing Piazza Montesanto every day, extends over the Gradini Paradiso until it reaches the lowest level of the convent. At certain points, the stairway widens, forming terraces that offer a privileged and previously unseen point of view overlooking the historical center of Naples.

The temporal dimension of the intervention was intentionally well-defined, partially due to potential funding considerations. The illuminated stairway was proposed to be included in the Christmas lights financed by the municipality of Naples, aligning its temporality

Fig. 5 – "The backyard": project proposed while drafting the application for "IQ - I quartieri dell'innovazione" program. Project proposed by G. Vannelli. July, 2020.

with the events planned for the Christmas holidays. During this period, it was envisioned to host themed markets on the convent's terraces.

A light show, a display, a manifesto: an ascending system that interprets the city and its transformations. NaScala serves as a tool to unveil potential imagery and generate new visions.

3.3. The project as a tool for dialoguing

The 'project as a tool for dialoguing' is the connotation drawn from 'The Backyard' project (Fig. 5). This project represents the first of those related to the second phase previously described, specifically connected to the Community Hub project.

The temporality investigated through this project is short-term; it serves as a process of dialogue essential for coordinating goals and objectives within a community of active, non-technical citizens who are challenged to formulate a project.

After the URBACT process concluded, the growing awareness of the potential of this place led to the formation of the Parco dei Quartieri Spagnoli Community, which includes some members of the Department of Architecture.

Once accessibility was established as a priority – thus signaling the need for a more comprehensive redevelopment of the entire complex – and while awaiting the top-down project, the heritage community took the initiative to participate in calls for proposals aimed at funding place-based and community-oriented cultural activities. With reference to this temporality, residents expressed the need for a representative place, a community hub. In this regard, temporary architecture was identified as a viable solution for a transitional phase that would span several years. Consequently, the establishment of a community hub became a key strategic action for the project, which eventually emerged as the winner in the 'IQ - I quartieri dell'innovazione' program.

However, what is the project to be built? And how can the project itself help individuals gain awareness of the multidimensionality of the process in which it plays a part? These were the questions that guided the establishment of the subsequent course, where an effort was made to offer potential interpretations of the concept of participation, the role of the university, and, above all, the project and its educational aspects.

In contrast to the NaScala project, which was proposed with the hope of realization, the Backyard project was developed without such ambition. It serves as a visual narrative designed to stimulate discussion, conceived as a means of establishing a common ground for dialogue and formulating more specific project demands.

3.4. The project as a tool for competing

The 'project as a tool for competing' is the connotation drawn this time not from a visual project but from a textual project: a call for competition that represents a shared demand for a project.

The initially planned self-construction activity, as proposed in the project accepted for funding, was replaced by a more complex, multi-phased process that engaged various stakeholders. This approach interpreted and integrated into the transformative processes associated with the former convent, all of which are notably influenced by necessary the variation in scale and multiple temporalities of ongoing or planned actions, and the cooperative involvement of diverse communities.

As part of this Public Engagement Action - run with others by the author - the Department of Architecture conducted cultural and scientific outreach activities in addition to academic and non-academic training, to support one of the multiple temporalities that make up the complex regeneration process of the Parco dei Quartieri Spagnoli. In particular, the Department curated the drafting of the call for proposals, organized and managed the subsequent co-design phase, and held a Summer School for the self-construction of temporary architecture to serve as a venue for the Community Hub.

In fact, an ideas competition directed at architecture students was employed as a means to determine which project to build. To 'compete' – the Italian 'concorrere,' interpreted here as 'running together' ('con-correre'), rather than against – was seen as the most democratic, inclusive, and community-oriented action that could generate unexpected implementations from the initial visions.

Conceiving the drafting of the call for proposals as a design action means repositioning a central value on the ‘prescription’ (Armando, Durbiano, 2017). Significant effort was put into bringing forth a project demand from a community of non-technical individuals. In fact, the Parco dei Quartieri Spagnoli Community acted as the 'client,' and the Department worked to structure the project demand by engaging in negotiation and translating the desires of a diverse range of stakeholders.

Fig. 6 – International call for proposals “The backyard SoS Trinità delle Monache” (scientific curatorship A. D'Agostino and G. Vannelli). First prize, selected drawings of the project proposed by “Rue Villette” team, composed by G. Palmieri, A. Gargano, M. Mento, G. Vitolo. June, 2022.

The objective of the 'International Ideas Competition' was to acquire proposals for equipping the Parco dei Quartieri Spagnoli, with a particular focus on the bastion area at the upper terrace of the complex. 'The Backyard SoS Trinità delle Monache' was promoted by the Parco dei Quartieri Spagnoli Association, in collaboration with the Department of Architecture at the University of Naples Federico II, and with the support of the City of Naples. The community's request revolved around the creation of a dynamic and adaptable public space, specifically designed to serve as a venue for the Community Hub.

The call for proposals, 'The Backyard SoS Trinità delle Monache,' served a dual purpose. On one hand, it was a valuable tool for introducing a specific yet diverse community, primarily comprised of future architects-in-training, to the characteristics, potentials, and visions associated with the former

convent. On the other hand, it provided a means to receive design interpretations of the ideas put forth by the community. In this regard, the interaction between the Parco dei Quartieri Spagnoli Community and the students who participated in the competition was highly beneficial. Community members guided participants on several days of site visits, fostering a two-way knowledge transfer. The awareness of the hidden potential within the large, underused complex and the feeling of care, symbolically expressed through the project, served as common ground for both communities during this collaboration.

3.5. The project as a tool for convening

The 'project as a tool for convening' is the connotation drawn from the winning projects of the competition (Fig. 6), specifically the co-design activity (Fig. 7) that was based on these projects.

The temporalities called into question in this phase encompass both the contingent time of the teaching activity and the expected lifespan of the artifact being conceived. Additionally, a third temporality can be added because of the incremental phases and transformative scenarios that are integral to the design hypotheses themselves.

Hence, the ideas competition marked the first step in the process. The setting of the Summer School's educational project provided an opportunity to experiment with an educational model designed to interpret the ongoing historical, economic, and cultural transitions. The shared goal was to offer students the opportunity to comprehend the transformative processes that are now more frequently generating genuine project opportunities, and also to actively engage in them.

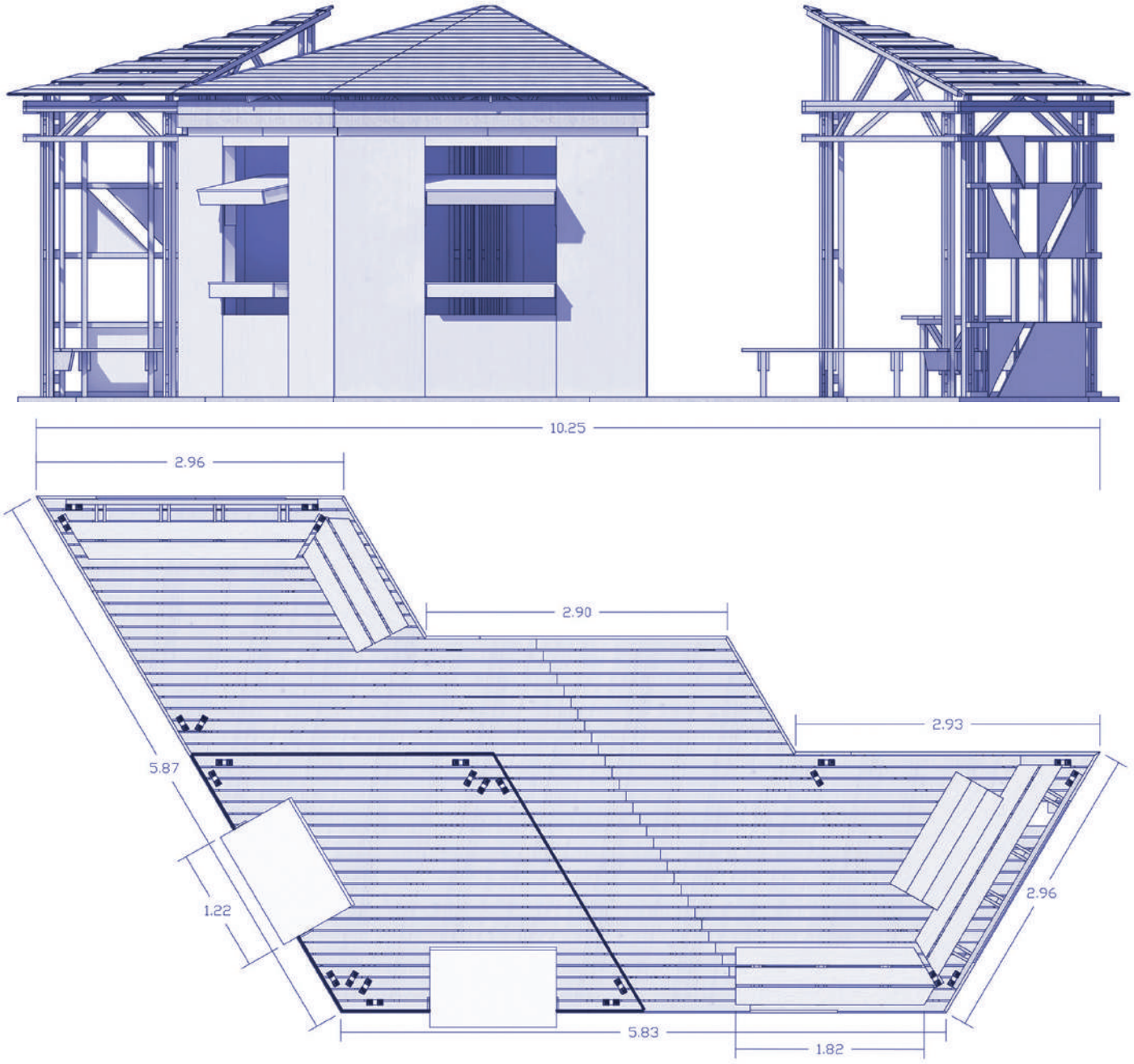

Fig. 7 – "The backyard" project conceived during the co-design phase by all the participants at the Summer School (curated by G. Vannelli, D. Buonanno, E. Bassolino, V. Saitto). September, 2022.

Fig. 8 – "The backyard" project realized during the "The backyard SoS Summer School". September, 2022.

Building upon the winning project and the two proposals that received second and third prizes, an intermediate co-design phase was used to define the project to be implemented during the Summer School, which took place in the captivating surroundings of the seventeenth-century SS. Trinità delle Monache complex. The young designers, chosen as winners by the jury, collaborated to define a project through open discussions involving participating students, competition winners, mentors, teachers, and community members. Consequently, they developed the design for a furnished space in the bastion area facing the park's entrance, with the aim of transforming the terrace into an inclusive, open, and accessible public space for the city and its residents.

3.6. The project as a tool for verifying

The 'project as a tool for verifying' is the connotation drawn from the project conducted during 'The Backyard SoS Summer School' (Fig.8), which focused on assessing the potential of the complex and the social impact of a community hub within the park.

Determining the temporality of this project is the most complex aspect, as it heavily relies on the impact it can achieve within communities. Temporary architecture embodies a common good that must be accepted and recognized by the park's resident communities, making this process pivotal for activating care-based initiatives. It serves as a tool to verify both the nature of the intervention and its potential socio-cultural as well as economic impacts.

The project developed during the co-design phase represents a synthesis of experiences and ideas. Here, students engaged in continuous dialogue with the community, tutors, and professors, offering their interpretation of the contextual conditions that represented the basis for the small, temporary wooden architecture. Both the learning-by-doing process and the public engagement process proved beneficial for Summer School participants, as they gained an understanding of the importance of a design action, even when it is small and temporary, within the larger framework of urban regeneration.

The new architectural intervention provides the bastion space with an unprecedented shape, reevaluating the proportions and reinterpreting the relationships among its components. The three covered areas are organized to define a community space, a hub – a network of spaces available for multiple uses and many communities.

In an initiative marked by its complex multidimensionality, communication and dissemination issues assumed a central role. Even the construction site, as an event, served as an opportunity and a tool for unveiling both the project and the process, promoting the inclusion of additional communities and projects. Therefore, temporary strategies and participatory processes for reactivating public historical heritage can serve as measures for preserving and caring for public assets, potentially leading to new and more enduring planning initiatives. 'The Backyard SoS Summer School' provided an opportunity to ponder about the project's ability to adapt to the temporality of events, attempting to interpret and sometimes even anticipate them.

4. CONCLUSIONS

The realization of the 'Community Hub Parco dei Quartieri Spagnoli' project represents a significant milestone in a lengthy process that has spanned more than twenty years. This process has aimed at the restoration and integration of a large monumental complex into the city. Throughout this process, there has been a consistent thread of collaboration involving the local administration, public institutions, associations, and resident communities in various capacities.

The new temporary architecture serves a dual purpose: it reconfigures various spaces within the bastion area and also stands as a fragment, awaiting a broader project. This expansive, multilevel process, characterized by its multiple temporalities, engages with the sites and issues that connect the convent and the city.

In this regard, the case study presented here serves as a potential example of a minor and process-oriented project developed within a time-based framework. It exemplifies a contemporary design action that is shaped by multiple and interconnected temporalities. These temporalities encompass both long-term, medium-term, and short-term projects, and are conceived in the context of long-lasting interventions, temporary architectures, and even ephemeral objects. As such, the foreseen life cycle of these proposals ranges from permanency to performativity, from incrementality to the indeterminacy of the final project, depending on the caring relationship the community chooses to establish with it.

Hence, advocating for a necessary

time-based approach in design – beyond the existing interpretation of time-based architecture (Leupen, Heijne, van Zwol, 2005) – entails not only designing while considering time as an unavoidable component of the project but also attributing variable roles and times to the project within a broader vision of the designer-researcher's work. This approach requires designers to deal with very long-term temporalities and at the same time with the short-term temporalities of the event: both must be interwoven in a complex vision of the place.

The projects discussed here and the six connotations proposed exemplify a possible way to understand the third mission within faculties of architecture and the potential role of the designer-researcher who, working in the field, serves as a mediator, translator, and builder. Therefore, the material and immaterial values of these places can be acknowledged within the context of a 'processual' project that envisions triggering, controlling, and maintaining interventions, gradual adaptations of transformations, and employs 'narrative' strategies capable of considering mutations, movements, changing behaviours, and perceptions. This approach is far removed from the idea of crystallizing projects in 'Cartesian' geometries (Bocchi 2014, 19).

The one developed for the former Military Hospital in Naples is precisely a processual project. The '2nd Chance' program, the 'Community Hub' project, the 'The Backyard' competition, and the subsequent Summer School represent the various fragments, or multiple temporalities, of a strategy aligned with a time-based approach aimed at adding value to the Parco dei Quartieri Spagnoli. In fact, while awaiting the realization of the project funded by CIS funds, the Parco dei Quartieri Spagnoli Community is actively working to revive and establish relationships in an otherwise inactive space during its long period of disuse. The design category of the temporary is disposed and replaced by a more complex vision of variable temporalities that interweave to craft new narratives for the spaces of the city in transition.

In this context, a design paradigm strongly emerges; the approach proposed by Camillo Boano regarding the concept of 'minority' as an alternative to 'major design' emerges as a valuable reference: 'the tone of the project, taking it from whichever side you want, always seems to be major, majoritarian and arrogant, at least in its modern-Western branch, in its solutionist drift, in its selfishness of action and pursuit of impact. A greater gesture because it accomplishes itself by complimenting itself, by fixing reality, by embodying itself in it, in its language, in its codes of representation, and so on, in the thoughts that generated it. It becomes greater because it is univocal, capable of producing only itself, in its singularity. Sterile because without voids, uncertainties and cracks' (Boano 2020, 21). In this sense, all the projects discussed above exhibit fertile voids, uncertainties, and cracks that promise possibilities for the future. Indeed, in all six connotations, the project is consistently reinterpreted for its ability to generate scenarios – both immediate and futuristic – while always working with variations in terms of space and time.

In conclusion, the role of the designer in such a context evolves towards the concept of the 'choral architect,' as proposed by Carlo Ratti: 'a designer enmeshed in networked communities will make harmonies. The architect will not be anonymous, but plural and compositional. Authorship will not be erased, but contextualized as it is woven into a relational fabric. The new architect is situated between top-down and bottom-up, channeling the raw energy of the latter through the targeted framework of the former. The responsibility of the Choral Architect is less oriented toward object-building than orchestrating process. She is not a soloist, not a conductor, not an anonymous voice among many. The Choral Architect weaves together the creative and harmonic ensemble' (Ratti, Claudel 2015, 108).

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Playful methods for Inclusive Cities

Games as an adaptation to the time frames of participatory urbanism

urbanismo táctico
placemaking
urbanismo participativo
tactical urbanism
placemaking
participatory urbanism

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Las intervenciones urbanas transitorias en ciudades intermedias de crecimiento acelerado en lationamérica han adquirido un nuevo significado como experimentos comunitarios previos a proyectos de mayor envergadura, especialmente en la medida que el movimiento denominado como ‘urbanismo táctico´ ha ido creciendo e influyendo en la política pública. Los largos tiempos de planeamiento e implementación de los proyectos tradicionales, así como las complejidades de la transformación socio-cultural en estas ciudades son -en parte- responsables por este fenómeno. En un escenario donde suelen ser consultoras privadas las que implementan los procesos de participación ciudadana y donde los métodos se han demostrado anticuados debido a su complejidad y sesgo ideológico, se ha trabajado de manera alternativa en una aproximación lúdica y abierta en el contexto del ramo de ‘Urbanismo 1’ en la Universidad Católica del Norte en Antofagasta, en Chile. Partiendo de la base que cada comunidad tiene sus ritmos y tiempos propios, el ejercicio aborda este proyecto de manera explícitamente lúdica y simplificada, con diversos grupos que proponen juegos de rol que apuntan a definir un programa arquitectónico que calce con las particulares demandas de la comunidad y siempre en sus tiempos disponibles. Los grupos diseñan y prueban mejoras metodológicas y prácticas en relación a los juegos de rol que ya se usan en el trabajo comunitario de la región, con el objetivo de simplificar procesos, atraer nuevos participantes, llegar a conclusiones más representativas y de esta forma abordar tanto la complejidad como el sesgo ideológico tradicionalmente asociados a las intervenciones urbanas tradicionales y sus procesos participativos. Este trabajo se realiza a la luz de la experiencia práctica ganada por las instituciones públicas en el trabajo comunitario en la misma región de Antofagasta, como parte del Programa ’Quiero mi Barrio’ del Ministerio de Vivienda y Urbanismo (MINVU).

Transitory urban interventions in Latin America's fast-growing intermediate cities have taken on new relevance as community-led experiments preceding major urban initiatives, especially to the extent that the movement known as 'tactical urbanism' grows and influences public policy. The intricacies of these cities' socio-cultural transformations, along with the lengthily planning and execution deadlines for common projects, are mainly responsible for this shift. While traditional participatory methods for dealing with these kinds of interventions are usually implemented by private consultants and reveal outdated practices due to their lack of citizen appeal, complexity, and ideological bias, an alternative ludic and open approach is being developed within a course at the School of Architecture, Universidad Católica del Norte in Antofagasta, Chile. The main exercise, which focuses on a small urban tactical urbanism project, acknowledges that each community operates on its own temporal rhythm, translating into daily routines and rhythms. Hence, the exercise approaches this hypothetical urban project in an explicitly simple and playful way. Several groups suggest using role-playing games to develop an architectural program that suits their specific community demands at their available time. To achieve this, the groups designed and tested methodological and practical improvements to the role-playing games already in use in the region's community work. The goal is to simplify procedures, attract new participants, achieve more representative outcomes, and address the complexity and ideological problems associated with traditional urban interventions and their participatory approach. This work aligns with the author’s practical experience gained in the region's urban community initiatives through various public institutions, as part of "Quiero mi Barrio", the program from the Chilean Ministry of Housing and Urbanism.

1. INTRODUCTION

1.1. 'Light' urbanism as a space to play

'Light' or transitory urban interventions have developed their own identity in contemporary urban planning, as indicated by various names such as tactical urbanism, placemaking, urban prototyping, and planning by doing, to name just a few. Their strength lies precisely in their ephemeral nature, as they attempt to activate processes of change in specific locations at minimal cost and within a short timeframe, all under the broader umbrella of 'urban acupuncture.' In Latin America, numerous initiatives, including 'ciudad emergente'[1] (Fig.1) and others, have embraced this approach for community work — lighter, less expensive, and faster.[2]

Yet adopting these civil society methods into existing public policy in an environment where participatory design and experimentation are typically not possible appears to be the key problem in the local urban context. This is particularly true considering that public programs in Chile frequently use private consultants to carry out urban interventions using their own sophisticated techniques that are not always based on first-hand understanding of the community.

Tactical urbanism has evolved into a practical and valuable urban laboratory for implementing optimal social practices. Its versatility allows for the testing of new inclusive methods that integrate gender, territorial equity, and citizenship issues (Ricardi, 2018; 75-76), and even playfulness. However, the challenge lies in integrating these civil society methods into existing public policy, especially in an environment where participatory design and experimentation are often impractical within the local urban context.

1.2. The exhaustion of the community assembly or the need for 'lightness' scenario

In the context of rapid interventions in urban settings, community assembly has become an outdated method. Frequently, these assemblies are designed with a predetermined outcome in mind, where those who 'shout the loudest' take centre stage, making the results challenging to systematize. Moreover, traditional community organizations in the country have, for decades, struggled to 'make themselves heard' by authorities (Tapia, Leterier, Boyco, 2018) and have often been subject to political instrumentalization.

In Chile, the 'Neighbourhood Union' is the key organization dealing with initiatives aiming at public interventions, whether they are ephemeral or permanent. However, these organizations have faced only partial functionality in recent times, exacerbated by the impact of the pandemic. When initiatives materialize and participatory decision-making is required, the situation becomes even more complicated. For example, in most municipalities, these organizations are not recognized as part of territorial planning; instead, they are primarily seen as a mechanism for clientelism (Costa and others, 2017; 12-13).

Furthermore, the current law regulating participation methods (SEGEGOB, 2011) mandated the establishment of 'Civil Society Councils'[3], bringing together all neighbourhood unions and other organizations within a territorial area. However, the competency of this council are imprecise, and their decisions are not mandatory. Consequently, the entire participatory structure has been in question for several years, as indicated in the conclusions of the 'participatory consultation process' conducted in 2016 (Rebolledo, 2016; 53-55). The primary aim of this process was to propose changes to the law, revealing a consensus on one key point: community decisions must be binding.

The main objective of this exploratory study is to investigate potential designs through play within the context of an urban ephemeral project, specifically aiming to render community decisions binding in a playful manner. This exploration is guided by specific conditions: simplicity and transience. Simplicity is essential because current participatory sessions are often brief, scheduled at inconvenient hours, and attended by a diverse audience. Therefore, it is imperative to avoid further complicating matters. Transience is equally crucial due to the growing scarcity of time. Additionally, the

Fig. 1 - Diverse projects with a tactical approach by "Ciudad Emergente" (emerging city) initiative: a) Barrio Lastarria, Chile; b) Danlí, Honduras / Source: www.ciudademergente.org

concept of transience aligns with the idea of play, allowing for quick replication, even on an individual basis — a flexibility that other methodologies often lack.

This study is based on academic work undertaken during the 'Urbanism 1' course at the *Universidad Catolica del Norte* (UCN) and is closely connected to the author's involvement in the "*Quiero mi barrio*" (I Love my neighbourhood) program under the Chilean Ministry of Housing and Urbanism (MINVU). Consequently, it constitutes an exploratory study with the potential for practical validation in local urban interventions. The objective of this exercise is to explore innovative and simplified community approach methods, grounded in playfulness, to facilitate representative urban interventions that instil a sense of ownership within communities.

The premiss here is that playfulness can genuinely play a role in shaping public policy, and this assertion is made seriously. Essentially, following the rules of play puts everyone in the game. If playing games can yield significant benefits for individuals, why can't they be harnessed to address community issues and enhance organizational integrity?

2. GAMES AND GAMING IN THE URBAN CONTEXT

It has been well-documented that adults who have a propensity for play tend to lead more active lives and exhibit better stress management skills (Magnuson, Barnett, 2013). Some studies even suggest that adults with a 'playful' disposition enjoy a longer life expectancy, with an average increase of ten years (Gordon, 2014). The benefits of play extend to various aspects of life, including cognitive skills, mental stability, adaptability, and creative thinking, among others. Apparently, a playful approach to problem-solving is intrinsic to both physical and emotional well-being (Proyer et al., 2018).

Simultaneously, community work often encounters inertia that impedes the assimilation of new forms of participation. The primary objective of this study is to pursue a practical research path that offers possible solutions to these challenges. Games play a pivotal role in this endeavour by incorporating elements of fun, chance, and the unexpected. Moreover, they produce less biased outcomes due to the inherent uncertainty they introduce. This transformation of the process into an enjoyable method of addressing contingent urban issues can be seen as a way of exploring 'alternative ways of being in the world' (Woodyer, 2012; 320). It also serves as a means of spatially taking ownership of the city, as demonstrated by recent developments in augmented reality games (Dillon, 2021; 20-23).

In this context, establishing a clear definition of 'game' is crucial, considering the various interpretations that exist and the wide range of the concept (Zosch and others, 2018; 3-5). To arrive at a utilitarian definition, we identify common elements spanning historical to contemporary perspectives.

One enduring aspect of play, recognized from Plato to the present day, is its role in preparing individuals for 'adulthood.' Rousseau and Vygotsky shared this belief, emphasizing how play fosters cognitive and emotional development while enhancing problem-solving abilities. Karl Groos elaborated on this fundamental concept in his work, 'The Play of Man' (Groos, 2020), where he described play as a phenomenon that precedes 'serious' life experiences. Groos categorized play based on observations of animals, identifying various types, including games of experimentation, locomotion, hunting, conflict, architecture, sexuality, nourishment, imitation, and curiosity. These early insights laid the foundation for what naturalist Irenaus Eibl Eibesfeldt termed 'an experimental dialogue with the environment' (cited by Martínez, 2008; 13-14).

The 20th century witnessed attempts at more synthesized categorizations of games, notably by Johan Huizinga (1972) in 'Homo Ludens' and Roger Caillois (1986) in 'Man, Play, and Games.' Huizinga divided games into three categories: strategy, skill, and luck. In contrast, Caillois included the same two categories, chance (alea) and skill (agôn), and introduced two additional categories: vertigo games (Ilinx) and imitation games (mimicry).

Instead of delving into scholarly definitions, this exercise centres on identifying common elements shared among various definitions of 'game.' These commonalities often include characteristics such as voluntary participation, the presence of roles and rules, and the existence of challenges or problems to overcome. Additionally, games typically involve a sense of pleasure or fun, coupled with a willingness to experiment with the environment.

Given the nature of this work, we choose to emphasize one recurring characteristic: problem-solving. Several contemporary definitions align with this emphasis, defining games as 'a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome' (Salen, Zimmerman, 2003). This definition closely mirrors what occurs in a participatory session, where a conflict or challenge is addressed through defined rules to achieve an outcome. The primary distinction is that 'fun' is not explicitly included in this definition.

To address this aspect, we turn to Schell's exploration in his book 'The Art of Game Design', where he fascinatingly delves into definitions from various fields and eventually arrives at a simple yet truly elegant definition that we can use as a reference: 'A game is a problem-solving activity, approached with a playful attitude' (Schell, 2008; 36-37).

It is precisely this playful approach to problem-solving that sets games apart and forms the core focus of this exercise.

3. TESTING A SOCIAL PARTICIPATION METHOD

3.1. To Participate is to Transform: the experience of *Quiero mi Barrio* Program

The primary goal of this study is to complement existing methods of community participation, considering how the various conceptions of this methodology can function, whether as instrumental or transformative (Nelson, Wright, 1995). In simpler terms, participation can be seen as a means to an end or as an end in itself. In this context, what makes 'playing games' an interesting activity is that participation — the key element of the game — is inherently transformative, serving as an end in itself.

In this scenario, the community members transform into more than just participants striving to enhance the 'transparency, effectiveness, and efficiency' of public policies, as advocated by local laws such as the OGUC (2022).[4] Instead, they assume the roles of investigator, constructor, and problem solver, emerging as a proactive protagonist in the process.

Rather than persisting in endless work sessions, we propose adding joy to this problem-solving strategy as a fundamental component. Numerous investigations suggest that integrating joy is desirable for cognitive purposes (Zosch et al., 2018; 7-8). As Schell proposes, 'work and play... become equivalent to servitude and freedom' (Schell, 2008), and certainly, no method can be successful in servitude. Games also serve as metaphors; they can either model reality (Wundt, 2013)[5] or dramatize it (Spencer, 1910), or even act as a prior rehearsal (Groos, 2020).[6] In all cases, there exists a meaningful connection to reality, echoing Huizinga's assertion that 'every game has meaning' (Huizinga, 1972).

In our endeavour to establish a connection with reality through group dynamics, we draw inspiration from the *Quiero mi barrio* program executed by the local representatives of the Ministry of Housing and Urban Development. While this program primarily focuses on traditional medium-scale urban projects, it has progressively integrated playful methodologies into the design of public spaces. Within this framework, the program collaborates with communities on smaller-scale, ephemeral neighbourhood projects, employing various forms of 'role-playing games' using methods outlined in the Ministry's participation methodological guide (MINVU, 2007). Additionally, it draws on institutional publications such as 'Human Dimension in Public Space,' created in collaboration with the renowned Gehl's urbanism office (MINVU, PNUD, 2017).

All these tactics can be traced back to Caillois' concept of 'imitation' games and have been consistently employed to introduce 'playful' methods into participatory meetings. In practice, these meetings adhere to Stevens' principles (Stevens, 2007) that 'fun follows form, fun follows function,' playfully echoing Louis Sullivan's famous quote. In essence, the approach can be summarized as follows: If it's fun, it works, and people will embrace it as their own game.

As an illustration, in 'Villa Florida', a well-established neighbourhood in the central area of Antofagasta, community members were encouraged to assume the 'role' of an architectural office (Fig. 2). Their assignment involved designing a proposal model, which was then tested in a real-world setting. This example showcases a minimal yet effective level of abstraction, given the close resemblance of the environment to reality. The degree of abstraction becomes more pronounced in 'Villa Jorge Alessandri,' a large-scale urban rehabilitation project, located also in Antofagasta (Fig. 3). In this setting, community engagement still involves group modelling, but the context is distinct: a gridded board with no direct reference to the real scenario. Unlike 'Villa Florida,'

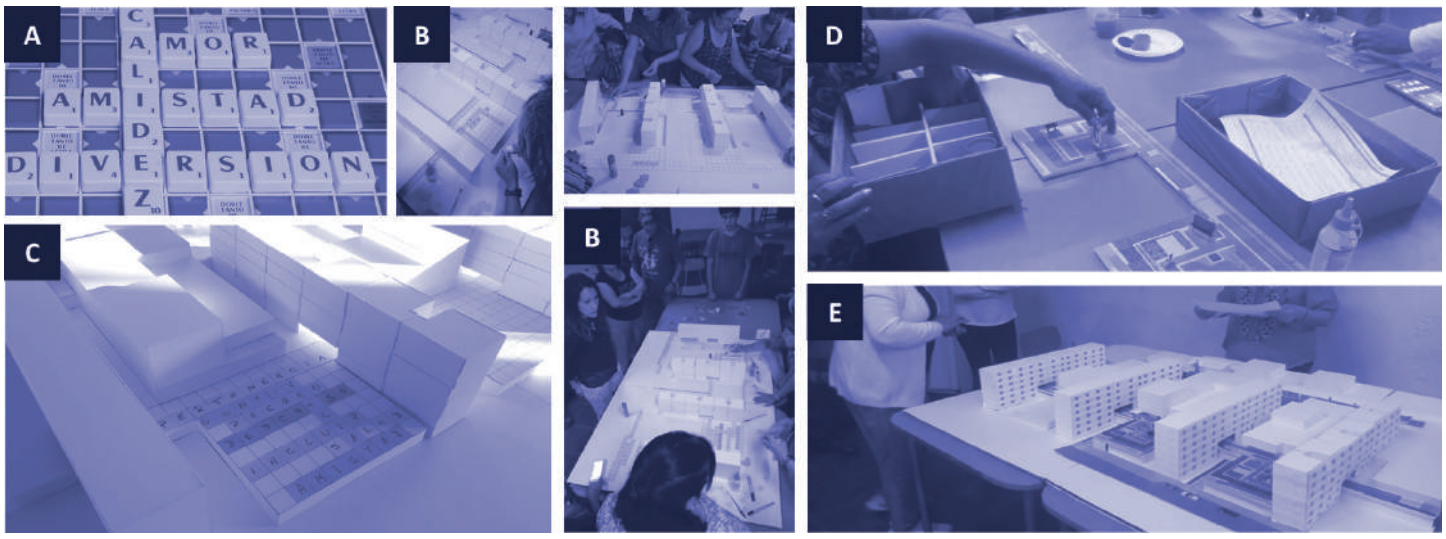

Fig. 2 - Participatory process in 'Villa Florida' neighbourhood: a) Concept "alphabet soup" to name spaces; b) Group work; c) First stage results; d) Second stage, model work; e) Group presentation of the proposals / Source: Villa Florida's neighbourhood Master Plan, MINVU.

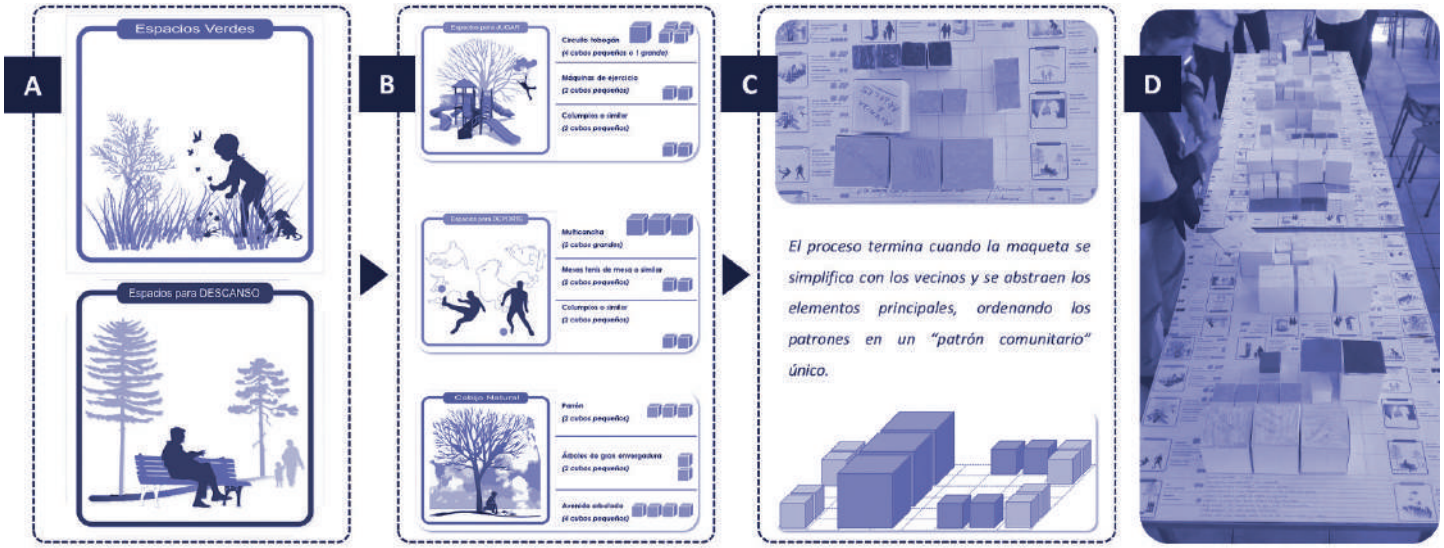

Fig. 3 - Participatory process in 'Villa Jorge Alessandri': a) First level of abstraction, zones; b) second level of specification, elements; c) consolidation of proposals; d) Result of group work / Source: (Intveen, 2018).

where participants worked with entirely figurative elements such as streetlights, benches, and awnings, 'Villa Jorge Alessandri' introduces a different approach. Instead of figurative elements, participants are presented with cubes that symbolize spatial situations. Notably, these cubes are crafted in proportion to the cost they would entail in the actual project. In other words, the larger the number of cubes used in the model, the higher the cost of the project.

Comparing these cases provides practical insights as they both culminate in a similar outcome: the development of an architectural program that truly addresses the community's needs. The methodologies employed in both instances are analogous: working collaboratively as a group, creating a model, presenting it publicly during a plenary session, and then consolidating and systematizing the information. The key distinction lies in the nature of the information these processes yield.

In the first case, the results closely mirror reality. The model comprises iconic elements that faithfully represent what one would typically find in a public space, such as benches, swings, pergolas, and so forth. However, this methodology has a drawback: given the multitude of alternatives, there is a tendency to overdesign spaces. This can pose a significant challenge when translating the program into an actual project, as many of these elements may need to be omitted during the construction phase.

In contrast, in the second case, a deliberate effort is made toward abstraction and proportionality to address this issue. While abstraction enhances the rationality of the proposal, it introduces an unintended side effect: it distances the model from reality. For instance, a cube represents a bench rather than being one.

The practical experience derived from these cases sets the stage for our challenge: within a spectrum spanning from complete abstraction, for instance, as seen in an Excel spreadsheet, to a model faithfully replicating reality, where can playful methods be effectively integrated?

3.2. General context, study goals and rules

Academia offers an interesting 'playground' for renewing community participation strategies. In the initial phase of our study, the game experience was exclusively tested with students from an urbanism course at *Universidad Catolica del Norte*, within a highly controlled environment—a class consisting of 40 students organized into 8 groups of 5 students each. While this testing may not fully capture the intricacies of a public urban project, it serves as a vital first step.

Simplicity is a frequently invoked term, yet it is seldom translated into practice, and the exclusion of a designer's preconceived ideas is an even more elusive goal. In Chile, various games developed by urban think tanks for urbanistic purposes encounter challenges on both the fronts of complexity and ideology, both of which are equally significant. Take, for instance, games like 'CREATE XXI: cities for this century' from Chile's CEDEUS[7], a prominent urban think tank involving multiple universities. These games often grapple with a complexity problem evident when a comprehensive instruction manual is needed. Such an approach clashes with the essence of a community-oriented process. Complex terms like 'urban segregation' and 'extractivism' can make topics seem distant and overly abstract for the general public.

The ideology issue is more nuanced, lurking behind the rules and game dynamics. These games seem to have been designed to guide participants toward anticipated outcomes. For example, a 'solution card' explicitly establishes that 'proximity city' is the correct response to the 'long-distance travels' challenge card. While proximity is a desirable goal, the card leaves little room for participants to draw their own conclusions, let alone have 'fun.'

Now, the socio-spatial environment becomes pivotal in understanding the rationale behind

addressing implementation issues. In the northern part of Chile, there is a noticeable rise in the number of informal settlements and deteriorating urban areas. Despite having a high average income in the national context[8], substantial disparities persist in this region. In terms of informal settlements, the region ranks third in the number of families residing in them, according to the most recent TECHO Foundation Survey. Notably, there has been a substantial 51% increase in growth between 2020 and 2023.[9]

As a consequence, sociocultural change is widespread in many communities near the settlements where *Quiero mi barrio* program is currently intervening, making it imperative for urban interventions to adapt to these changes. Consequently, numerous transient interventions are anticipated in the coming years while long-term projects are being developed. This is where the study introduces a valuable strategy to address this issue.

To address and minimize the effects of the aforementioned issues, the primary objective of the exercise is to enhance several crucial game mechanics before undergoing broader public testing. Guided by these principles, the exercise is structured to achieve specific goals:

- Provide an engaging and enjoyable means for the community, rather than the designer, to contribute with feedback.

- Simplify the utilization of role-playing approaches already in use, making them accessible to a broader range of people.

To achieve these goals efficiently within the constraints of time, three simple phases have been established: First, define a transient urban intervention. Second, select an environment, a city, and a specific location within that city. Finally, propose a game that facilitates the identification of community needs.

The game is not constrained by methodological limitations but is instead governed by time constraints, as temporality is essential. To this end, three main rules have been established: the entire process must not exceed 45 minutes, the game rules should be explainable in two minutes or less, and the overall process must consist of no more than 5 steps.

These time limits are crucial as they are designed to create a brief session that aligns with the time constraints of the mentioned communities. The exercise is grounded in the understanding that nobody has time to spare in lengthy community meetings or workshops. This is not a meeting; it is a game — a close approximation to it.

4. RESULTS

The design results can be organized in two main categories (Table 1):

- Category A: Teams that opted for 'closed' strategies, entirely confined within a board game format. There are two ways to prioritize in this category: 1) by selecting elements and discussing their positions, meaning that nothing is left to chance, and 2) by employing some element that produces an unexpected result, in this case, dice.

- Category B: Teams that selected hybrid methodologies, integrating the game with the surrounding environment. In this category,

Category	Sub-category	Description
A. Board games	**a.1)** Traditional Board Games - Prioritization Without Chance	• *This category comprises the majority of the games (6 out of 8).* • *The activity takes place within a workshop setting with groups working at separate tables.* • *The game begins with a board containing various alternatives presented as cards or tokens.* • *Group discussions revolve around prioritizing these alternatives.* • *Different levels of abstraction are evident; some participants select concrete elements, while others choose sensations.* • *Colours and shapes are used for basic semiotic purposes, marking decisions and facilitating subsequent classification.* • *These games aim to reach a joint result through consensus, with no 'winning' group, emphasizing collective effort.*
	a.2) Traditional Board Games - Prioritization With Chance	• *Similar to the previous methodology but with the incorporation of chance through dice rolls.* • *Prioritization occurs indirectly due to the chance element in the game dynamics.* • *Some level of analysis takes place during token selection.* • *In these games, there is a winner in each iteration.* • *The rules of the proposed game can be somewhat complex and may need simplification when multiple iterations occur in a single instance to achieve systematic results.*
B. Hybrid games	**b.1)** Augmented Reality Games	• *In operational terms, these games are similar to mock-ups where participants choose different elements.* • *Their unique aspect is the incorporation of real-time virtual elements into the game.*
	b.2) On-site Game Dynamics	• *An approach where workshop participants act as tokens within a realistic model.* • *The game is designed to be executed in the same location targeted for intervention.*

Table 1 – Categories of games presented / Source: Urbanism 1 class archive.

there are two ways to deal with the environment: 1) by mixing reality with digital elements, and 2) by exploring and using the environment as a playground.

In general, the team results predominantly align with the concept of mimicking reality. Thus, it could be argued that all the proposals essentially represent various forms of imitation, as the strategy aims to immerse participants in the role of designers.

Among these proposals, board games without random elements (Fig. 4) offer several advantages. They are easier to grasp and play, leaning towards the most 'rational' end of the spectrum among all the presented options. In other words, they closely resemble the reality of decision-making, leading to extended and predictable discussions, such as simple prioritizations (Fig. 5). This closeness to reality may be somewhat

Fig. 4 – Up: Río de Janeiro group[10] a) Board game with iconic elements; b) Board matrix; c) The final version with the rules and categories / Down: Tokyo group[11] d) Board game based on forms and colours that represents "sensations"; e) Representation of the game rules / Source: Urbanism 1 class.

distant from Huizinga's notion of 'irrelevance' in game conception. While this is not inherently negative — it may be necessary for certain audiences — it tends to move further away from the essence of a game experience and closer to a traditional design process.

In the second case (a.2), a strategic approach and a random element are interwoven: participants move

Fig. 5 – Up: Valdivia group[12] a) Board game based on forms and colours that represents levels of prioritization; b) Prioritization board, final version / Down: London group[13] a) Board with a parametric border where you can configurate the context ; b) Explaining the final version of the game / Source: Urbanism 1 class.

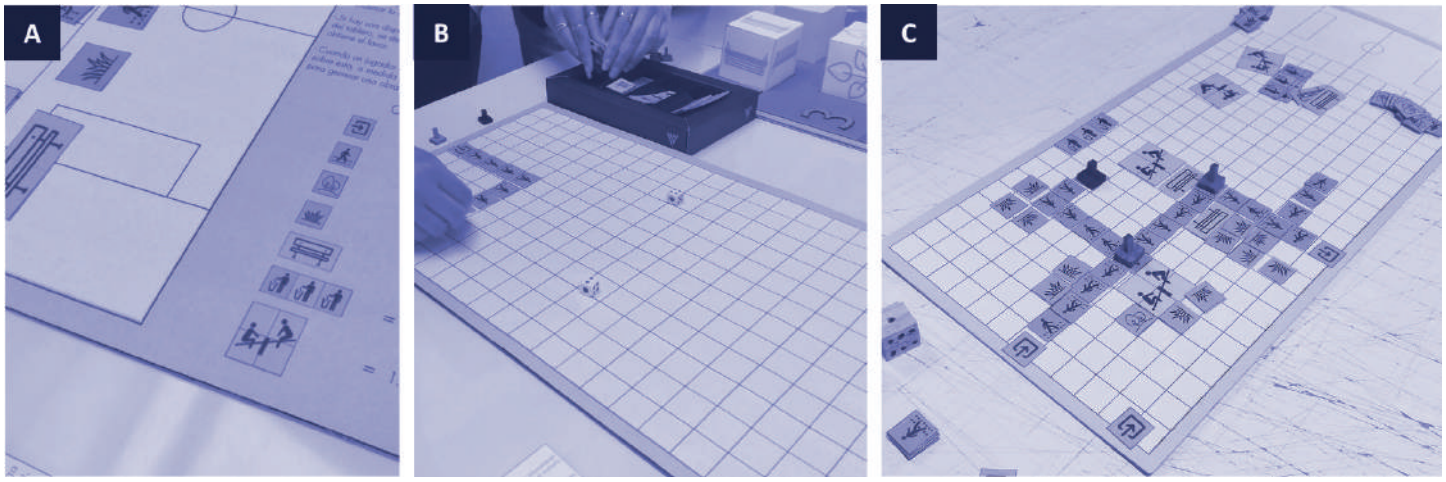

Fig. 6 – Lima group[14], Board game with dice engine: a) Rules and elements for selection; b) Dice mechanics; c) final stage of the game / Source: Urbanism 1 class.

through the game board using random dice numbers (Fig. 6) but make strategic choices when selecting elements. However, in all these cases, the game remains situated in an abstract space — the board — without real contact with the surrounding environment. Despite this, introducing randomness presents a unique challenge for the practical objectives of the exercise: how can you ensure that adequate prioritization is achieved through random selections?

The solution to this challenge appears simpler than it might initially seem and is closely tied to the game's simplicity. The key lies in simplification to enable multiple players: prioritization is achieved through the collective iteration of many participants. To facilitate this, the game must become even simpler and practical for repeated application.

In the final assessment of the process, perhaps the most intriguing proposals are the hybrid games. These, however, tend to have a lower level of resolution due to their complexity; they are akin to traditional board games but integrated with the surrounding environment. Yet, it is within these hybrid games that the most promising development prospects are presented. The use of the body as a means of making game choices (Fig. 7) is a game in itself: it is inherently engaging and enjoyable (a necessary quality). Although it allows for personal interaction with the urban landscape, it demands a high degree of involvement, complicity, and a charismatic game leader to fully engage the participants.

Among all the proposals, augmented reality (Fig. 8) seems to have the most promising development potential. It effectively blends final design concepts with the urban environment and provides digital support for seamless data integration, facilitating systematization. However, challenges exist. Foremost among them is the need for close supervision due to the complexity of the game. Additionally, the technology is not yet entirely intuitive for all individuals. Nonetheless, the rapid advancement of software suggests that this issue is likely to be resolved in the near future.

It is important to note that any hybrid technique has an evident limitation: it takes place on-site, making it susceptible to environmental conditions. Factors like rain, for instance, could easily disrupt the workshop. There are elements beyond anyone's control, unlike the easily controlled environment of an indoor space.

It is worth noting that in this initial iteration, there are no games of the 'skill' or 'vertigo' type, which could broaden the methodological spectrum. In participatory urbanism practices, there are always age groups that are challenging to engage, and such games might

Fig. 7 – Medellín group[15] a) Model to explain the method to people; b) Colours and symbols to paint the shirts; c) final stage of the game, quadrants and position / Source: Course students.

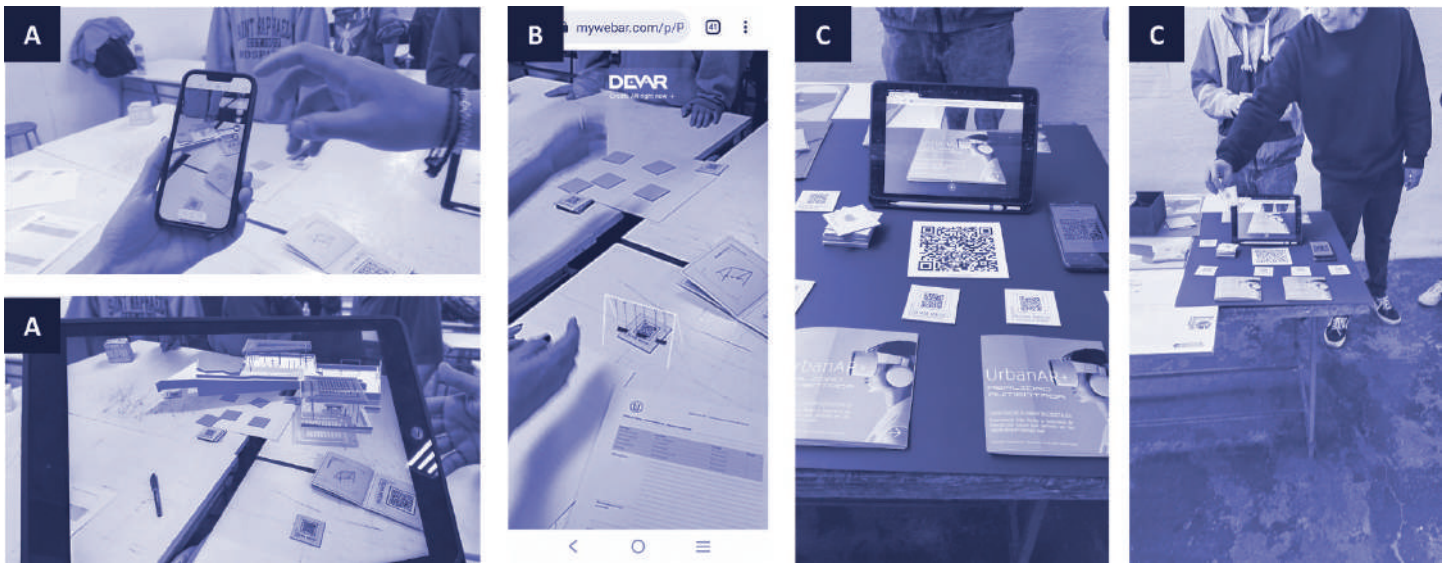

Fig. 8 - Boston group[16], game of augmented reality, model over a public square: a) First test; c) final stage of the game: developed with two apps / Source: Course students.

hold particular appeal for them. For example, sports-related games could play a role, although they are often seen as supplementary entertainment rather than a practical tool. Nevertheless, they have an advantage: the utilization of space, group interaction, and the transformation of the environment into a 'ludic geography,' to use Woodyer's (2012) definition with some liberty, has immense learning potential.

One noteworthy element to consider is the prevalent issue of time management in all these proposals. Despite the teams' efforts to plan rules and game environments to adhere to the given instructions, many of them exceed the exercise's time limit. This situation metaphorically reflects the challenges faced in real-life public projects, where execution time often deviates from the planned timeline. This serves as a reminder that academia also operates within the constraints of the real world.

5. DISCUSSION AND FINAL REMARKS

The conclusions drawn from this initial iteration of the study are preliminary in nature. Instead of providing definitive answers, they serve as a starting point for new questions. The practical application of many of these methodologies in diverse situations is essential for deeper understanding and refinement. Additionally, it is important to bear in mind that some of these conclusions are influenced by the author's own experience in the region, where similar exercises have been implemented.

5.1. The two big Problems

As mentioned earlier, the final goal of this effort was to refine the existing role games used by *Quiero mi Barrio* program for small and large urban projects in the region under consideration. The underlying problem is that projects are typically developed by consultant teams and university think tanks, which employ sophisticated methods that may not align with the community's expectations regarding time and simplicity. This highlights the importance of finding solutions to the complexity problem. The exercise yielded at least a couple of simple and feasible solutions for implementation. These solutions can be incorporated into the technical requirements of future contracts.

Firstly, addressing the complexity problem involved adopting a practical approach. The most viable solution was to emulate processes that people engage in daily, such as purchasing products and managing a family budget. The game begins with a predefined budget, and the tokens hold value — a straightforward and easily understandable concept that can be explained at the start of the workshop.

Secondly, many groups attempted to address the ideological problem through a simple method: creating customizable tokens, cards, or even clothes that could incorporate community ideas. In other words, the game should not rely solely on elements provided by the designer — it should be seen as an incomplete product, requiring input and completion from the community.

5.2. There is no one Method, nor one Time

It is evident that each type of game is addressed to a specific audience, and each audience operates within a particular time frame. For example, there are situations where providing a comfortable table for a relaxed conversation makes the most sense, while in others, swift decision-making is crucial, and playtime becomes essential. Some audiences find engagement through physical activity, while others seek surprise or direct interaction with reality. In fact, one of the key conclusions is that there is no one-size-fits-all approach adaptable enough to suit all audiences. This is particularly true for tactical urbanism projects involving diverse communities. Consequently, one of the most

Core skills	Main age group	Play time	Building complexity	Numbers of players
• Phisical • Social • Creative • Cognitive • Emotional	• 0-6 • 6-12 • 12-20 • 20-60 • 60 +	• Quick passing by • Few hours play • Long stationary play	• One or very few components • Multiple components, simple machanisms • Complex mechanisms, energy needed	• One person per time • One or multiple persons at the same time • At least two persons needed

Table 2 - Categories to guide the design of recreational spaces / Source: Playful Cities Design Guide, 2003.

challenging aspects of this exercise was gaining a sense of social context — understanding for whom and where the idea is intended. This underscores the importance of calibrating the basic parameters outlined by Stevens (2007) in 'The Ludic City' during the game creation process (Table 2).

A game must possess a sense of uniqueness or 'sense of place' to truly captivate a specific group of individuals. It is essential to tailor the game strategies in a way that resonates with the intended audience.

Moreover, it is not always accurate to assume that more time spent on analysis leads to better conclusions. Quick dynamics offer a level of spontaneity that extended discussions often miss, and this spontaneity should be cherished and preserved.

5.3. The importance of Chance

Chance plays a crucial role in enabling us to arrive at conclusions in a more impartial manner. This became evident during gameplay, where individual games may not necessarily reflect the overall tendency. However, a series of games reveals discernible trends, and repeated iterations highlight dominant options. Certainly, for this process to be effective and yield robust findings, the game must be brief, enabling numerous iterations that allow these patterns to emerge.

5.4. The delicate balance between Reality and Games

It is essential that a game is integrated into reality rather than existing as a separate territory. This is why a completely virtual experience was avoided. In fact, various virtual experiences were attempted during the pandemic as part of urban projects in Antofagasta, but they did not succeed in truly engaging the public.

Simultaneously, while the proposed game should maintain a metaphorical and functional relationship with reality, it should also achieve a sufficient level of distance from reality to immerse participants in the dynamics, allowing them to step briefly into the 'magic circle' as described by Huizinga — essentially, to be 'in the game.'

The challenge lies in striking the right balance between this necessary distance and active involvement, ensuring that the experience remains a game rather than merely a traditional discussion gathering with 'toys'.

5.5. The "Irrelevance" of games

While a study of this nature may challenge Huizinga's classic notion of "irrelevance" in games, he raises an important point: excessive rationality can hinder enjoyment. So, where does one find that elusive balance? Consider the world of cinema, particularly films that transport us to captivating, yet somehow familiar realms. In this context, one might argue that the primary objective of any game is to achieve what the film industry calls the 'suspension of disbelief.' Essentially, this means that the game's rules are so internally consistent that they allow participants to break through the walls of what's 'relevant' in their daily lives, enabling them to willingly immerse themselves in the game's logic.

Indeed, one of the most challenging aspects of community dynamics is to 'excite' the audience and draw them into the experience. It involves creating a world with sufficient internal consistency that people willingly accept its rules, no matter how fantastical or unconventional they may be. For a brief moment, everything else becomes irrelevant, and we have a world at our disposal with a project to complete and a game to play.

5.6. Final remarks

In summary, a successful playful strategy is achieved when:

- A meeting incorporates simple, coherent, and immersive rules that entertain and transport a community out of their usual reality.

- These rules establish a meaningful relationship with the environment, facilitating the drawing of useful conclusions.

- Participation occurs voluntarily and at suitable times for the meeting attendees.

Based on our previous discussions, the three key factors to consider for future activities are:

- **Time and Inhabitants**: Calibrate the pace and duration of game dynamics to suit the attending audience, testing this calibration in real territories and various contexts.

- **Rules to Engage**: Ensure that the game has simple rules that can be learned and executed within the same meeting. The definition of "simple" should be tested.

- **Surprise** (Entertainment): Incorporate an element of surprise into the method to allow for the emergence of unexpected results. This randomness should serve a purpose, and it is crucial that the group accepts these unexpected conclusions as personal choices.

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NOTES

1. Spanish for 'Emerging City'.

2. Project for Public Spaces / https://www.pps.org/category/placemaking

3. Acronym in Spanish: COSOC.

4. OGUC: Urbanism and Building Construction General Ordinance, Chile, according to the last actualization by 2020 Supreme Decree N°42.

5. This edition is a translation by James T. Lamiell from the second edition of 1913 of the classic book 'Psychology's struggle for existence'.

6. This edition is a contemporary restauration from Alpha Editions from the original book.

7. Center for Sustainable Urban Development. The mentioned game can be download in: https://www.cedeus.cl/politicaypractica/ciudadania-activa/crea_xxi/

8. Source: Ministry of Family and Social Development. CASEN Survey, 2022. Available here: https://observatorio.ministeriodesarrollosocial.gob.cl/encuesta-casen

9. TECHO Foundation. Available here: https://cl.techo.org/catastro/

10. Río de Janeiro group, Brasil. Members: Bastián Araos; Iván Rojas.; Cristian Lai; Ivania Soublette; Josefina Smith.

11. Tokio group, Japan. Members: Gabriela Valdivieso; María Ávalos; Marian Caro; Matías Callejas; Sebastián Vilches.

12. Valdivia group, Chile. Members: Antonia Valenzuela; Francisca Flores; Millaray Coo; Nicolás Odgers; Miguel Fernández; Sebastián Heller.

13. London group, U.K. Members: Edward Jara; Tamara Báez; Sergio Michea; Jesús Sarapura; Tatiana González

14. Lima group, Perú. Members: Carlos González; Francesca Donoso; Eduardo Sierralta; Natasha Román; Nayaret Castillo

15. Medellín group, Colombia. Members: Arturo Caucoto; Karen Cruz; Williams Mollo; Fiorella Alférez; Karla Cutipa

16. Boston group, U.S.A. Members: Camilo Arana; Marco Aguilera; Matías Aedo; Natalia Salazar.

Temporalities and the Urban Fabric

Co-Producing Liminal Spaces in Transitional Epochs

urban temporalities
liminal spaces
augmented reality in urban design
spatial justice
transitional urban epochs

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This research critically examines the complex interplay between temporality and urban spaces amidst transitionary phases, with a specific focus on the metropolitan areas of Houston and Amsterdam. Recognising these cities as exemplars of urban temporal flux, the study delves into the transient nature of liminal spaces and their impact on urban dynamics and socio-political landscapes. Methodologically, this research innovates by intertwining Augmented Reality (AR) and Gamification with conventional urban studies methodologies, presenting a cutting-edge approach to examining urban temporalities. This interdisciplinary method, which integrates Design Computation, Fabrication, Urban Communities, and Spatial Justice perspectives, allows for a nuanced exploration of the transient and often elusive nature of urban spaces. Moreover, the study critically evaluates the role of Extended Reality (XR) in enhancing both theoretical and practical approaches in urban studies. By leveraging XR, the research not only provides a novel perspective on the subject matter but also redefines methodological frameworks, enabling a deeper understanding of the complexities inherent in urban transformations during transitional periods.

INTRODUCTION

The research entitled 'Temporalities and the Urban Fabric: Co-Producing Liminal Spaces in Transitional Epochs' embarks on a critical exploration of urban temporalities in two distinct yet interrelated urban contexts: Houston and Amsterdam. The selection of these cities was driven by their illustrative roles in showcasing the multifaceted nature of urban transition and the concept of liminality within diverse socio-economic and cultural frameworks.

Houston, a city emblematic of North America's urban narrative, offers a unique lens to scrutinize the complex interplay between rapid industrial growth, socio-economic diversity, and environmental challenges (Mehan & Casey, 2023). Galena Park, a microcosm within Houston, exemplifies the transformative impacts of industrial expansion. Here historical industrialization has shaped its urban landscape and community dynamics, thereby serving as a potent example of the interplay between economic development, environmental policies, and urban fabric (Mehan & Mostafavi, 2023; Checker, 2005; Boom, 2017). The study of Houston and Galena Park, therefore, provides critical insights into how industrial growth and environmental policies collectively influence the evolution of urban spaces, particularly in terms of socio-environmental justice and spatial transformation (Mehan & Stuckemeyer, 2023; Mehan et al., 2022).

Amsterdam, in contrast, presents a narrative deeply rooted in European urban history, characterized by historical layers and socio-cultural diversity (Novak et al., 2023). The Bijlmermeer area, with its intricate history of immigration and urban redevelopment, offers insights into the challenges of urban planning, socio-cultural integration, and the resilience of urban communities in the face of changing socio-economic landscapes (Nell & Rath, 2009; Heilbron, 2023). Markenplein, embodying the confluence of historical and modern urban dynamics, allows for an exploration of how historic legacies and contemporary urban policies intersect to shape the city's identity and spatial dynamics.

These areas in Houston and Amsterdam were meticulously selected to illuminate the dynamic interplay between time, space, and society in urban environments. The juxtaposition of these cities, each with their unique temporal narratives and liminal spaces, offers a rich context to explore the evolution of urban spaces against the backdrop of historical significance, current realities, and potential futures (Mehan & Mostafavi, 2022). This comparative approach allows for a deeper understanding of how urban temporalities and liminal spaces influence and are influenced by socio-political and environmental dynamics across different geographic and cultural settings (Williams et al., 2020; Schäfer & van Es, 2017).

In sum, this research seeks to unravel the complexities inherent in urban transformations, highlighting the significance of time and transition in shaping the urban fabric. The exploration of Houston and Amsterdam, with their respective areas of focus, serves as a foundational narrative for understanding the role of liminal spaces in the ongoing evolution of urban landscapes.

METHODOLOGY

The methodology of this study is centred around the integration of digital technologies, specifically Augmented Reality (AR) and Extended Reality (XR), to explore and represent the temporal dynamics of urban spaces.

Augmented Reality (AR): AR technology was employed to overlay digital information onto physical urban models. This approach allowed for the visualization of temporal layers and socio-spatial data directly on the physical structures of the cities being studied. AR facilitated an interactive experience where users could engage with both the physical model and the augmented data, enhancing their understanding of the urban temporalities (Khasraghi & Mehan, 2023).

Extended Reality (XR): XR, encompassing a spectrum of immersive technologies including AR, Virtual Reality (VR), and Mixed Reality (MR), was used to create a comprehensive environment for users to experience urban spaces. This technology was instrumental in simulating different temporal scenarios within urban contexts, allowing users to experience potential future urban developments and changes (Mostafavi & Mehan, 2023).

Phygital Interaction: The term 'Phygital' combines 'physical' and 'digital,' referring to an approach that blends physical experiences with digital innovation. In the context of this study, phygital interaction refers to the engagement with physical models of urban spaces that are enhanced with digital data and simulations through AR and XR technologies. This approach enables a multi-sensory experience, allowing for a more profound understanding of the intricate layers of urban temporality.

Computational Design and Digital Fabrication: Computational design was utilized to create detailed and complex urban models, which were then brought to life using digital fabrication techniques. These models served as the base for phygital interactions, with digital technologies augmenting their functionality and enabling a deeper exploration of urban dynamics.

The methodology is grounded in an interdisciplinary approach, integrating concepts from urban studies, digital technology, and social sciences. By employing these methodologies, the study aims to provide new insights into the temporal dynamics of urban landscapes, offering a nuanced understanding of how cities evolve and respond to socio-political and environmental changes.

TEMPORAL LIMINALITY IN URBAN SPACES

This section delves into the concept of liminality in urban environments,

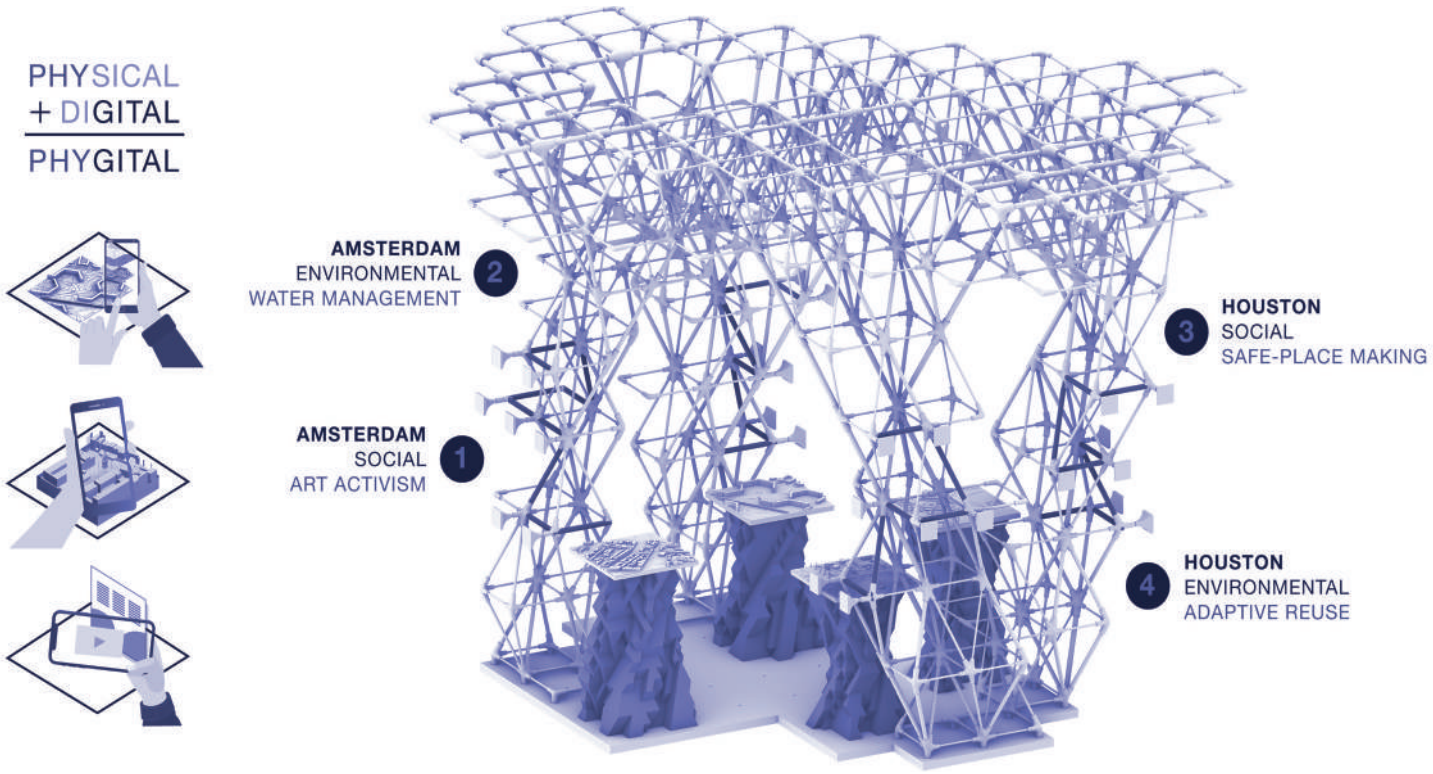

Fig. 1 - Left: Schematic diagram of phigital interactions, right: Final configuration of the installation with four integrated XR trails.

drawing from Victor Turner's seminal work that defines liminality as a transitional phase marked by the dissolution and reformation of social structures (Turner, 1969; Turner & Turner, 1978). Liminal spaces in urban contexts, as identified by Zimmerman (2008), exist as transformative zones straddling the public and private realms, prompting social and cultural interactions while challenging conventional notions of belonging (Auge, 1995; Horvath, Thomassen & Wydra, 2015). These spaces, particularly in cities like Houston and Amsterdam, often reflect and are influenced by prevailing power dynamics, impacting inclusivity and community representation (Shields, 1999; Ratto & Boler, 2014).

The research critically employs a suite of digital tools to analyse and interpret these urban liminal spaces. A key component of this methodology was the innovative use of 3D printing technology, combined with intricate lattice structure designs. This approach was instrumental in materialising the conceptual aspects of liminality into a physical installation. The lattice structures, a metaphor for the interconnected yet transient nature of liminal spaces, provided a tangible representation that facilitated a deeper understanding of these complex urban phenomena (Bigger, 2009).

Further, the integration of digital interfaces with the physical installation created an interactive 'phygital' experience. This setup allowed for the dynamic presentation of urban data and narratives, thereby enriching the exploration of liminal spaces in Houston and Amsterdam. The digital aspect of the installation played a crucial role in visualising urban temporalities and spatial relationships, fostering a more immersive and informative experience for the audience (Mehan, 2023b) (Fig. 1).

Critically, this methodological approach highlights the potential of digital tools not just for visualization, but also for engaging with the socio-political dimensions of urban spaces. By intertwining physical models with digital data, the research underscores the evolving nature of urban liminality and its implications on community dynamics and urban planning. This intersection of digital technology and urban studies provides a novel lens through which the complexities of liminal spaces can be understood and discussed, emphasising their role as catalysts for socio-environmental evolution and as platforms for inclusive urban development (Turner, 1967; Thomassen, 2009).

In conclusion, this section provides a comprehensive and critical overview of how digital tools were pragmatically applied in the research to examine and showcase the temporal and transformative characteristics of urban liminal spaces.

TEMPORAL LIMINALITY IN INTERDISCIPLINARY URBAN RESEARCH: TOWARDS A DYNAMIC SOCIO-ENVIROMENTAL JUSTICE

Urban environments are perpetually evolving entities. This temporal progression, marked by phases of transformation and stasis, evokes Turner's concept of liminality—transitional states from what was to what might be. In this light, the temporal dimension of our interdisciplinary project reveals how urban spaces, and our understanding

of them, undergo constant metamorphosis.

Central to this project's approach is an acute awareness of the temporal flux inherent in urban contexts. The FabriCity XR project navigates the often-transient digital landscape, merging computation-based design with fabrication (Delgado et al., 2020). This oscillation between the digital and physical realms embodies a liminal space of its own. Much like the time-sensitive digital representations in architecture, these computational designs transition from ephemeral digital entities into tangible urban forms, epitomising the transitory nature of urban imaginaries (Kharvari & Kaiser, 2022).

Similarly, the exploration of socio-environmental justice in Houston and Amsterdam is not static but temporally contingent. Urban landscapes, reflecting historical, social, and political contexts, are always in flux. In this evolving temporal tapestry, notions of spatial justice are constantly renegotiated. These spaces do not just transition physically but also in the collective consciousness, influenced by the tides of time, politics, and socio-cultural dynamics. Bishop (2012) provides a nuanced understanding of participation in these dynamic spaces, underscoring the importance of acknowledging the temporal shifts in communal engagement and perspectives.

Augmented Reality (AR) and Extended Reality (XR) are transformative technologies in urban studies, offering innovative ways to visualize, interact with, and understand urban environments. AR enhances visualization by superimposing digital information onto physical spaces, providing dynamic and interactive platforms for viewing complex urban data and temporal layers. This capability significantly increases user engagement, allowing for a deeper public understanding of urban projects and planning processes. The integration of real-time data, such as traffic patterns or environmental conditions, through AR, further enriches the understanding of urban dynamics.

XR, encompassing a range of immersive technologies including AR, takes this a step further by creating comprehensive environments for simulating various urban scenarios.

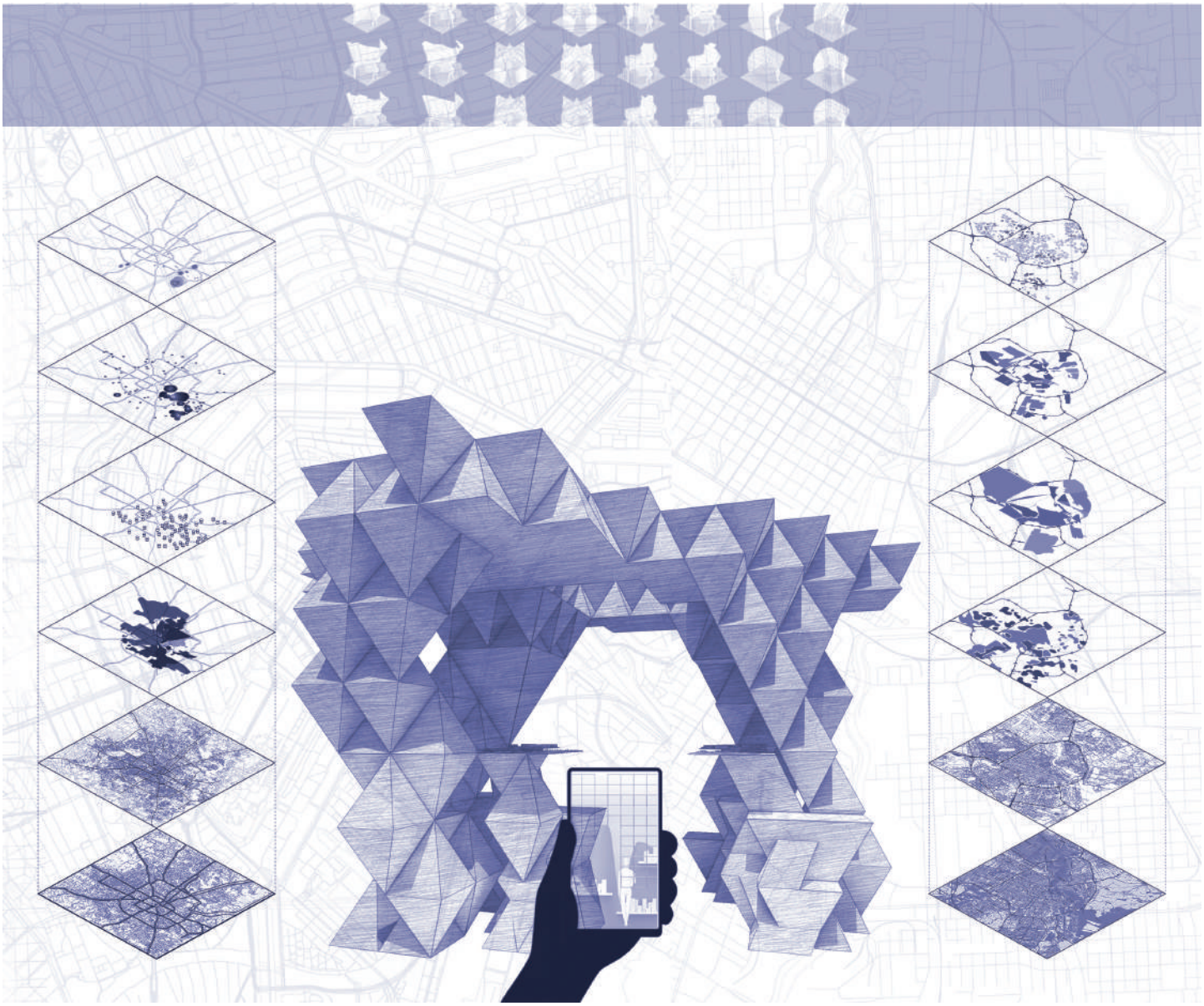

Fig. 2 - This schematic image illustrates the interdisciplinary Collaboration during the implementation of the FabriCity XR Project. Source: Authors.

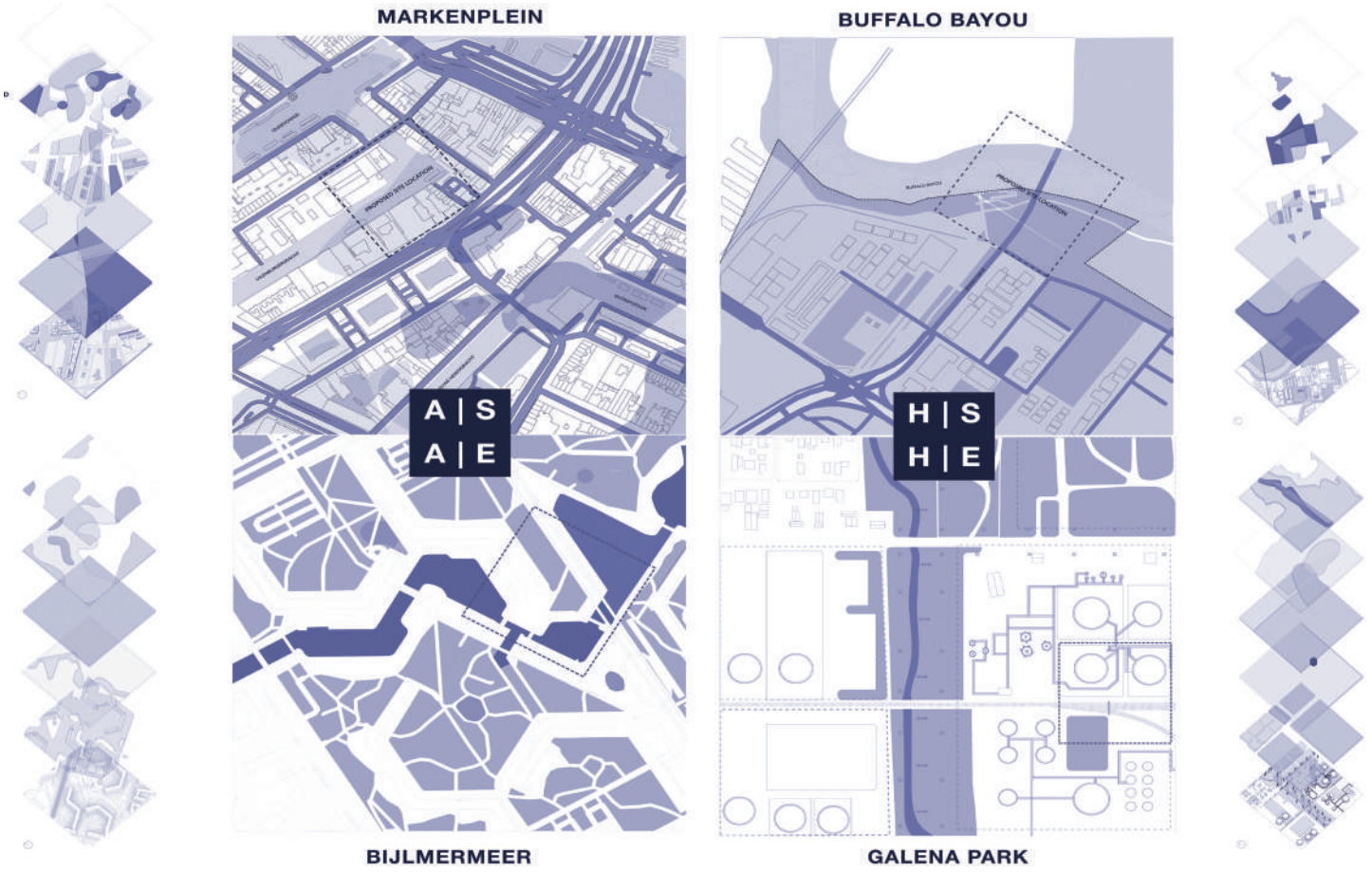

Fig. 3 - Macro maps of selected parcels in Houston and Amsterdam provide a 2D representation, while isometric exploted mapping illustrates the multi-layered analysis from social and environmental justice viewpoints in both cities. Source: Authors.

This immersion is invaluable for urban planning and decision-making, providing a multi-sensory experience that deepens the understanding of spatial and temporal aspects of cities. XR's capacity for collaborative planning, enabling stakeholders to interact within a shared virtual space, is particularly beneficial for inclusive and participatory urban design processes.

However, these technologies come with their own set of challenges. The reliance on AR and XR may limit accessibility for individuals without the necessary devices or technical knowledge. In the case of AR, the potential for data overload and the need for precise and accurate data are critical considerations. The effectiveness of AR visualizations is highly dependent on the quality and reliability of the underlying data and technology. On the other hand, XR's immersive experiences can be resource-intensive, requiring significant investment in both technology and expertise. User experience in XR can vary considerably due to individual differences in technology usage and perception, which can influence the effectiveness of these tools in conveying complex urban concepts. Additionally, technical issues such as latency, resolution, and user interface design in XR can impact user engagement and the overall effectiveness of these technologies in urban studies.

In the context of this project, the integration of Extended Reality (XR) in Urban Design offers a unique temporal dimension. With XR, time is rendered malleable. Past, present, and potential futures converge, offering users an immersive journey through time. The "Phygital" concept, anchoring the FabriCity XR project, exemplifies this, collapsing timeframes as users navigate between the tangible and intangible (Fig. 2). FabriCity XR develop an interactive web-based platform DEVAR which allows the user to interact with the installation through any personal smart devices such as phones and tablets, without any need for external application. This temporal bridging fosters a more profound understanding of socio-environmental issues, as they are perceived not as static problems but as evolving challenges within an ever-shifting urban temporality.

In essence, recognising the inherent temporality in urban research allows for a more nuanced, critical examination of urban spaces. Only by acknowledging and embracing these temporal shifts can we hope to design and advocate for a just, inclusive, and dynamic urban future.

TEMPORALITIES IN URBAN SPACES: LESSONS FROM HOUSTON AND AMSTERDAM

Understanding urban landscapes demands an engagement with temporality, for cities are more than mere spatial entities; they are temporal palimpsests bearing imprints of historical occurrences, present-day dynamics, and future aspirations (Mehan, 2023a). This

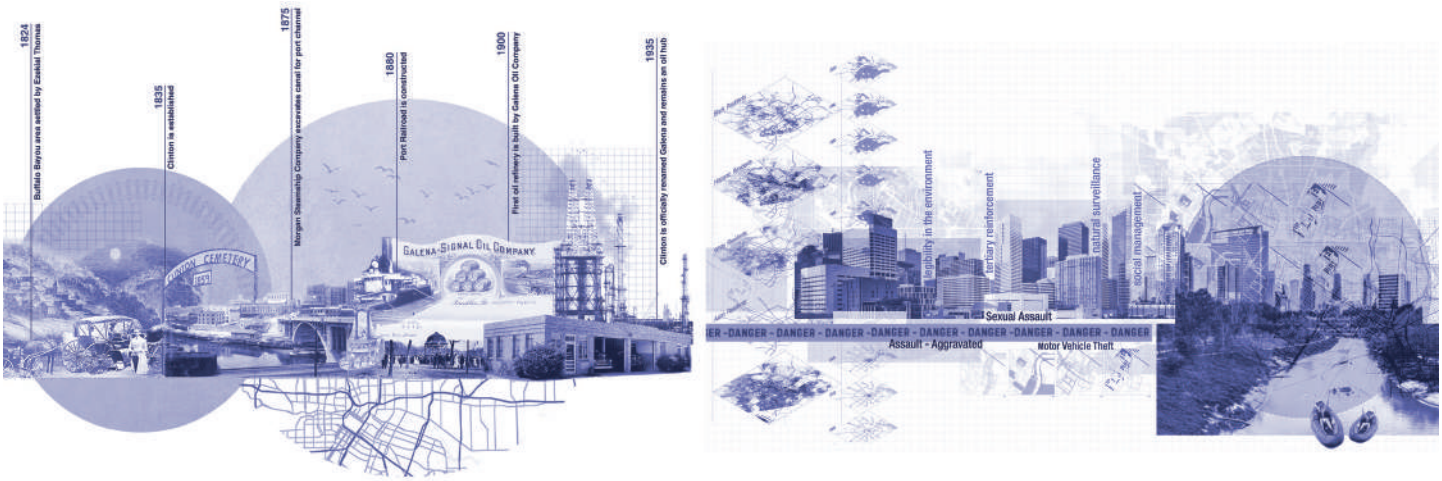

Fig. 4 - Contextual analysis and Historical analysis of Buffalo Bayou and Galena Park neighbourhoods in Houston from the social justice perspectives. Source: Authors.

Fig. 5 - Contextual analysis and Historical analysis of Bijlmermeer and Markenplein neighbourhoods in Amsterdam from the social justice and environmental justice perspectives. Source: Authors.

confluence of past, present, and anticipated futures serves as a backdrop against which the evolving narratives of cities like Houston and Amsterdam can be critically studied, especially in the context of socio-political shifts and environmental challenges.

In Amsterdam, the Bijlmermeer area, known for its immigrant history, particularly the Surinamese influx, has faced a complex set of socio-cultural and environmental challenges. These challenges include integrating a diverse population, managing socio-economic disparities, and addressing urban planning issues that arose from rapid and often unplanned development (Nell & Rath, 2009; Fraser & Howard, 2017). The tragic plane crash of 1992 in Bijlmermeer is not merely a historical footnote but a significant event that brought to light the area's underlying socio-environmental issues and galvanized efforts towards urban renewal and community resilience. In contrast, Houston's Galena Park illustrates the impact of industrialization and its socio-environmental footprint. This area, with its history of industrial development, has grappled with issues such as pollution, health hazards, and the displacement of communities due to industrial expansion and urban sprawl (Varış Husar et al., 2023; Checker, 2005; Boom, 2017). These challenges are emblematic of the broader issue of how industrial progress, without adequate socio-environmental considerations, can lead to adverse outcomes for local communities (Fig.3).

This project foregrounds socio-environmental justice by adopting a multi-temporal perspective, as advocated by Schlosberg (2013). It emphasizes the importance of understanding the historical legacies of urban spaces and how they influence current and future socio-environmental dynamics. By employing Augmented Reality (AR), the project allows users to engage with the juxtaposed temporal layers of these cities, fostering a deeper understanding of how past events and policies continue to shape present-day urban realities (Fig. 4 and 5).

Furthermore, the research employs macro maps and isometric exploded mapping (Fig. 4) to provide a comprehensive analysis of social and environmental justice issues in both cities from multiple perspectives. This approach not only critiques traditional architectural and urban planning pedagogies but also champions a temporally aware understanding of urban spaces, aligning with the advocacy of Holifield, Chakraborty, and Walker (2018) for environmental justice. The contextual and historical analyses of neighbourhoods in Houston and Amsterdam (Fig. 5 and 6) are integral to this, highlighting the need for urban planners to consider multifaceted temporalities in their pursuit of equitable urban futures (Swyngedouw, 2004).

TEMPORALITIES AND THE DYNAMICS OF URBAN CHANGE: A CRITICAL REFLECTION ON THE FABRICITY XR PROJECT

The FabriCity XR stands as a comprehensive exploration in urban studies, integrating digital technologies to investigate the evolving temporal dynamics of urban landscapes. This project aims to illustrate how urban spaces, shaped by their temporal, sociopolitical, and cultural contexts, are more than static physical entities; they are dynamic fabrics continuously evolving over time.

Central to the FabriCity XR Project is the innovative use of a lattice structure, which serves as a key element in representing the complexity of urban environments. This structure is not merely a physical form but a metaphor for the interconnected and multifaceted nature of cities, symbolising the mesh of pathways, interactions, and systems that define urban life. The lattice, therefore, embodies the concept of temporality and liminality in urban spaces.

The project employs a phygital (physical + digital) approach, particularly through Augmented Reality (AR), to create an interactive experience with the lattice structure. This interaction is fundamental in illustrating the dynamic and layered nature of urban temporalities. Users can navigate through various temporal layers of the city – its past, present, and potential futures – facilitated by the AR technology. This phygital interplay enhances the understanding of the city as a living entity, characterized by continuous change and evolution (See Fig. 7).

Computational design and digital fabrication techniques are pivotal to this project. These advanced methodologies enable the precise and intricate realization of the lattice structure, which traditional fabrication methods would find challenging to replicate. The use of these techniques ensures accuracy in embodying the conceptual representations of urban complexities and allows for adaptability to different urban contexts.

The lattice structure, enhanced by the phygital interaction, offers significant added value to the project. It provides a tangible and immersive platform to explore and understand urban temporalities. This structure transforms abstract urban concepts into a relatable and interactive format, facilitating a deeper engagement with the study of urban dynamics. Moreover, the combination of physical modelling with digital augmentation through AR brings a novel dimension to urban studies, encouraging users to engage critically with the concept of urban transformation.

In summary, the FabriCity_XR project adopts a forward-thinking stance in urban studies, emphasising the significance of temporal factors in shaping urban landscapes. By integrating computational design, digital fabrication, and AR, the project presents a multifaceted exploration of urban temporalities, advocating for an understanding of cities as complex, evolving entities shaped by time and human interaction.

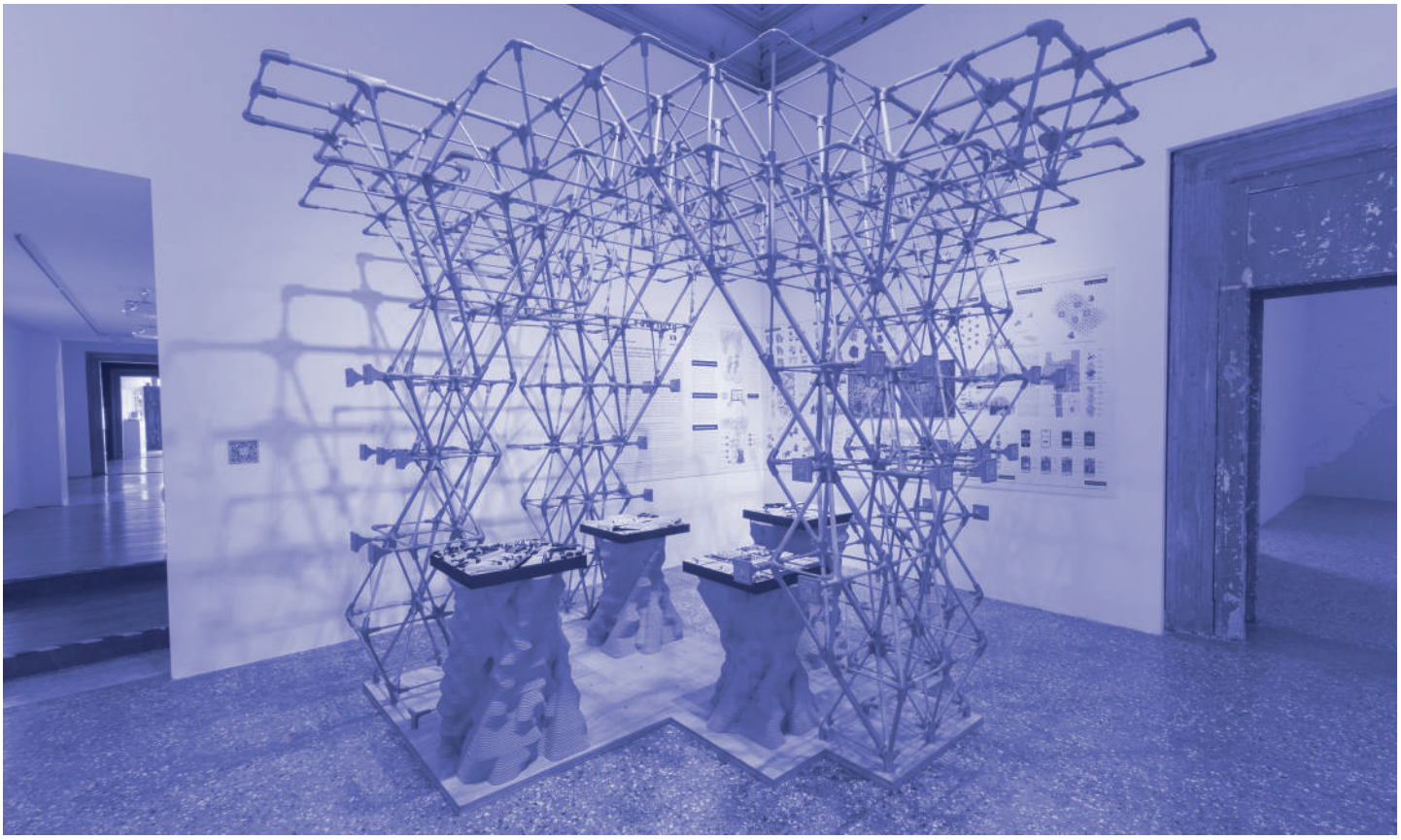

Fig. 6 - FabriCity XR Project, An overview of the assembled one-to-one installation in the exhibition venue, Venice Architecture Biennale 2023, ECC, Italy, Time Space Existence 2023, Palazzo Mora. Photo credits: Federico Vespignani.

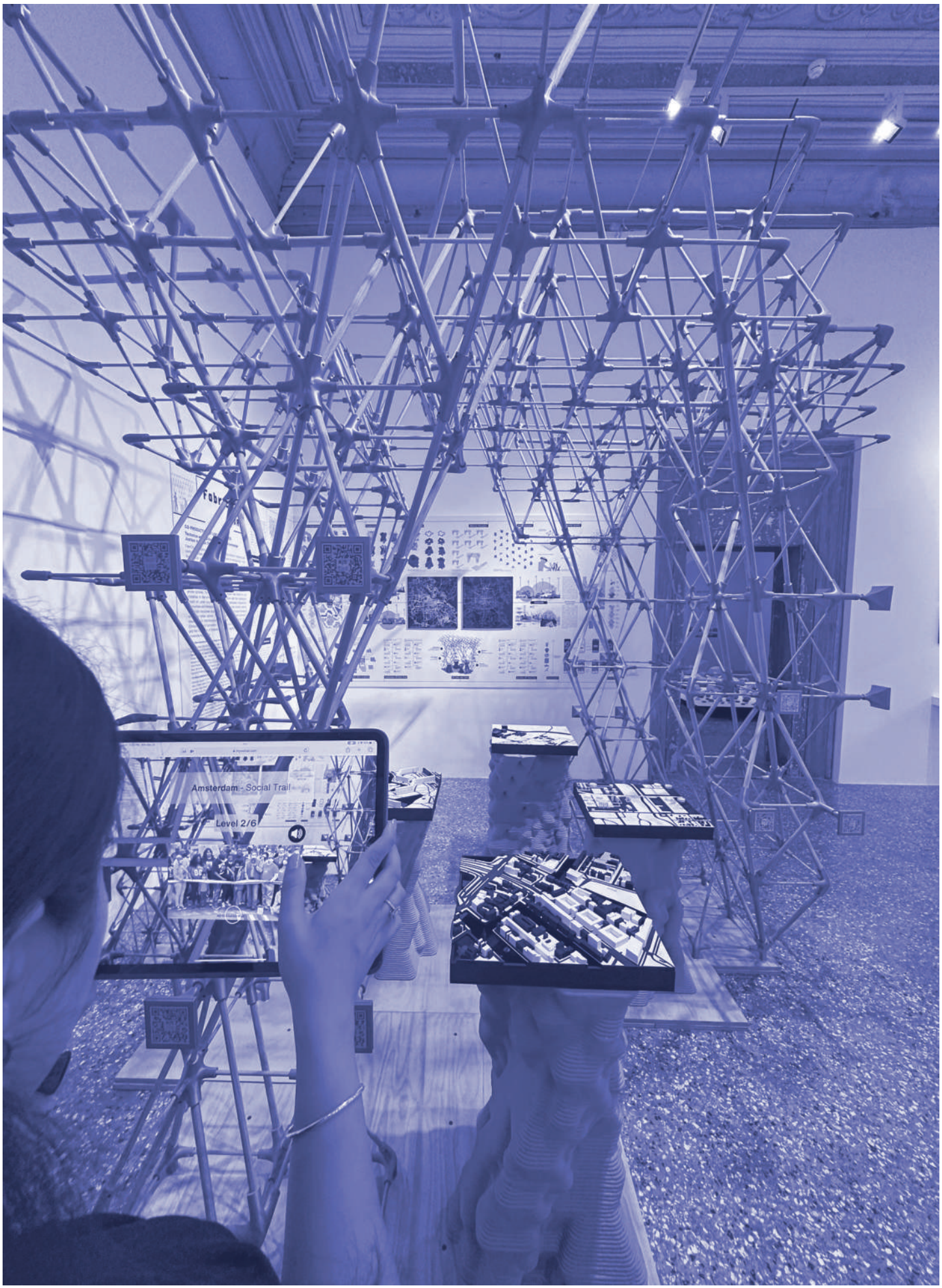

Fig. 7 - FabriCity XR: Phygital interaction with urban models and Lattice structure.

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How to design (and assemble) a Pavilion

Mastercard's Tourism Innovation Hub experience

modularidad
repetición
mastercard
ensamblaje
efímero
modularity
repetition
mastercard
assemblage
ephemeral

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El objetivo de este ensayo es ilustrar un enfoque muy personal y general del concepto de "temporalidad" en la arquitectura contemporánea. Con el ejemplo empírico del Tourism Innovation Hub (TIH) de Mastercard intentaremos guiar a nuestros lectores a través de los significados de modularidad, repetición, transporte, sistematización, economía, fácil montaje y desmontaje, calidad dentro de la idea central de la arquitectura efímera. Comenzando con una breve introducción sobre lo que significa "temporal" (como lo opuesto a "permanente") desde el tratado romano Vitruvio hasta algunas propuestas efímeras contemporáneas y una descripción más extensa de nuestro TIH como una forma moderna de reinterpretar el famoso "Ballon Frame" de Agustín Taylor, que se desvía hacia la creación de un oasis tridimensional de Hans Arp. Un stand/pabellón que aborda la temporalidad desde el inicio del proceso de diseño hasta la última fase de desmontaje y almacenamiento.

The goal of this essay is to illustrate a very personal yet general approach to the concept of "temporality" in contemporary architecture. Using the empirical example of Mastercard's Tourism Innovation Hub (TIH), we will attempt to guide our readers through the meanings of modularity, repetition, transportation, systematisation, economy, easy assembly and disassembly, and quality within the core idea of ephemeral architecture. We will start with a brief introduction to what "temporal" means (as the opposite of "permanent"), tracing the concept from the Roman treatise by Vitruvius to some contemporary ephemeral proposals. Following that, we will provide a more extensive description of our TIH as a modern reinterpretation of Augustine Taylor's famous "Balloon Frame," leading to the creation of a three-dimensional oasis inspired by Hans Arp. The stand/pavilion addresses temporality from the inception of the design process to the final phase of disassembly and storage.

TEMPORALITY

Nothing lasts forever; that's a fact. Yet, architecture possesses a certain essence of eternity, dating back to Vitruvius and his famous triad in which utilitas (utility) and venustas (delight) were accompanied by firmitas (firmness). Our discipline pursues durability and firmness in a quest where the upper limit of durability is not usually the subject of discussion (few clients ask you to design a house that will last only 2 years), and the lower limit remains undefined. Most of the times.

However, there is a branch of architecture that explicitly embraces its ephemeral character, lasting only one day in its Greek etymology, or its temporal character, lasting a short period of time in Latin. This disciplinary oddity is precisely known as 'ephemeral' or 'temporary' architecture. To be classified as such, it must actively incorporate the temporary nature into its design and fabrication, rather than merely refraining from denying it. In short, it must emphasise and make its ephemeral condition obvious.

For example, the Nazi German pavilion at the 1937 Paris World Fair (designed by architect Albert Speer) cannot be conceptualised as ephemeral architecture because it exhibits a kind of materiality (it looks heavy), symbology (classically inspired), and conservatism (opposite to experimental) improper for the ephemeral. On the contrary, the pavilion for the Serpentine Gallery in 2015, designed by Selgascano, is especially exemplary, starting with its functionality (very 'relaxed' as it is a pavilion), beauty (very unusual and even strange in appearance), and solidity (a stable piece, but so light conceptually and materially that it seems as if it could fly away). As for not only temporary but also commercial pavilions, it is worth mentioning Renzo Piano's IBM Travelling Pavilion in early 1983. The project states:

"The pavilion is a transparent tunnel, sitting on a raised platform that houses its supporting services. It is 48m long, 12m wide and 6m high. In order to facilitate easy assembly, disassembly and transportation, the enclosure is made of modular, repetitive elements of wood and polycarbonate. These elements are connected together by carefully crafted aluminium joints to form the weathering envelope as well as its structure".

This structure is not only important for its attention to modularity but also because it is designed and manufactured to be assembled, exhibited for a month, and then dismantled at each of its 20 European locations, including Milan, London, Rome, etc. The explicit message is that 'workstations could be virtually located anywhere' due to a rised platform that facilitates installations, highlighting the commercial aspect of this successful pavilion. It conveys the idea that technology can happen in any location, requiring only a general socket and a plot around 50 metres long and 12 metres wide.

This light, transparent, and commercially oriented traveling installation was enjoyed by more than 1.5 million people in three years, updating the traditional idea of a vault or a greenhouse with the language and means of technology. It could be interpreted as a front runner of sustainable architecture (Fig.1).

The exploration of temporality in architecture extends far beyond Vitruvius, pavilions, and international expositions. In Renaissance Europe, festivals and celebrations often involved the construction of temporary architectural structures, reflecting the grandeur and opulence of the period (Hart 2002). These structures, often made from perishable materials like wood and canvas, were intended for short-lived events but were designed with the same level of detail and craftsmanship as permanent buildings.

Moreover, the digital age has introduced a new dimension to temporality. With rapid technological advancements, buildings are becoming obsolete faster than ever before. This challenges architects to design with adaptability and flexibility, prioritising systems and structures that can be easily modified or replaced over time (Kolarevic 2004), as seen in the Tourism Innovation Hub pavilion.

THEORETICAL IMPLICATIONS

The intersection of temporality and architecture,

Fig. 1 - IBM Travelling Pavilion. Photo credit: Renzo Piano Building Workshop.

a philosophical perspective that initiates a dialogue about the transient nature of human experience in built forms, is not limited to the physical lifespan of structures. It extends to how these structures capture and reflect fleeting moments, cultural shifts, and technological advancements, challenging traditional architectural paradigms by emphasising ephemeral and transient design aspects. Historically, ephemeral architecture has served as a medium for celebrating impermanence and change. From the elaborate temporary structures of Renaissance festivals to the dynamic installations of contemporary art exhibitions, it demonstrates an ability to capture the zeitgeist of an era and act as a mirror to societal values and technological progress. This embodiment of temporal quality contrasts with the permanence of traditional architecture.

A notable example of architectural temporality through prefabrication is the 19th-century "Balloon Frame" method from Chicago. This marked a departure from traditional building methods through its lightweight, mass-produced materials and rapid assembly, laying the groundwork for modern prefabrication and modular construction. In contemporary architecture, the concept of transience is increasingly prevalent, with projects like Mastercard's Tourism Innovation Hub showcasing modern structures designed for specific, limited durations. This highlights the importance of flexibility, modularity, and adaptability in design. The advent of digital design technologies, such as CNC/DNC machining, has revolutionised the way architects approach temporality. It enables the creation of intricate designs that can be efficiently assembled, disassembled, and repurposed, marking a shift towards more dynamic, adaptive, and environmentally conscious practices. Ephemeral architecture also engages the senses in a way that transcends conventional experiences. The interplay of light, sound, and texture creates unique, time-bound sensory experiences, emphasising the importance of temporality in shaping human

interaction with the built environment.

Moreover, the impermanent nature of temporary structures aligns with sustainable architectural practices, emphasising reduced material usage and the potential for reuse, reflecting a commitment to environmental stewardship. The exploration of temporality in architecture has significant theoretical implications, necessitating a re-evaluation of traditional architectural principles and the integration of considerations of time, perception, and environmental impact.

In conclusion, the theoretical exploration of temporality in architecture is a crucial aspect of contemporary architectural discourse. Its temporal dimensions increasingly influence both form and function, marking a transformative period in architectural history.

THE TOURISM INNOVATION HUB

In 1833, Augustine Taylor developed the preferred North American assembly system in Chicago, called the "Balloon Frame," which incorporated high levels of prefabrication. The construction involved closely spaced pillars made of wooden slats, an additional layer of horizontal elements serving as beams, and the entire structure was enclosed with wooden boards.

This practical, flexible, and fast system enabled the construction of stable, removable, and transportable houses, ultimately becoming the preferred construction method in the USA. Buster Keaton's film, "One Week," humorously encapsulates the radical North American approach in his classic comic style.

The Tourism Innovation Hub pavilion (Fig. 2) interprets Taylor's invention and pushes it to the 21st century incorporating Computer and Design Numerical Control CNC/DNC to update this easy and rigid system into a curvy, extroverted and singular project that nevertheless still talks about modularity, repetition, transportation, systematisation, economy, easy assembly and disassembly, quality... through the inclusion of 6 main ideas:

- The creation of spaces with formal and spatial independence.
- The design takes advantage of the open areas generated around these shapes.
- The establishment of routes associated with the main storytelling in each case.
- The fabrication of structural elements that can be used for various purposes and layouts.
- The design of selected pieces of furniture (tables and benches) takes advantage of its uniqueness.
- The development of an easy-to-assemble and disassemble system.

The ability to precisely cut, shape, and assemble components off-site reduces construction waste, ensures a higher level of accuracy, and can significantly speed up the building process. Such methods align with the principles of the "maker movement," emphasizing DIY practices, local production, and open-source digital tools (Anderson 2012).

Moreover, the integration of digital tools in temporary architecture also holds implications for sustainability. Modular and prefabricated components, designed with digital precision, can be reused, repurposed, or recycled, thereby reducing the environmental footprint of temporary structures (Sheil, 2012).

THE REQUIREMENTS

The Tourism Innovation Hub pavilion for Mastercard, designed by Amarillostudio after winning a restricted competition in collaboration with the Marketing and Communication agency Idonika, is considered part of the group of ephemeral architectures because of its experimental nature.

For its design, we analysed the DNA of the typical fair stand and concluded that it typically involves:

- On-site construction within fair facilities, leading to disposal at the event's conclusion.
- The use of materials with straight geometry and opaque panels, forming 90-degree areas.
- An approach of "more is more," where stands feature a wide variety of materials (with plasterboard

Fig. 2 - The Tourism Innovation Hub pavilion for Mastercard. Curved geometries.

standing out for its ease of assembly and demolition), numerous colours, along with impressive banners and graphics.

Based on the previous analysis, we concluded that our stand would incorporate curved geometries with translucent panels, avoiding a clear full-empty division. It would predominantly feature a single sustainable material—FSC wood—and aim to abstract the symbolic factors as much as possible. It is worth noting that the stand had to meet specific sustainability, modularity, and reusability requirements as outlined by the Mastercard project.

In summary, our aim was to create an oasis—a dream place or refuge allowing visitors to disconnect from everyday life and reinterpret 21st-century tourism. The design emphasises wood as a fundamental element, with the positioning and proportion of FSC-certified pine wood slats, along with their full-empty ratio, creating a unique experience as visitors move through the ever-changing space of the Tourism Innovation Hub (Fig. 3).

From the free curve, we establish a dialectic between organic and semi-closed rooms, resembling amoebas or arpian shapes (referred to as "beans" from now on). These beans are linked together like beads on a necklace, with the spaces between them forming a circle—the fundamental corporate symbol of Mastercard. The margins in the four corners, positioned between the bean-circle

Fig. 3 - An ever-changing space.

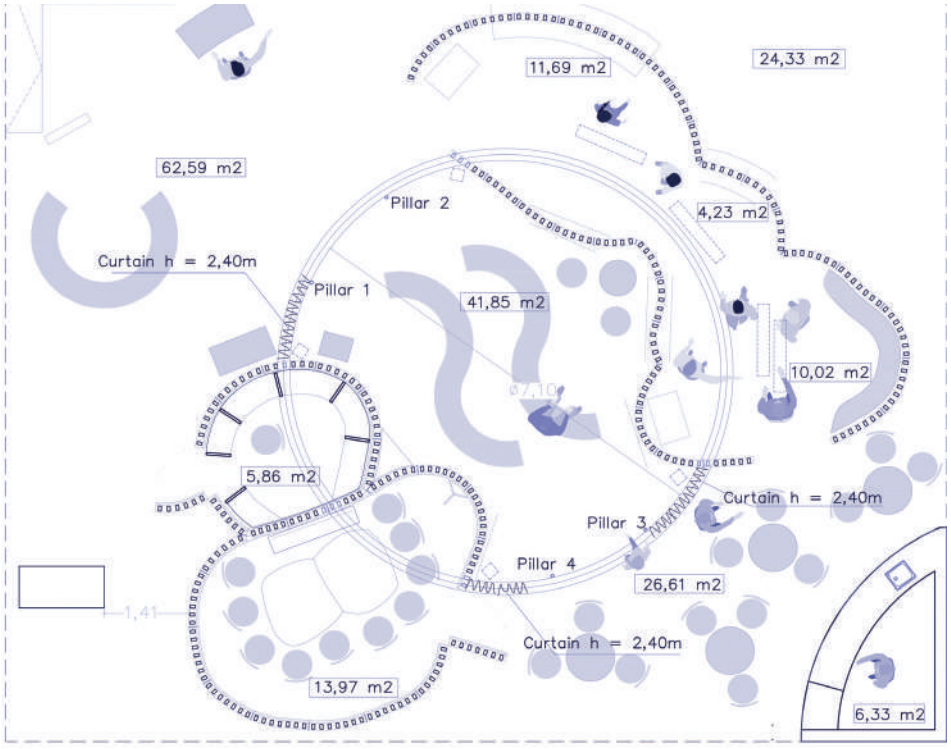

Fig. 4 - TIH Floor plan.

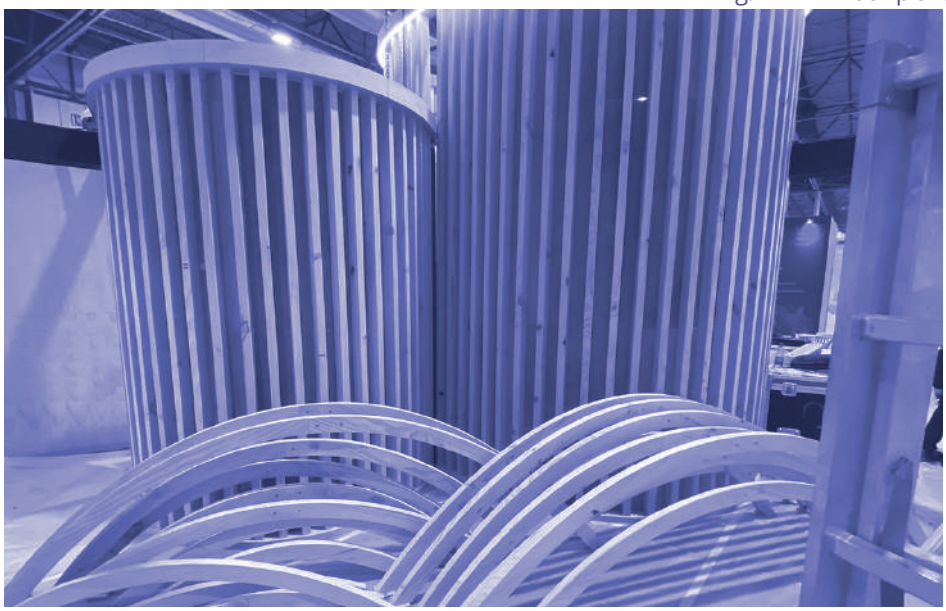

Fig. 5 – TIH First complete assembly in Jaén.

couple and the overall plot, are actively utilised based on the diverse functional needs of the stand (Fig. 4).

The spatial requirements for this initial activation included:

- An exhibition area featuring multiple screens and tactile totems, accompanied by an immersive experiential zone situated in the corridor formed by the interconnected trio of beans.
- A central space designed for presentations or use as an auditorium, located in the circular plaza and offering the flexibility to open or close with translucent curtains.
- The cafeteria area positioned in one of the corners of the plot.
- A private, acoustically isolated meeting room with a capacity for eight people.

Architecturally, we planned to delineate the central circle with a suspended metal ring above the red carpet, and surround the five beans with organic domes that enclose the space. It is a concept reminiscent of a primitive cabin in dialogue with the most advanced technology.

While the general design took relatively little time (1 month), the construction posed a different challenge, as the stand had to:

- Be modular and reusable. Therefore, it was essential to analyse and simplify the assembly and disassembly system, which we tested at the carpenter's facilities in Jaén, Spain (Fig. 5).
- Do not generate waste. We refined construction and assembly protocols to the extent of reusing the shavings produced during wood cutting.
- Study and coordinate various elements, techniques, and facilities, including large flexible screens with extensive wiring (Fig. 6).
- Master 3D models for numerical control manufacturing (Fig. 7)
- Optimise the quantity and dimensions of modules for transport throughout Europe and the Mediterranean region, aiming for the least number of cubic meters to

Fig. 6 – Camouflaging wires, plugs...etc.

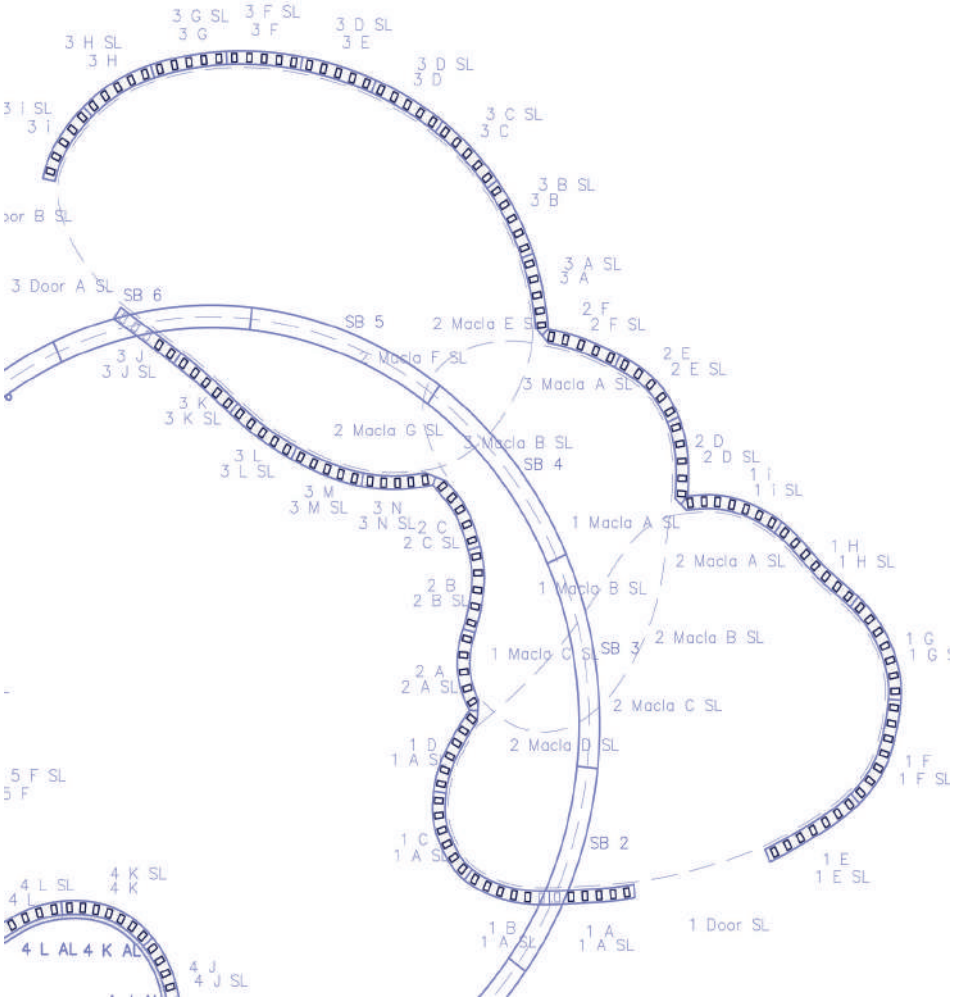

Fig. 7 – Computer and Design Numerical Control CNC/DNC model.

move (Fig. 8).

- Be highly rigorous in the design and assembly of construction details to ensure everything fits together seamlessly and can be quickly assembled and disassembled.
- Design installations, particularly wiring, to be concealed and distributed throughout the stand. To achieve this, we utilised a central ring at a height of 250cm above the ground as a general distributor (Fig.9), and we manufactured installation runners in hollow slats to raise or lower the installations from that ring.

MODULAR CONSTRUCTION ELEMENTS

All elements of the stand, forming the modules and the interconnecting ring, are fabricated in pieces approximately one metre wide with variable lengths. They can be used partially, without forming a complete module.

This construction system allows for easy transport while ensuring absolute versatility. The stand can be created and modified for each use, yielding different outcomes. Additionally, the modular walls feature acoustic panels that can be placed entirely or partially on each element to achieve greater visual and sound intimacy. The fabric covering the soundproofing material can be customised in various colours, and there is the option of installing interior curtains for visual privacy in any of the modules (Fig. 10).

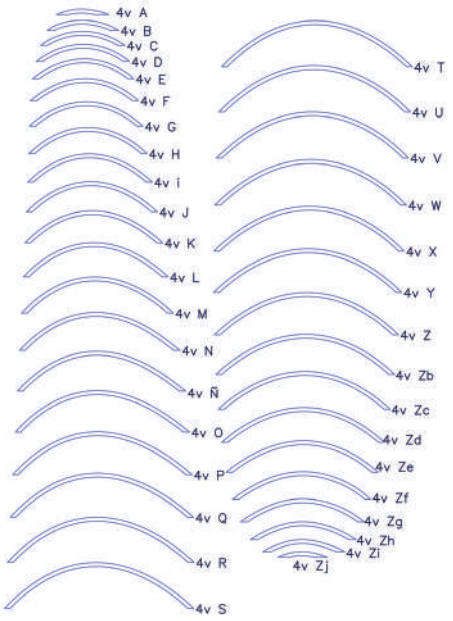

Fig. 8 – Inventory of one of the dome's beams.

In total, there were three months of intense communication with all the parties, particularly with Idonika and the carpenters responsible for constructing the stand.

The subsequent manufacturing and assembly in the warehouse, aimed at verifying geometric adequacy and assembly times, took an additional three months. This phase was crucial to ensuring the stand's transportation and complete assembly within seven days, meeting the deadline for the fair (Fig. 11).

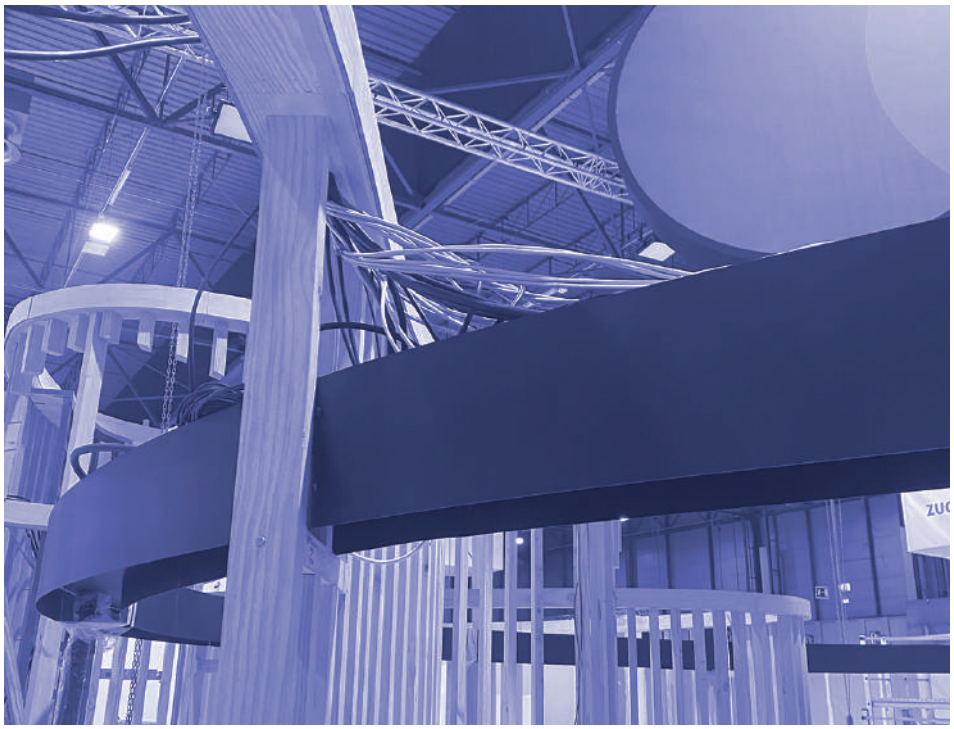

Fig. 9 – The black central ring as wiring distributor.

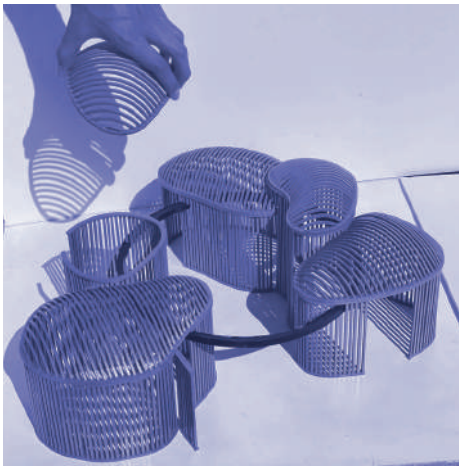

Fig. 10 – Testing the formal and spatial outcome.

The fair lasted for five days (January 18-22, 2023), and it proved to be a success as FITUR awarded us with two prizes: Best Stand and Most Sustainable Stand.

The day after the fair closed, the stand was dismantled, stacked, and transported to a town in Jaén in less than 24 hours, where it now rests until its next activation... very soon.

Fig. 11 – FITUR's 2023. First activation.

CONCLUSIONS

The concept of "time" often emerges as the most crucial element in our discipline when venturing into the realms of ephemeral or temporal (depending on its etymology) architecture. From Marco Vitruvio Pollio's classical treatise "Ten Books of Architecture," where he introduced the famous triad: Utilitas, firmitas, and venustas, to Augustine Taylor's "Balloon Frame" in 1833, and Albert Speer's temporal (literally) failure in the 1937 Paris World's Fair German Pavilion, the evolution of acknowledging temporality is evident in more recent examples. The essay navigates through Mastercard's Tourism Innovation Hub as a collective exploration in reinterpreting ephemeral architecture, aiming to act as a metonymy where one tree symbolizes the entire forest of temporality. From the initial intuitions about the unique qualities of a modular and reusable pavilion to a comprehensive exploration of this particular type of construction, including a necessary process of trial and error, resulted in this small wooden jewel—somewhat Oriental, somewhat Nordic. The Tourism Innovation Hub challenges traditional notions of permanence and underscores the importance of designing for change.

In the age of rapid technological advancements and shifting socio-cultural landscapes, the true essence of temporality in architecture lies not in how long a structure lasts, but in how effectively it serves its purpose during its existence (Zellner, 1999). Temporality demands explicit consciousness and awareness to become meaningful in contemporary architecture—ephemeral artefacts that may be even more necessary today than ever.

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Student Mentoring Programme as a new Tempo in Architecture Education

plan de acción tutorial
tempo en formación
co-tutela
visitas de obra
innovación docente
student mentoring programme
tempo in education
co-tutorship
jobsite visits
teaching innovation

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Durante los últimos cursos, el profesorado que participa en el Plan de Acción Tutorial de la Universidad de Alicante (en adelante escrito con el acrónimo PAT) lleva tiempo preguntándose el porqué de la poca participación e implicación de su estudiantado. Tras una serie de reuniones de trabajo se ha llegado a la conclusión de la necesidad de involucrar a los estudiantes para que, a partir de ahora, uno de los propósitos fundamentales sea el de transformarlo en un foro que sirva de voz a sus inquietudes. La intención tras la iniciativa consiste en dar la máxima importancia a las experiencias extracurriculares en la formación del arquitecto. Ha significado también incluir un tempo diferente en la velocidad de su formación, con profesores y estudiantes incitando conversaciones, mejorando la integración de la enseñanza académica universitaria y la realidad de su inminente y futura vida profesional. La metodología de trabajo que propone el profesorado implicado se fundamenta en un análisis previo del conjunto de metas y tareas propias de la acción tutorial y una recopilación de datos en la que se sintetice la elección, pertinencia, orientación y planificación de cada una de las experiencias extracurriculares que se articularán en las futuras reuniones de trabajo. Así, a través del diseño de micro proyectos interactivos se dota al estudiantado de la dimensión formativa y de aplicación práctica real para formar parte de su currículo oculto, considerándose interdisciplinar y poniendo en valor de forma implícita toda la actividad educativa recibida hasta este momento. Como paso previo a debates y análisis más profundos, se propone, elaborar un marco de referencia en el que el trabajo de investigación permita desgranar no sólo el método exportable que pauta la estrategia en los tres estadios de trabajo, a saber, preparación (por ejemplo, a la visita de una obra en construcción), acción (durante la visita a la obra) y reflexión (tras la visita) sino que, además, permita elaborar una rúbrica (también exportable) para la autoevaluación del trabajo y el aprendizaje desarrollado.

During the last few years, architecture academics who participate in the Student Mentoring Programme of the University of Alicante (from now on written as PAT, the Spanish acronym for Plan Acción Tutorial) have been wondering for some time what might cause low participation and involvement of students. After a series of working meetings, agreement was reached on the need to involve students more, so that from now on one of the fundamental purposes is to transform it into a forum that serves as a voice for the concerns of the students. The intention behind this initiative is to give maximum importance to non-curriculum experiences in the education of the architect. It also suggests introducing a different tempo to the speed of their education, with teachers and students instigating conversations, improving the integration of academic (university) teaching and the reality of their forthcoming professional life. The method proposed by the academics involved is based on a prior analysis of the goals and tasks of teaching and a collection of data that summarises the choice, relevance, orientation and planning of each of the non-curriculum experiences that will be articulated in future working meetings. Thus, through the design of micro interactive projects the students are provided with a training dimension and a real practical application of it to form part of their 'hidden' curriculum. It can be considered as interdisciplinary and implicitly valuing all the education received by them up to this point. As a contribution to wider debates and knowledge, it is proposed to develop a framework of reference in which the research work allows us to reveal not only the exportable method that guides the strategy in the three stages of work, namely, preparation (for example, to the visit of a site), action (during the visit to the site) and reflection (after the visit), but also allows the creation of a rubric (also exportable) for self-assessment of the work and learning carried out.

INTRODUCTION

The issue that this paper addresses was initially detected (during the last run of courses) by the tutors of the Student Mentoring Programme at the University of Alicante (hereinafter PAT) of the degree in architecture. In general terms, there is very little active student participation in this programme. The PAT is a voluntary programme on which students and academics enrol to complement the academic training of students from a professional, personal and human point of view. Students and teachers have the opportunity to organize the programme and guide it towards meeting the needs they envisage for it. After a series of working meetings, the conclusion has been reached that students now need to be more involved, so that, from now on, one of the fundamental purposes is to transform PAT into a medium that serves as a voice for the concerns of the students.

Consequently, there is a need to try to carry out activity that allows for the optimization of the PAT in our degree, with the aim of continuously improving the operation of the programme and making it more versatile and successful. Furthermore, this is based on the current guidelines at Alicante University (Spairani 2021, 12) focusing on:

"Activities aimed at making visible and informing students about work, carried out in the educational programme (PAT), in order to improve their perception of the practical meaning of the PAT, and considering the difficulties and problems that may arise, then looking for possible solutions for continuous improvement."

In this way the activities determine what it has to be, that is, the students are considered as an "active part of the teaching-learning process" (Juan 2012, 38) and, at the same time, they will have the tools to "blur the boundaries between the professional world and the academic world" (Juan 2023, 307). From the conviction that the PAT is indivisible from our teaching work (that is, for the university they are seen as going hand-in-hand) and that this teaching work, as far as this group is concerned, necessarily involves architecture, we can agree with Ramón Araujo that: "the only way to approach *what architecture is* to do so from the understanding of the process of designing it" (Araujo 2019, 17).

Therefore, the objectives of the activities understood as 'research' and 'experiment' are to do with empowering each and every student of the PAT programme within the Architecture degree to allow her/himself to participate in an (inter) active way in their own learning and self-directed study. To that end, the aim is related to finding and identifying extra-curricular interests (beyond the formal study plans) that will have a broader outlook by adding the students' points of view. Finally, the knowledge, skills and attitudes acquired by the students (and also the critical reflection of the academics) will be evaluated and self-assessed so as to understand the limits that we currently face within the PAT of Alicante University.

The starting hypothesis could be stated more or less as follows: Having an understanding of the work of the PAT as an inseparable part of the teaching-learning process directs the gaze of the actors towards a field of action.

1. METHOD

1.1. Description of the context and the participants involved

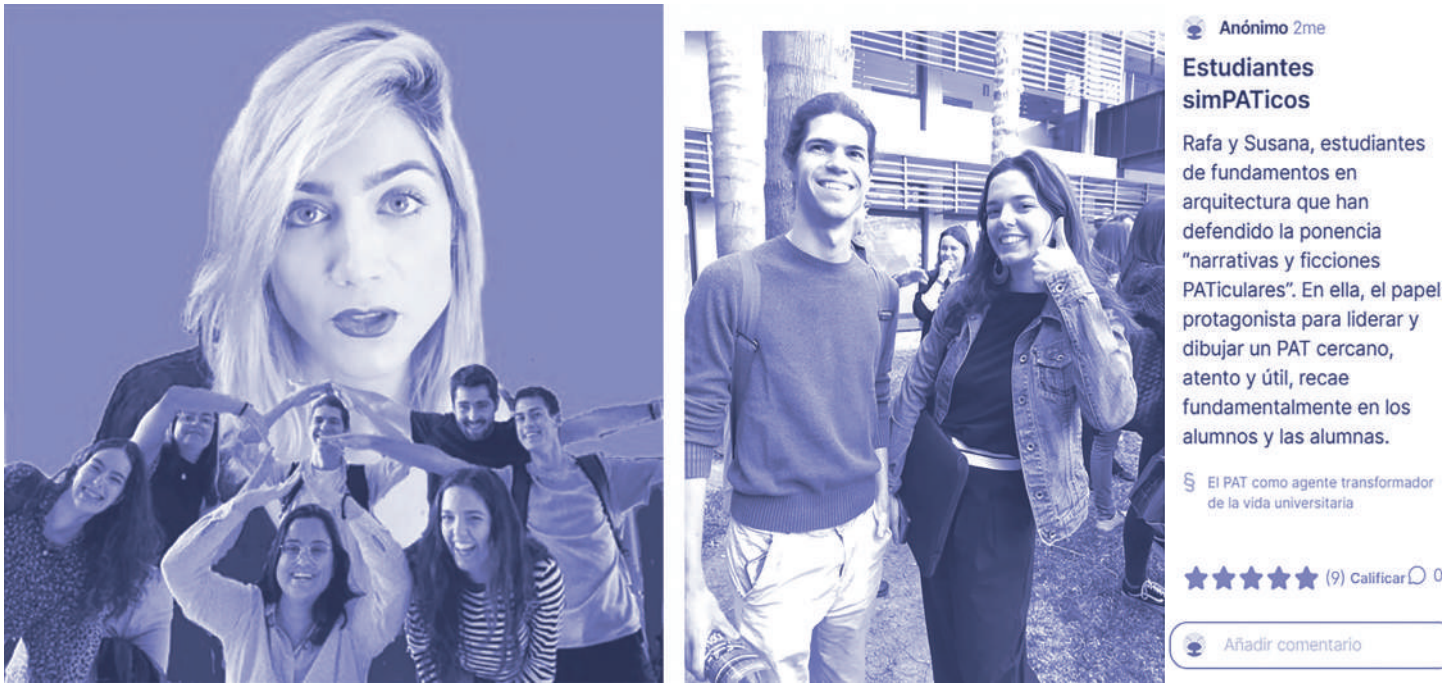

Fig. 1 – Left: image of the PAT WhatsApp group. Right: Rafael García Pedraza and Susana Alapont Durá explaining the experience during the VIII PAT UA Conference (titled "Tutorial action as a key factor in the comprehensive development of students" and held on the 4th of April 2023 in the auditorium of the Germán Bernácer Building from the University of Alicante: https://web.ua.es/es/ice/tutorial/viii-jornadas-pat.html).

The participants in the experience started with the three academics who engage with this research work, (Pablo Juan Gutiérrez, Javier Sánchez Merina and Silvia Spairani Berrio) and, potentially, the entire student body of the degree in architecture at the University of Alicante. It is not considered a closed research project, but one that is always open, since it allows for its updating and for including any interesting proposal. Any good idea is considered as potentially feasible and its content reviewed as appropriate for the continuous improvement of the participants (always within the architectural context).

We must make a small aside at this point to differentiate between the possible participants (the students to whom the innovation experience has been advertised in real time through the different communication channels of the University of Alicante) and the final participants (those students who have ended up actively involved in it). While the former exceeds 300, the latter have been oscillating between 20 and 30, that is, barely 10% (Fig. 1).

However, although it may seem like a low participation rate, we must note that this is not necessarily the way to read it since 25 students is a more than sufficient group, capable of generating synergies, critical mass and, at the same time, it is considered the around the preferred number to carry out this activity. A larger group would pose problems around logistics necessary to implement the proposed activity.

1.2. Instruments and techniques

Due to the aforementioned change of roles, which positions the students as protagonists and conscious creators of the activities, the instruments and techniques used for the development of the research are also determined by them based on their personal perceptions (refreshingly free of prejudice due to their as yet incomplete academic and professional training). It is notable that these instruments and techniques coincide, in most cases, with the students daily and contemporary communication and interaction channels / media.

Thus, the chat group (Fig. 2) is a hub in which all participating students and academics have a voice, vote and the same permissions by default. A fact that, without a doubt, has allowed us to demonstrate and determine that they have been excellent working tools for two fundamental reasons. First and foremost, because it has allowed us to draw up and carry out the designed and proposed experiment in real time, collectively, democratically and transparently. Second, because it has also become a repository where, not only the trace of our actions, but also all our work documents, have been stored and organised chronologically for later consultation and/or checking back for future replications of this activity.

1.3. Procedure

The work method, proposed by the students themselves, is based on a prior analysis and a collection of data for each of the excursions that will form the basis of future meetings and critical reflection. These excursions are part of a series of “working visits with author” that constitute the raw material on which all the research and the experience of innovative teaching explained here pivots. It starts with choosing the work project and continues with its study, followed by the planning of the day of work and research on site accompanied by the architects and authors. The text

Fig. 2 - Left: screenshot of the WhatsApp group created by the students active in the experience and where the sequential organisation of the site visit programme can be seen. Right: screenshot of the work meeting implicit to the working sessions, part of the experience

Fig. 3 - Luis Navarro (architect of La Errería) taking a photograph of the PAT work group.

with which the students contacted the different architecture practices is shown below:

Good afternoon! Dear architecture studio

We are PAT, a group of architecture students from the University of Alicante. The purpose of the group is to suggest and organise activities that complete our training as architects, beyond the university curriculum. This year we are carrying out a series of site visits in the province of Alicante.

Normally we divide the activity into two parts, first we visit the site and then we take advantage of the lunch hour to have a discerning and meaningful conversation between the parties involved in the building project, in the form of a colloquium, in which we review what we have learned and talk about the state of things. Beyond the visit to the project, these conversations (always informal) are a great learning experience.

We are working on documenting all the information from the visits for publication at the end of the course where all the study visits are collected together.

We have known about and admired your work for a long time and we wanted to ask you if you would be willing to participate in the programme with one of your projects.

If you would like to participate in this experience or have any questions, do not hesitate to contact us to discuss the activity in more detail.

Atte. PAT (farewell)

The intellectual work continues and remains ongoing during the experience which can be understood as an open-air laboratory where samples are taken, ideas are tested and the most relevant lines of research and questioning are considered and contrasted. In this way, photographs, videos and audios, as well as notes and drawings are part of the media stored that are considered essential for future replication.

Finally, once back at the University of Alicante and in the context of the working meetings that articulate and guide the process, connections are established between the different elements of the project, but also between elements of one architect / author and/or another. All this is framed in an explicitly active and reflective participatory manner.

2. PRACTICAL RESULTS: ACTIONS

The following section addresses two fundamental issues: the specific activities that the methodological proposal has ended up making possible on the one hand, and the results (conceptual and exportable) that the activity allows, on the other.

After a brainstorming exercise that was as informal and intuitive as (and this is perhaps the key) it was realistic, the students ended up proposing a list of architectural practices that suggests, as a 'wish list', an outline of what could be

Fig. 4 - Different snapshots of the construction visit made to three buildings in La Errería (https://erreria.com/).

included. Thus, the list of candidates for the site visit looks like this:

- La Errería 🟡🟣
- Abez 🔵
- Grupo Aranea 🌱
- Jaime Sepulcre 🟠
- ARN 🧬
- Noname.29 👽
- CristalZoo 🦣
- Rocamora 🏛️
- WOHA 🎋
- Sub Arquitectura 🟢
- Play studio 🔷
- Silvia Alonso 🟠
- Maribel Requena 🔴
- Escalar XYZ ⚛️

In which, and as previously mentioned, the desires of the student body are drawn into a realistic and possible scenario. Interestingly many of the architects on the list successfully completed their studies at the University of Alicante. At the time of writing we would like to comment that two visits have been developed that coincide with the first positions described above: La Errería and Abez. During the visits (Fig. 3, 4 and 5), the architects described the processes they followed to realise a project that responded to the clients' instructions and dreams.

The explanation includes topics of economics, materials and construction, law, aesthetics, sustainability and energy, structure, facilities, etc. as well as dealing with clients, who are sometimes even present during the visit with the students. In this way our students also have a first contact with clients.

The visit concludes by inviting the architects to lunch as can be seen in Fig. 6, a very important moment since it is then when the students become more participatory in a real dialogue with the architects. All the issues explained above appear again, but this time in a different, more reflective and critical way, and they are not conceived as isolated facts but as establishing relationships between them.

3. THEORETICAL RESULTS: PATICULAR NARRATIVES AND FICTIONS

Without a doubt, the students opened our eyes to the shortcomings they perceive in architecture education that our universities are offering, helping us to imagine new extra-curricular practices to complete, complement and improve it (Sánchez Merina 2023).

It is like introducing a different tempo into the speed of their education, where teachers and students open up conversations, improving fluidity between the present academic phase of education in university and the reality of their future professional life. Therefore, this programme completes the notion of Temporalty in education: to the architecture curriculum developed by our universities as a methodology that prepares students for professional

Fig. 5 - Different snapshots of the building site during a visit to a house by Abez (https://abez.design/).

careers, now our students have introduced their own reflexion about education, where a new tempo is required for desired transversal learnings.

The series of visits to site accompanied by the architect / author are a good example of a participatory method that relates and unifies all the modules taught in the architecture school. This participation leads us to be more linked between two worlds: on the one hand, the academic world itself and on the other, the professional work environment. This allows us to reduce the gap that is perceived to exist between these apparent two sides of the coin. It reduces the leap between the worlds and through this programme, we are encouraged to see the works in their most honest and humble states; that is, both in their birth and their youth, as well as with the narratives of their creators. As Adrian Forty reminds us:

Buildings cannot be experienced all at once – they have to be explored by moving through and around them in a sequence, and this sequential motion is much more easily represented by language than it is by drawings.

Forty 2000, 46

All of this will allow us to digress, generate and think about our future challenges and how to embrace them (both 'professionally', 'academically' and 'socially'). This programme is about a journey between these worlds.

We have not only outlined the exportable method that guides the strategy in its three stages; namely, preparation (for the work), action (during the work) and reflection (after the work), but we have also shown that the rubric (exportable) must be defined each time, for each activity as a result of the assessment of the work by locals and outsiders.

The findings are as simple as they are radical, as obvious as they are important. We are talking about the fertilization of student participation in their own teaching-learning process, undoubtedly favouring the development of specific (professional) values in the students and bringing to life a reciprocity of coexistence and participation that allows students to improve their training in accordance with the PAT. They have to do with of the instigation of student participation in their own teaching-learning process following the results of similar research (for instance Yusoff et alt. 2019 or Ledon and Turner 2013). As Peter Cook reminds us, drawing and reflecting on the activity carried out has the capacity to make it better (to reach more context and impact more agents) than its own reality.

At this point we must face a nagging suspicion: that the drawing can possibly be better than the reality.

Cook 2014, 16

This is precisely as a result of the limitation of language itself:

Language is inadequate to formulate the exact meaning and the rich variations of the realm of sensory experiences.

Moholy-Nagy 1947, 63

Fig. 6. -PAT team working meetings.

CONCLUSIONS

What we see in each case is only the visible promontory that the latent rest of the world advances toward us.

Ortega 1929, 96

After the investigation, we can summarise our three main conclusions:

- The PAT is implicitly embedded in our daily teaching work, whether we are aware of this fact or not. A shared, reflective and mature guardianship of it has generated per se a fertile change of roles, as well as a series of desirable synergies for constructive criticism.

- Understanding the academic -learning process as a necessarily hybrid (academic, professional, personal and social) and complex experience (always depending on the situation where it is developed and implemented) allows us to propose activities aligned with the interests of the students and, therefore, more effective and innovative from the point of view of skills acquisition.

- The students open our eyes to the shortcomings in the teaching of architecture that our schools are offering, helping us to imagine new extra-curricular practices to complete it.

These conclusions build an ideal scenario to generate an important discussion in the architecture degree taught at the University of Alicante. Basically, it is about the opportunity to go further with the PAT. While it is true that the first objective of this programme is to support and help our students, and this is the subject of the text of this article, now it is up to us to ask and reflect with a critical sentence: why not accept what our students claim from their intuitive understanding, that they could actually have an academic education better related to their future professional work than we are offering them?

Part of the success of the Site Visits with Architect / Author series is due to it being a good example of a methodology that relates and unifies all the modules taught in the degree.

From this starting point, we could even go so far as to question that the previous explanation of the apparent academic and professional duality is not actually a matter of substance, but is possibly a lack of vertical or horizontal coordination between the subjects of the degree.

It is therefore interesting and necessary to monitor this network during the coming year. Then we should not only carry out more specific questionnaires on the topic, but also discuss this uncomfortable reality among academics.

We should also understand the programme as a pedagogical project which follows 'Action Research' methods and, in this way, conducting annual evaluations would contribute to its ongoing enhancement.

The truth is that without constructive self-criticism we will not move towards a better degree that avoids calling activity as important as live learning of Architecture simply an ‘extracurricular practice’.

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ATLAS

Teaching with Prototypes

Learning architecture through making

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Within the context of architectural education, building construction and structures courses often share a common task: the agency of providing the object of design with its physical dimensions. Yet the realms of each field demand the use of specific teaching tools: abstraction, analytical methods, and numerical approaches for teaching structures; hands-on, know-how methods, and practical approaches for teaching building construction. Our primitive instinct of simplifying to learn forces us to highlight the essential components of what we call structure and construction. Their scopes, although juxtaposed in reality, increasingly diverge as we reduce the scale of actual buildings to fit them into classrooms. Seen as scaled-down physical entities, building components become simplified free-body diagrams in a course about structures, and orthographic drawings displaying finite and fixed arrangements of smaller parts in a course about building construction.

This somewhat speculative division begins to fade as we deal with objects that grow in size. Unlike a scaled-down model, a real-scale model brings on the effect of gravity. While maintaining the main features of a model, such as serving as a physical representation of geometric principles or informing a possible assembling sequence, working with prototypes enables students' cognitive agency with materials and building components. Students not only see them but also can touch, carry, move, and assemble them, getting the feeling of how much an object actually weighs. They can sense how rough or smooth a material's surface is. By using different materials, students learn how concrete cracks, steel rusts, or even how different types of wooden pieces smell; manipulation of the components—while prototypes are constructed—enables a learning process based on the physical interaction between human senses, material dimension, and building complexity.

1. Structural Models Workshops - tensegrity tower.

During their architectural education, students seldom have a chance to work with building construction materials. Moreover, they rarely experience the whole design cycle, which begins with conceptual elaborations and ends with a real-scale physical object. Working with material brings about the sense of material properties and an understanding of the basics of physics. Working with real-scale prototypes promotes an active learning environment, where students learn by making. The hands-on experience, knowledge, and skills they acquire through this process will enhance their design capabilities, raise awareness of their learning progress, and prepare them for the professional practice of architecture, which often demands graduate students with an understanding of the entire design process: from conception to delivery. While forming architects, selected teaching and learning strategies play a fundamental role in maintaining a delicate pedagogical equilibrium. On the one hand, the pressing need for improving the curricula of schools of architecture, making them shorter, more generalized, and aligned with cutting-edge technology developments, pushes instructors to choose methods relying on digital environments. On the other hand, the natural pace by which designers unfold the potential of creative thinking skills and problem-solving capabilities demands teaching methods whereby students physically engage with the subject of their learning.

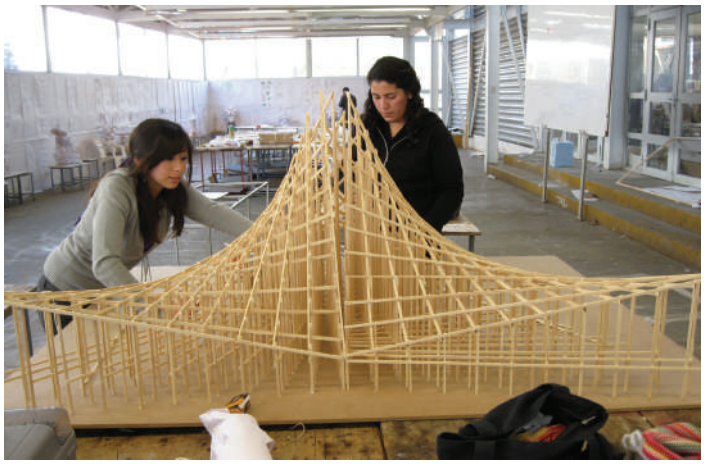
The use of hybrid fabrication techniques, which blend analogue or traditional construction methods with digital fabrication, enables expanding design explorations while speeding up the production process. This makes them suitable for developing prototypes or temporary structures in the context of architectural education. The resulting learning-by-making, supported by computational tools such as parametric design software, not only enhances design thinking through representation or making itself but also allows students to explore non-conventional geometries and structural forms. All of this leads to both potential innovations in pedagogy and potential contributions to the production methods in architectural design.

2. Temporary Paper Hy-Par Structure - moving to the installation area.

3. Voronoi Canopy – connecting the canopy with the column section.

4. Wind Machines – finalised prototype.

Structural Models Workshop



1. Construction of the hyperbolic paraboloid formwork for 'Los Manantiales' shell structure.

2. Fabrication of one of the models in reinforced concrete.

3. Timber prototype of Fuller's Geodesic Dome.

Students from Structures and Building Construction Courses. Universidad Catolica del Norte, Antofagasta, Chile

Tutor: Mauricio Morales-Beltran

A method for teaching structural typologies can be effectively based on the simultaneous and comparative study of multiple actual building cases. The rationale for examining more than two or three works as references is twofold: First, upon completion of the studies and construction of models, students can assess their assembling procedures by comparing results across different groups. The greater the number of models, the more diverse and informative the comparative framework becomes. Second, there is a practical constraint in forming students' teams, as each case study requires the collaborative effort of, on average, ten students. Examining a larger number of cases broadens the research scope of various structural typologies. This approach offers the additional advantage of exploring different yet well-known materials, such as steel, reinforced concrete, wood, or even polymers.

The success of this method hinges on selecting structural typologies whose configuration relies heavily on a geometrical law or building pattern. Once students grasp this law or pattern, they not only understand the physical principle supporting such configurations but also gain insights into how to assemble the structure and determine feasible sizes for the model. The entire method is underpinned by a straightforward hypothesis: if it has been built before, we can build it again. Given that all the studied works are associated with geometry-based shapes, uncovering the order or geometric rubric governing the structural configuration proves useful for the subsequent practical process of drawing, cutting out, and sizing all the pieces of the model.

Consequently, the nature of the acquired knowledge, what students actually learn from the model, is defined by the dynamic act of performing a set of actions to construct the model. In other words, the learning process occurs in tandem with the hands-on experience of building the model. This approach emphasises a practical and experiential understanding of structural principles through the active engagement of students in the construction process.

Paper Tower

1. Assembly process of the tower.

2. Fixing the last components of the tower before installation.

3. The final prototype of the water tower.

Students: Paula Werblicka, Valeria Mazurkevich, Marcin Dudkowski, Orest Savytskyi, Karilina Fonfara, Maria Kęsy, Alicja Sienkiewicz, Ewa Hajducka, Karolina Dyjach. Wroclaw University of Science and Technology (WUST), Poland

Tutors: Peter Eigenraam, Mauricio Morales-Beltran

Every year, natural disasters worldwide cause severe damage to urban infrastructure, leaving people without basic necessities such as shelter and drinking water. Recognising the significance of researching specialised solutions for emergency architecture in these threatened areas, a one-week workshop was organised for architecture students at WUST. The workshop aimed to design, optimise, and construct a water tower prototype made of paper tubes, intended to provide a post-disaster solution for victims. Students were tasked with utilising paper tubes to create a design solution with sufficient strength for use in a post-earthquake scenario. Initially, participants proposed tower designs, and the seismic response performance of these designs was evaluated using scale models subjected to ground motions produced by a custom-made shaking table. The chosen tower design underwent parametric studies to determine the most suitable geometry in terms of both form-finding and constructability. Computational modelling was employed to address challenges related to preventing clashes of building parts.

In the final phase, the students constructed a 1:3 scale prototype of the water tower. The chosen design was parametrically modelled, allowing for variations in the radii of the base circles and influencing the hyperboloid's form. The source materials comprised 50 mm inner diameter paper tubes with a length of 2.2 metres. To achieve a tube length of 4.4 metres, logs were introduced at the end of two tubes. The six legs were assembled in a way that the tubes of each leg were separated by 180 degrees. The completed tower was temporarily installed in a fair area, positioned over a concrete podium. An OSB base served as the interface surface to anchor the tower to the concrete. Stability was ensured through the use of three cables.

The swift and intensive construction and assembly process provided an opportunity to refine the tower's design and offered valuable insights to the students In regards to connection details when working with paper tubes.

Temporary Paper Hy-Par Structure

1. Assembly process of the structure.

2. Installation of the hy-par structure in the university campus.

Students: Mısra Kaçıral, Bilgesu Aksu, Berk Selamoğlu, Ayşenur Bozdağ, Damla Sezgin, Kaan Çetin, Can Yükselen, Cansu Ilkıç, Aslı Naz Atasoy, Melıh Kutsal, Furkan Özata, Dilan Kaya, Aybike Özdemir. Yasar University, Izmir, Turkey

Tutors: Form-Factory: Peter Eigenraam, Jerzy Latka, Mauricio Morales-Beltran

This prototype of a gridshell made of paper tubes was the outcome of an experimental workshop organised by Form-Factory in Izmir. The aim of the workshop was to involve architecture students in the design and construction of a shading structure prototype made out of paper tubes, which would work as a temporary and informal meeting place. During the workshop, students had the opportunity to learn about form-finding methods, parametric design, shell structures, temporary architecture and paper-based structures. The first part of the workshop focused on designing a shell structure able to provide a shaded area for people to comfortably gather. The second part focused on the production of a 1:1 hyperbolic paraboloid (hy-par) gridshell structure using 64 mm diameter paper tubes. The three wings of this structure cantilevered about 5 metres over the green area. The shading structure prototype was temporarily installed in a green area on the university campus

The design and development processes were divided into several phases, beginning with conceptual design employing primarily hand sketches, scale model studies, and digital exploration. Material preparation and assembly followed, during which students explored the properties of the chosen material — paper tubes, known for being low-cost and easy to work with. This exploration stage included acquiring knowledge on the strength of paper tubes after failure, and techniques to provide them with sufficient waterproofing. As a result of the workshop, beyond the hands-on experience of building the structure, students acquired a range of new skills. These included teamwork, computational design of the hyperbolic paraboloid, operation of basic production tools, and solving technical problems, including issues related to temporary foundations, connection between elements considering friction, and impregnation

The Gate

1. Assembly process of the beam section of The Gate.

2. Last adjustments to the column sections before assembly.

3. Design team and The Gate prototype installed in a public area in Izmir.

Students: Esra Karatepe, Ezgi Leblebici, Berk Selamoğlu, Kaan Çetin, Hediye Kaya, Gizem Kılıç, Ceren Tuna. Yasar University, Izmir, Turkey

Tutor: Mauricio Morales-Beltran

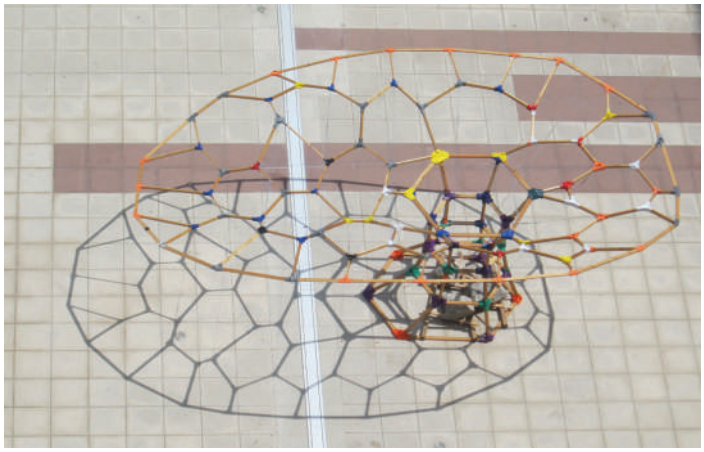
In the 'Advanced Construction and Structural Systems' course (Department of Architecture, YU), students had the opportunity to experience the whole design-to-production process of a piece of urban furniture, within the umbrella of hybrid fabrication. The course was organised as a 12-week workshop, where students were asked to design a free-form grid shell structure using a hybrid fabrication system of timber battens connected by 3D printed nodes. The aim of the workshop was to overcome the students' lack of practical experience in fabrication. By undertaking the construction of a large-scale project, students were expected to deal with several tasks of varying complexity, including design, structural analyses, planning, teamwork, and more. To achieve this goal within the tight schedule, a combined digital and analogue fabrication method involving the use of wooden battens and 3D printers was implemented. This hybrid fabrication method, established as a pre-condition for the design, not only facilitated hands-on experience but also equipped students with knowledge of computational design methods and skills in utilising digital fabrication tools.

The outcome of the workshop was The Gate, a freeform gridshell structure placed as a temporary installation in a public park. The structure materialized through a hybrid combination of 129 wooden battens and 68 Polylactic acid (PLA) 3D printed nodes, spanning 5 metres and reaching a height of 2.5 metres. For fabrication purposes, the structure was divided into three parts. The upper part – referred to as the beam- was built first as proof-of-concept. Simultaneously, the two other parts – the columns- were built and later assembled to the beam. Since it was planned as a temporary urban installation, no permanent anchoring system could be used to fix the structure to the ground. To keep the structure in place during the exhibition, rows of firebricks were placed next to the bottom bars of each column. The Gate remained in place for a week before being disassembled and reassembled for an exhibition at the university campus.

Voronoi Canopy

1. Assembly process of the column section.

2. Assembly process of the canopy section.



3. The final prototype placed on the campus' main courtyard.

Students: Gökalp Kalfa, Elif Kır, Ece Hepmutlu, Zeynep Diker, Emirhan Duğral, Zehra Çelik, Berkin Değirmenci, Ecenaz Adıgüzel. Yasar University, Izmir, Turkey

Tutor: Mauricio Morales-Beltran

The Voronoi Canopy is the outcome of a design, fabrication, and assembly process of a free-form gridshell structure within the context of 'Advanced Construction and Structural Systems' course.
The construction of the prototype is based on an innovative hybrid fabrication technique that combines timber battens and 3D printed connections. The main advantage of this system is that it enables the production of freeform discrete structures using standard building materials and common available 3D printers. An additional challenge for the students was to design a structure that could be easily disassembled. For this purpose, students first explored design possibilities using digital and physical form-finding methods. After presenting their proposals, students chose one project to be further developed and implemented by the whole class. Following structural and fabrication requirements—such as a limit of 100 nodes—the final design of the canopy was completed.

The students designed the nodes considering 3D printing parameters such as filament type (PLA+ and PETG), time, infill percentage, and orientation. The main goals of these designs were to optimise for increased strength and to facilitate assembly with the wooden pieces. For these reasons, some nodes are designed as a single piece, while others were divided into two. The 3D printing strategy was determined by the assembly sequence: the supporting part—referred to as the column—was to be built first. Once the column was ready, the nodes for the canopy were designed and then printed. Due to the smaller section of the canopy bars, these smaller nodes were printed comparatively faster. The last nodes to be designed and printed were those connecting the canopy with the column, which were also the last components to be assembled to complete the structure.

Wind Machines

1. Assembly process of the Wind Machine I.

2. Assembly process of the Wind Machine II.

3. Final prototype of the Wind Machine II.

Students from the Universidad Catolica del Norte (UCN), Antofagasta, Chile

Tutors: Form-Factory: Peter Eigenraam, Jerzy Latka, Mauricio Morales-Beltran; UCN: José Guerra Ramírez, Felipe Rojas Ríos, Sergio Alfaro Malatesta, Carla Cáceres Collao

The 2024 Form Factory International Design & Build Workshop was organised in collaboration with the School of Architecture UCN, Chile. The workshop focused on conceiving, designing, and building wind machines in Antofagasta. This city, situated on the border of the Atacama Desert, facing the Pacific Ocean and surrounded by high hills, provided a unique natural context for the development of proposals. Students were tasked with proposing wind machines that could establish a dialogue between the wind and other elements of nature, such as sunlight, water, and earth. This dialogue could be functional, metaphoric, or literal. Proposals could utilise the wind for propelling motion-based mechanisms, for example, inspired by Theo Janssen's strandbeesten, or to generate electricity through windmills. Additionally, proposals could incorporate playful elements, such as using the wind to produce sounds, music through a pipe organ, or propelling a small car carried by a kite.

During the workshop, the students conceptualised, designed, and built two pavilions that were installed on a beach in Antofagasta, Chile, facing the Pacific Ocean. These pavilions—the wind machines—were constructed with PVC tubes, chosen for their availability, weather resistance, and ease of assembly and disassembly. The Wind Machine I was built with 130 mm diameter tubes arranged to create a whistle as the wind passed through. The orientation of this prototype in the chosen location followed the same principle, so that the predominant wind blows directly over the holes that produce the sound. The Wind Machine II used 50 mm diameter tubes, bent to create a vaulted shape. Colourful rags hung from secondary 25 mm diameter tubes, making the movement of the wind visible. People could actually 'feel' the embrace of the wind.

ProtoLAB: Design & Build workshop

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1. Participants of the ProtoLAB 2023 LOADING....

ProtoLAB design & build workshop is an annual international event that takes place in Wroclaw, Poland. The unique character of the workshop lies in the process, where students of architecture and related studies prepare a whole project from the first idea and sketch until the prototyping and final realisation of the design. The workshop is divided into a one-week online design element and 8 days of onsite manufacturing process.

The 2023 edition was entitled LOADING...

As in video games, one needs to be patient before starting to play, the same is true of the ProtoLAB workshops. One needs to take time to create a great concept, prepare building drawings and plan the construction before the whole fun starts at the building site.

Therefore, LOADING... refers to the whole process of the creation of an architectural object from the first sketch, discussions, and modelling, to the final production of a real object.

Since 2022 ProtoLAB has been organised under the umbrella of the UNIVERSITY of Universities initiative and since 2023 it has been organised in cooperation with partners from UNITE! University alliance.

68 students from 12 universities under the supervision of 12 tutors from 5 countries worked on 8 projects. First, the teams prepared an initial design, which was discussed with tutors. Next, the detailed drawings, budget and construction process of each design were worked up. The second phase of the workshop began with an introduction to the use of tools and health and safety training.

It is always surprising to see students who start working tentatively with the materials, only to feel confident and comfortable building their own projects three days later.

The biggest lesson that students take away from ProtoLAB, apart from learning how to work with materials, and how to operate professional tools, is to develop their ability to work as a team, fit into an assigned role and try to solve technical problems on the fly that arise during construction. Such problems always arise. Often, it turns out that what was drawn in reality does not work and a new solution has to be developed. And this drives real creative technical problem-solving.

2. Work in progress at the ProtoLAB 2023 LOADING....

TECH 5.0 Transportable Emergency Cardboard House

Pawłosik, Daria[1]; Jörgen, Artur[1]

[1] Wroclaw University of Science and Technology, Wrocław, Poland.

1. Preparation of the building components of TECH 05.

2. Presentation of the first prototype of TECH 05.

3. Assembly of the final prototype of the TECH 05.

Students: Małgorzata Lewoniuk, Artur Jörgen, Lidia Kosztołowicz, Daria Pawłosik, Justyna Szygulska, Kinga Wasilewska, Natalia Cichoń, Paulina Sołowiej, Patrycja Burda, Helena Wacławiec, Sebastian Dobroliński

Tutors: Jerzy Łątka, Agata Jasiołek

TECH 5.0 (Transportable Emergency Cardboard House) is a housing unit designed for temporary housing for people in a crisis of deprivation. Owing to the modularity and lightweight of the prefabricated assembly elements, transportation and implementation of the building remains relatively quick, and, as well, the use of specialised equipment is not necessary. In the realisation of the prototype, 80% of the unit's materials were assumed to be of natural, recyclable origin.

The unit, measuring 5.40x2.7m in plan and 2.20m min height is covered by a flat roof with a slope angle of 12 degrees. The unit's 90cm-wide repetitive panels, which create the main structure, are made of eco-friendly materials such as corrugated cardboard, timber, plywood or OSB. Insulation is made of cellulose fibres installed between the wall, roof and floor panels, as well as glued corrugated cardboard. This solution is designed to effectively prevent thermal bridges at critical points in the building. The prefabricated elements are protected with a vapour-permeable membrane at the manufacturing stage, and the roof covering is a 1.5 mm thick EPDM membrane. The façade of the unit is provided as splinter-cement panels on a timber frame. When realising the prototype, care was taken to ensure that it was favourably positioned in relation to the world's orientation , thus allowing a solar panel installation to be connected in the future. After the ProtoLAB workshops, the project was continued in order to assemble the full-size testing unit.

Eco House Pavilion

Studnicka, Emilia[1]

[1] Wroclaw University of Science and Technology, Wrocław, Poland.

1. Production of the Eco House Pavilion.

2. Eco House Pavilion authors.

3. Eco House Pavilion in front of the Granary by Walter Gropius.

Students: Emilia Studnicka, Ciżek Aleksandra, Jakub Romanik, Julia Bauer, Elif Kır, Joana Conceicao, Kacper Kowalczyk, Piotr Tymcio

Tutor: Joaquín Alvado

The Eco House Pavilion is a project which initially was supposed to create the site for the Eco-Houses exposition where eco houses would be presented and displayed on panels.

In time , the structure joined with the “Together for the Heritage” project which is helping the Warsaw Bauhaus Foundation to collect funding for the restoration of the very first building designed by Walter Gropius. The Granary in Jankowo Pomorskie became the symbol to which our international team was referred throughout the whole design process.

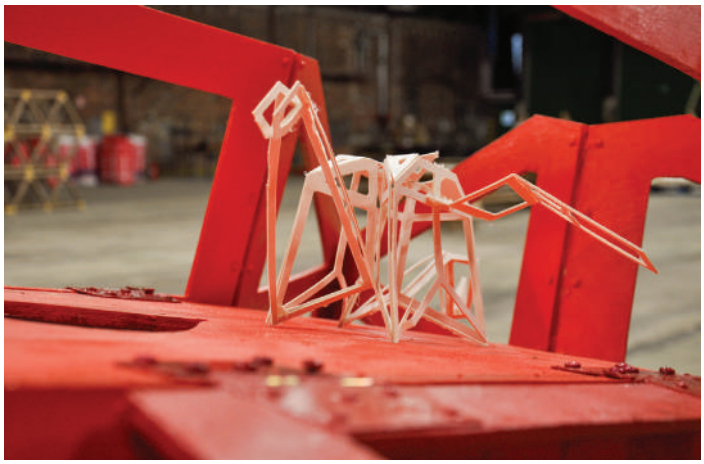
The pavilion, with its scale , recalls a small eco-house and was inspired by the elements of the structures of The Granary. Additional panels were created in order to hold the posters and information about ongoing events. The system was designed to be folded down and stored easily. The ‘cherry on top of the cake’ was the small trolleys to which the blocks of hay could be attached, to remind us of the local and rural spirit of the place. The whole structure was made out of sustainable materials – cardboard tubes and timber wood – with its very own joint systems.

Now the pavilion serves as a “Memorial Pavilion” and supports the Warsaw Bauhaus Foundation in their next initiatives. The pavilion was set on-site in Jankowo Pomorskie in September 2023 during the “Together for the Heritage” event.

Lelegon

Gromek, Dominik[1]

[1] Wroclaw University of Science and Technology, Wrocław, Poland.



1. The scaled mock-up of the Lelegon.

2. Lelegon design and production team.

3. Final project of the Lelegon at the Festival for children Lelefant.

Students: Dominik Gromek, Anna Faltyn, Urszula Litwiniuk, Celia Castaño Marín, Diker Zeynep, Luísa Lisboa, Natalia Opołczyńska

Tutor: Javier Sánchez Merina

The project “Lelegon” was created for the international artistic and educational festival for children Lelenfant 2023. The construction and design of the pavilion were based on a series of workshops conducted with children from the festival. The workshop results were later presented and used as a starting point in the design phase of the international ProtoLAB workshops. A team of 7 architecture students from across Europe and the Middle East collaborated during the workshops on this year’s Lelenfant pavilion. The outcome of two weeks of work was a project that combined children’s imagination with a technical approach from students.

The result was a large wooden dragon, mimicking a child’s toy, which served during the festival as part of the stage set piece but also had another purpose. It acted as a brave defender of the castle in Leśnica, where the festival took place. The dragon not only intimidates wrongdoers but also teaches children about the importance of the trees from which it was constructed. The project used plywood, with a small number of metal elements connecting movable parts.

The dragon’s most important value, beyond its entertainment aspect for children, lies in teaching the capabilities of wood as a building material. Its versatility allowed it to create both the mechanical elements of the project and the entire structure of the dragon.

Green Gaya Pavilion

Kudła, Julia[1]

[1] Wroclaw University of Science and Technology, Wrocław, Poland.

1. Timbre joints and paper tube truss of the Green Gaya Pavilion.

2. Design and production team together with the founder of the Green Gaya Foundation.

3. Green Gaya Pavilion during the Event for the Earth.

Students: Julia Kudła, Małgorzata Tutaj, Layal Alosh, Dimana Ivova Ivanova, Ece Hepmutlu, Sofia Santos Ferreira, Aleksander Górzyński, Stefanie Appelgrün, Joshua Schäfer

Tutors: Samim Mehdizadeh, Alexander Wolf

The temporary outdoor expo pavilion for the 'Event for the Earth' activities, organised under the initiative of the Green Gaya Foundation, is a mobile and multifunctional structure. Its form derives from an implemented system inspired, from among other ideas, by Konrad Wachsmann's modular truss structures. With simple principles of joinery and configuration, numerous arrangements can be obtained.

A modular pavilion consisting of a number of identical components allows for a change of form for each edition of the event, adapting it to the needs of users. The dimensions of the modules have been adjusted according to ergonomic principles, optimising their function and enabling the construction of a canopy, table or bench. This solution also facilitates transport, assembly and storage.

The main building materials are paper and wood. The preserved paper tubes together with the wooden joints constitute a three-dimensional truss module. Furthermore, the individual components of a single module may be disassembled and reused, following the principles of circular economy. Despite the lightweight construction, the applied truss system guarantees the stability of the entire structure.

Digital augmented reality tools were used at both the design and execution stages. The technology used not only facilitated the detection of potential issues but also indicated a sequence for the effective assembly of the composition. In this way, with the support of the app, the structure will be able to be built and reassembled without the designers' supervision. The pavilion represents an example of education through play and makes the participants of the event aware of the possibilities of using sustainable bio-based materials in the field of architecture.

Warm Backrest

Lupa, Julia[1] ; Gocałek, Wiktoria[1]

[1] Wroclaw University of Science and Technology, Wrocław, Poland.

1. The warm backrest design team with the mock-up of the bench and landscape design.

2. Final prototype of the Warm Backrest with authors and future user.

Students: Wiktoria Gocałek, Julia Martyka, Aleksandra Chmielińska, Julia Gawron, Justyna Horbowy, Justyna Kaźmierska, Julia Lupa, Agnieszka Mielczarek, Julia Radomska, Joanna Iwasieczko, Sylwia Sliwa, Iwo Szenk, Natalia Szewczyk, Marcin Weron, Aleksandra Matuszak, Karolina Pusiewicz

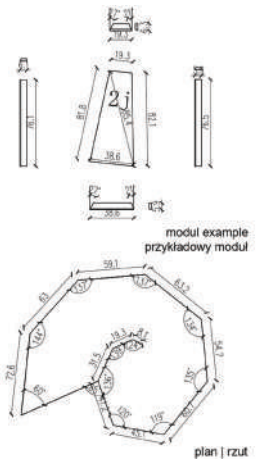
Tutors: Małgorzata Pawlak Kubasek, Piotr Jędrzejewski, Krzysztof Kubasek, Małgorzata Świątek, Jerzy Łątka

As part of the Wrocław Academic Task Teams, an interdisciplinary group of students and mentors from the scientific circles of three Wrocław universities - the Academy of Fine Arts, the Wrocław University of Science and Technology and the Wrocław University of Environmental and Life Science worked on the concept of land development for the Day Care Home at Ciepła (Warm) Street in Wroclaw, whose main residents are senior citizens. After the inventory of the area, numerous observations, lectures by specialists and conversations with future users, the students created a comprehensive design for the arrangement of the space around the Day Care Home. They responded to the main needs of the centre's residents and designed the space to be as friendly, functional and adapted to the elderly and people with disabilities as possible. During the ProtoLAB workshops, which were part of a several-month-long design process, students, with the support of mentors, focused on a project involving a central element of the garden—a multi-person bench connected to a pergola and planters for flowers. A particular feature of the designed small architectural object is its adaptation to the needs of the elderly, who often face mobility issues due to their age. It was also important to consider the context of the location and design the bench in a way that makes it resistant to damage, durable, and with aesthetic qualities that enhance the outdoor experience for older individuals. The designed bench is a combination of many ideas that the students wanted to implement. It serves not only as a place to rest or spend leisure time but perhaps also as a future venue for activities within the community centre. The students' social project did not end with the ProtoLAB workshops, and thanks to the involvement of the city council, further stages of its implementation took place. Its goal was to address an important social project in the city's space and an attempt to tackle challenging design issues.

Wrocław Silence Shell

Rogowiec, Emilia[1]

[1] Wroclaw University of Science and Technology, Wrocław, Poland.



1. Wrocław Silence Shell, exemplary wall module and plan.

2. Prototyping the Wrocław Silence Shell.

3. Final prototype of the Wrocław Silence Shell.

Students: Emilia Rogowiec, Agnieszka Sieczek, Julia Myslińska, Kamil Charkiewicz, Sebastian Dobrolinski, Weronika Dzik, Mateusz Kucharz, Wiktoria Lasek, Magdalena Mioskowska, Karolina Szewczyk

Tutors: Mauricio Morales-Beltran, Jerzy Łątka

The main goal of constructing the pavilion was to foster interdisciplinary collaboration – a simulation of cooperation in real life, followed by conducting research on the finished structure and gathering feedback from the users.

The project aimed to create a place of tranquillity for students and city residents. The structure has to isolate individuals inside from the surrounding environment. Users can find peace and relaxation - despite being in the city centre - so the object is isolated from the noise of cars or the chatter of conversations. A moment of relaxation occurs. The project was a collaboration among students from the Faculties of Architecture, Civil Engineering, Electronics, Photonics and Microsystems. In the designed pavilion, the wooden structure blends with a design inspired by sound waves, with acoustic insulation protecting the user from external noise. The 12-degree incline of the roof resulted in the unique shape of every element. As a result, he structure is distinctive but also time-consuming to design and build. The wall modules were made of plywood and wooden beams, insulated with mineral wool, and covered with a waterproof material. While the external “shell” of the pavilion appears hard and inaccessible, the interior creates a sense of cosiness – users can lean against soft walls. The pavilion, inspired by the sea, twists like a shell to enclose its user in a comfy interior.

Interdisciplinary collaboration posed challenges but proved valuable for project’s participants, preparing them for professional realities. Despite the initial difficulties, the project was successful and is enthusiastically visited by residents of Wrocław. Ongoing work includes acoustic research and gathering user feedback to better understand their experiences and expectations.

Reception Desk

Kogut, Michał[1]

[1] Wroclaw University of Science and Technology, Wrocław, Poland.

1. Preparation of the Reception Desk.

2. Electronic installation of the Reception Desk.

3. Final prototype of the Reception Desk.

Students: Michał Grądowy, Szymon Jankowski, Sebastian Kawalec, Michał Kogut, Wiktoria Kuśmierz, Jagoda Sabaj, Angelika Śliwińska

Tutors: Jerzy Łątka, Romuald Tarczewski

The aim of the project was to design a reception desk for the Recruitment Department. The designed piece of furniture was to meet the need for serving university candidates during recruitment, and also to be used during educational fairs.

The main guidelines related to the stand were mobility, accessibility, ergonomic use, multivariate use and a lightweight design to enable transport. The stand was dedicated to the work of 2 to 6 people for events and fairs, while also having a utilitarian and aesthetic function - as a form of representation of the university.

The guiding idea behind the creation of the recruitment stand for Wroclaw Tech was the gravitational wave, which was first observed only in 2015. This discovery continues to be one of the main driving forces in speculating on the development of mankind and helps us to believe that shaping the next generation of young scientists will result in further advances in our understanding of the world and in everyday life.

Based on the idea and guidelines, a segmented counter was designed and realised as the formal and usable part and an eye-catching representative wall that could serve as a backdrop for photos for newly recruited students. The whole was designed in the shape of smooth transitions from chaotic oscillations to an ordered graph of the gravitational wave highlighted at the back of the counter. The counter is formed from 6 parts of a circle, allowing multiple layouts to be created. The first 4 elements form a standard counter with shelves for equipment, a single module with both sides elevated to break the simple circular layout of the structure, a lower element for people with disabilities, and a half module as a usable solution for freedom of movement for employees.

Expresso

Korżyńska, Sara[1]

[1] Wroclaw University of Science and Technology, Wrocław, Poland.

1. Tram chassis of the Expresso café.

2. Expresso design and production team.

Students: Sara Korżyńska, Alina Ewertowska, Leen Alosh, Anais Asensio Cifuentes, Teresa Padrão, Katarzyna Kuriata, Aleksandara Czyżewska

Tutors: Doina Carter, Peter Eigenraam, Jerzy Łątka

Expresso is an extraordinary café that seamlessly combines a unique design with an eco-friendly approach to architecture. Its name not only refers to the excellent coffee it serves but also emphasises the "fast" character of the place. Located on a long-unused tram chassis, Expresso is an example of the creative use of materials, giving new life to objects.

Created for the needs of the Academic Culture Centre and Local Initiatives "Czasoprzestrzeń," (Eng. Timespace) the café is designed for the solo work of one person inside. The order pickup area is lowered, ensuring comfort for both baristas and customers. The cuts in two walls, facing the corner with the coffee pickup point, add dynamism to the structure while intuitively guiding customers.

The café's side elements have been elongated, providing space to stop and enjoy coffee. The structure of the café, heavier at the base and lighter upwards, pays homage to the tram chassis, highlighting the beauty of the construction. The main elements are paper tubes, which, after impregnation, become a durable and resilient material. The colour scheme and subtle shading add lightness to the place, creating an association with a leisurely atmosphere.

This unique combination of the past with modernity makes "Expresso" not only a haven for coffee enthusiasts but also an attractive spot for discovering unconventional architectural solutions.

Urban Devices for the City of Évora

Aleixo, Sofia[1] ; Santa Rita, João[2] with Master students Francisco Dias and Adrian Burzacovschi

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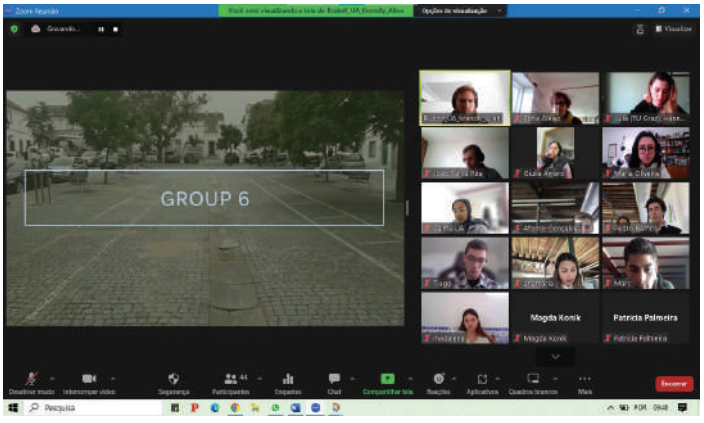
ISSN: 2697-1518. https://doi.org/10.14198/UOU.2023.6.17

1. The Évora University team.

First-year students of the Integrated Master in Architecture programme developed proposals on the topic of Follies in the academic year 2022-2023 within the framework of a UOU (University of Universities) international workshop in the Design Studio II unit. The challenge was to conceive temporary spatial structures that allow different perceptions of the identifying elements of a specific place, aiming to encourage the creation of new meanings for a transitional urban space—one where individuals do not stay but move, indifferent to what defines and characterises it. This was presented to the students as a challenge to design a temporary urban device for two public spaces in the historic city of Évora where the temporality of the place is captured. The final proposals demonstrate that it is possible to create moments of pause in a device that relates time to the enjoyment of space in a city, where the constant movement of its residents and visitors often superimposes itself on the pleasure and prolonged appreciation of its simplest values.

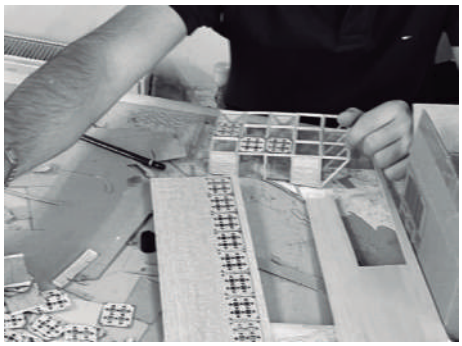


2. The two classrooms: studio space in Évora University and online UOU classroom with the international students.

3. UOU workshop: participating countries.

3. Largo do Chão das Covas, model scale 1:50

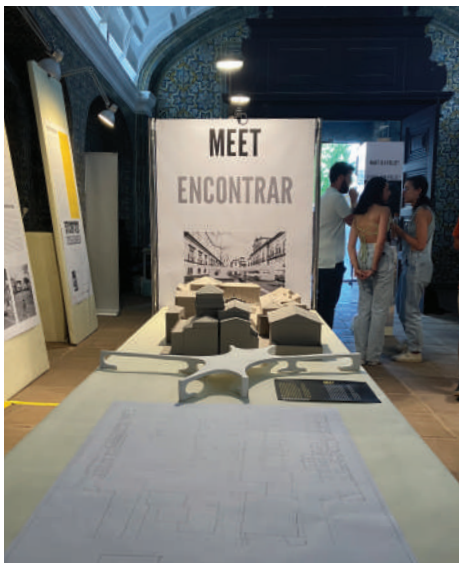
3. Follie Meet.



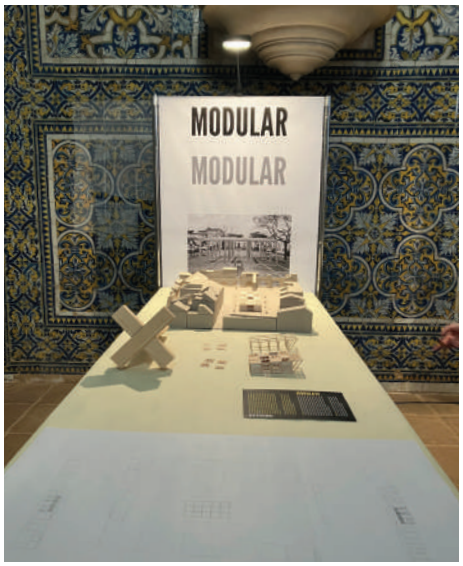
4. Follie Modular in construction.

5. Making process.

6. Praça do Sertório and Follie Breath.



7. Three proposals for Praça do Sertório, 1/100 model, 1/200 drawings, photo montage, descriptive text, documents.

8. Two proposals for Largo do Chão das Covas, 1/100 model, 1/200 hand drawings, photo montage, descriptive text, documents.

9. Three proposals for Largo do Chão das Covas, 1/100 model, 1/200 hand drawings, photo montage, descriptive text, documents.

The Exhibition Museography, Museology, and Communication

As a second exercise, the works were exhibited in the city. The temporary exhibition designed for the Church of Salvador, located in the historic core of Évora, is the result of a second exercise carried out by ten groups of Évora students who then participated in the development and production of the exhibition. The museography group developed the exhibition details, enhanced the organisation of the visiting route and the spatial organisation of all physical display stands. The museology group curated the outpuits of the intense international workshop and the subsequent development process. Finally, the communication group prepared new content, whilst considering effective communication with a non-specialised public. The videos produced during the exercise were edited, and promotional and publicity materials for the exhibition were created in the form of posters, leaflets, Instagram posts, and the dissemination of QR codes in the city.

The temporality of the exhibition's contents required consideration of the life cycle of materials, involving both students and academics in adherence to the Sustainable Development Goals promoted by the United Nations. The aim has been to encourage, on the one hand, the reuse of all exhibition support elements and, on the other hand, the future recycling of all materials produced. It is also worth noting that materials from non-renewable sources, especially plastics, were excluded. By publicly presenting these eight proposals within and for the city, the connection between architectural education and the community from where the Architecture Master programme is delivered has been strengthened.

Tutors: Sofia Aleixo and João Santa Rita, with Master students Francisco Dias and Adrian Burzacovschi

Follies created by (*): Breath: Maria Margarida Oliveira, Beatriz Cóias, Clara Capellaria, Patricia Palmeira, Joana Mendes; Intertwine: Bruno Abrantes, Quirino Júlio, Arianna Reyes, Yanara Campos, Maria Barroso; Meet: Beatriz Lopes, Sofia Barreto, Tiago Fortunato, André Gonçalves, João Almeida; (Re) vive: André Pisco, Carolina Reis, Inês Sovelas, Giulia Amaro, Beatriz Gaspar. Welcoming: Tiago Andrade, Felipe Rodas, Ana Maria Matei, Afonso Gonçalves. Modular: Pedro Ramos, Ana Azevedo, Maria Leonor Nunes, Rui Nunes. Flow: Giovanna Cunha, Manuel Campos, Eduardo Marques, Matheus Costa. Conect: Madalena Pratas, Raissa Medeiros, Miguel Tim-Tim, Ana Rodrigues

(*) improved the proposal for the Exhibition.

Other participants in the International workshop:

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UOU: UA/Juan Espiñeira, UA/Nadim Monzer, UA/ Natalia Lozano, TU Graz/ Julia Bauer (*), UA/Salma Magzoub (*), UA/Atul Mehta, ENSAM/Andres Galarza, NTUA/ Antonis Zaranis, UA/Noemi Busichella, CUT/ Magdalena Konik (*) UMA/Emilia Hörnfeldt (*), Saxion/Sem Ijssennagger (*), BME/Krzysztof Rudnicki, BME/Mateusz Wojtkowski, UA/Malak Benmoussa, UA/Salwa Fartali, UA/Ana Barranco, UA/Carla Garcia, UA/Marc Pérez, UA/Rudolf Schwarzl, CUT/Malgorzata Maslanka, UA/Wiktoria Bloch, UA/Joshua Kwok, UA/ Aleksandra Fijołek, UA/Castejón, UA/Moe Yagan, UA/ Dilara Kutay, UA/Belgacem Sana, UA/Laura Oblak, UA/Hanna Belgacem, UA/Zaynab Aboudou, UA/John Loughlin, UA/Patrick Rawlins, UA/Phoebe Turner and UA/Laura Cosgrave

10. Video of the exhibition.

11. Instagram Follies in the city.

OVERSEAS

Between Camp and Slum

Informal settlement as a major process for the survival of a displaced population in Sabra and Shatila

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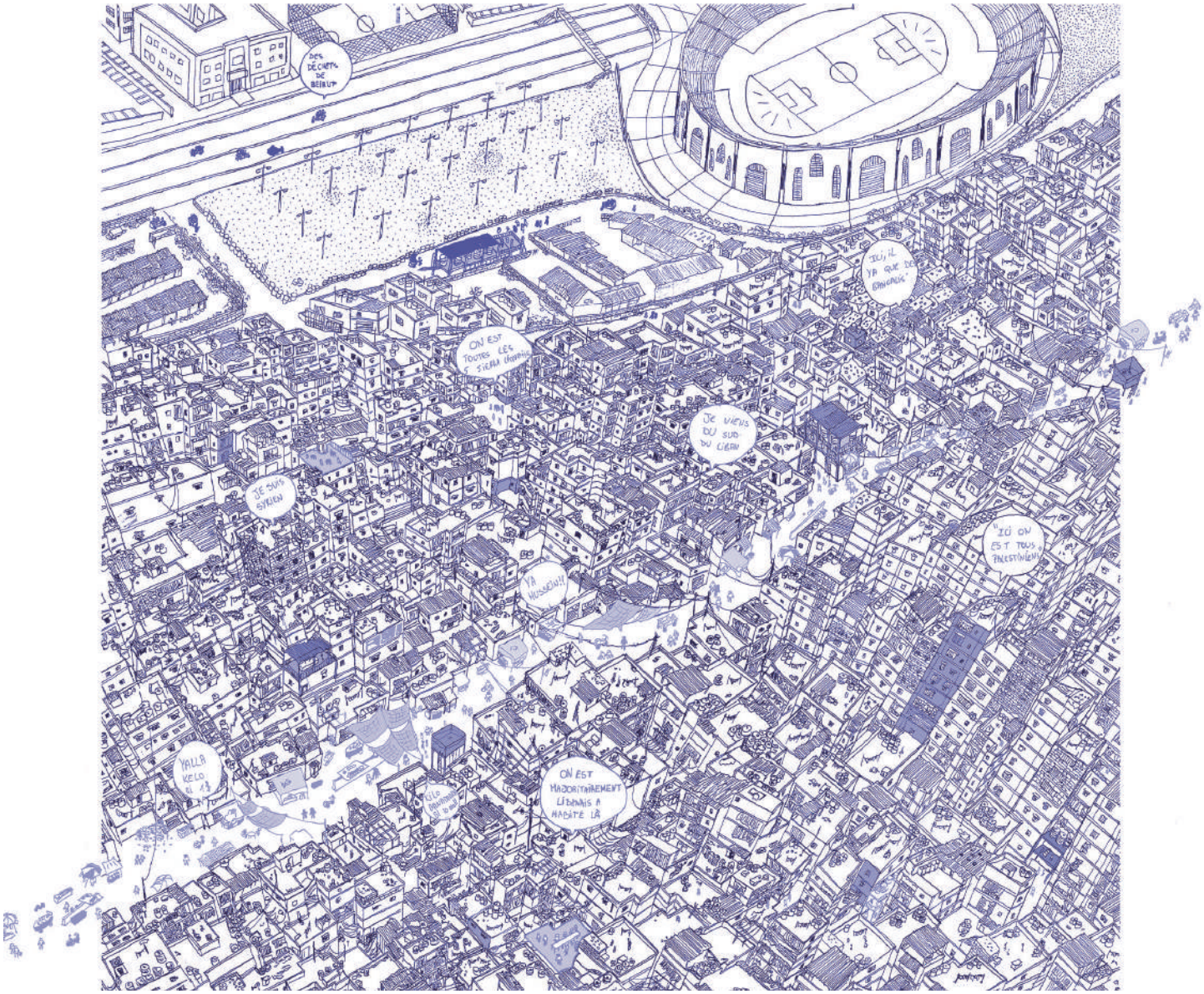


Fig. 1 - Sabra and Shatila camp and slum.

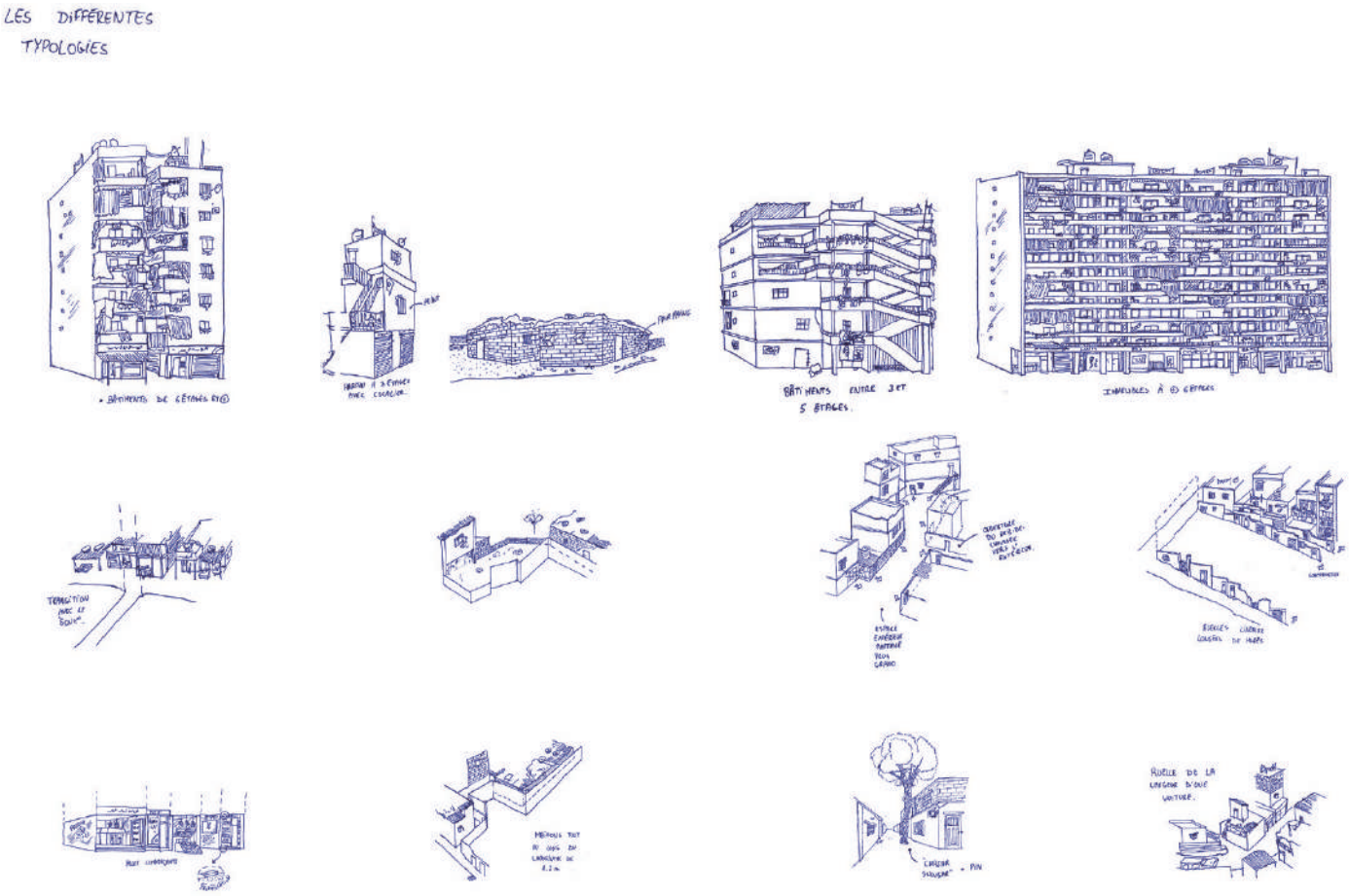


Fig. 2 - Informal settlements at the intra-group scale showing different housing typologies.

Immersed in a world where economic crises intensify, displaced populations, including refugees and migrants, find themselves grappling not only with social inequalities and political conflicts but also with the stark denial of their fundamental rights. It is in camps and slums that many are forced to live in challenging conditions, making do with what is offered (and often not offered) on the fringes of our societies.

These populations often enter an informal settlement process, where notions of survival, home, and temporality overlap. Created in contexts of urgency and/or poverty, these so-called “relegation” or “transitory” spaces are established with the idea of accommodating individuals for a limited period.

Fundamental questions arise regarding the evolution of these spaces and the stance an architect should take towards them.

Focusing specifically on the Sabra and Shatila camps and slums (Fig. 1), located on the southern periphery

Fig. 3 - Informal settlements at the scale of the city.

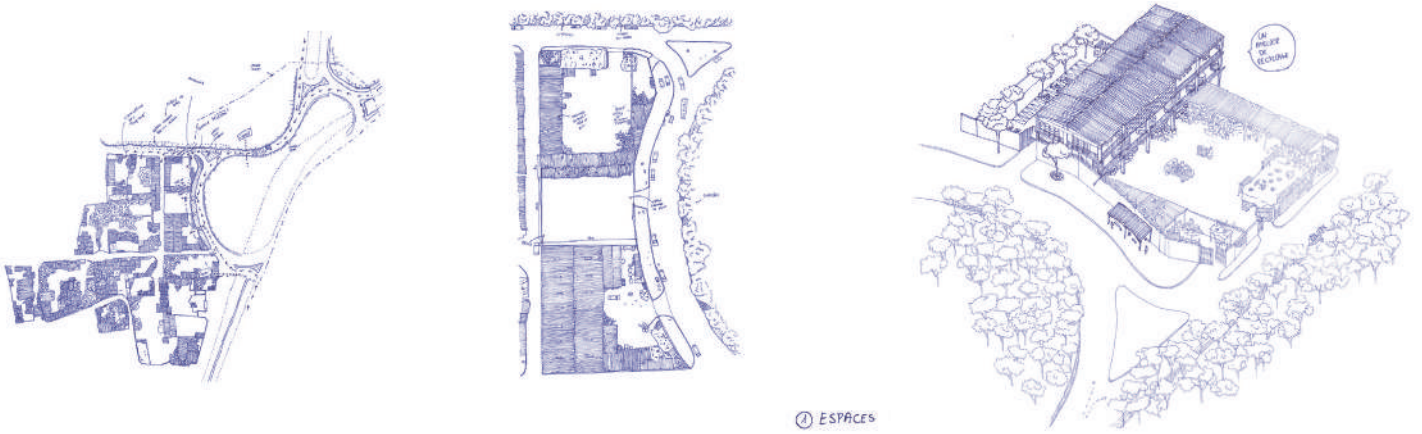


Fig. 4 - Proposition. A recycling system for the city.

of Beirut, Lebanon, this research addresses various aspects of these informal settlements through different scales (Figs. 2 and 3), including the temporality of existing structures and proposed future interventions. Sabra and Shatila become a place where preconceived ideas dissolve, and a new understanding emerges through the movement of populations, their cohabitation over time, and their territorial appropriations in space. Delving into an informal place like this is not a marginal challenge; it constitutes the daily routine for over 1/7th of the global population. This work testifies to the challenges of daily life, the inhabitants' way of life in Sabra and Shatila, and raises awareness of how quickly a place like this evolves.

Transitioning from ephemeral structures to a lasting densification of the place, everything is orchestrated and implemented by the inhabitants according to their desires and needs. Adopting construction and planning methods unique to them, these inhabitants improvise living spaces and informal systems to survive. The trace of an architect is minimal, if any.

The proposed interventions (Figs. 4, 5, 6 and 8) do not aim to bind an idea to a specific time but, instead, act strategically by providing a toolkit that enables inhabitants to modify a space according to their needs while providing social infrastructures (Fig. 7). The goal is not to mimic a city frozen in time and erase all human aspects of these neighborhoods, but to enable every inhabitant to meet their basic needs and access a fundamental right: the right to the city.

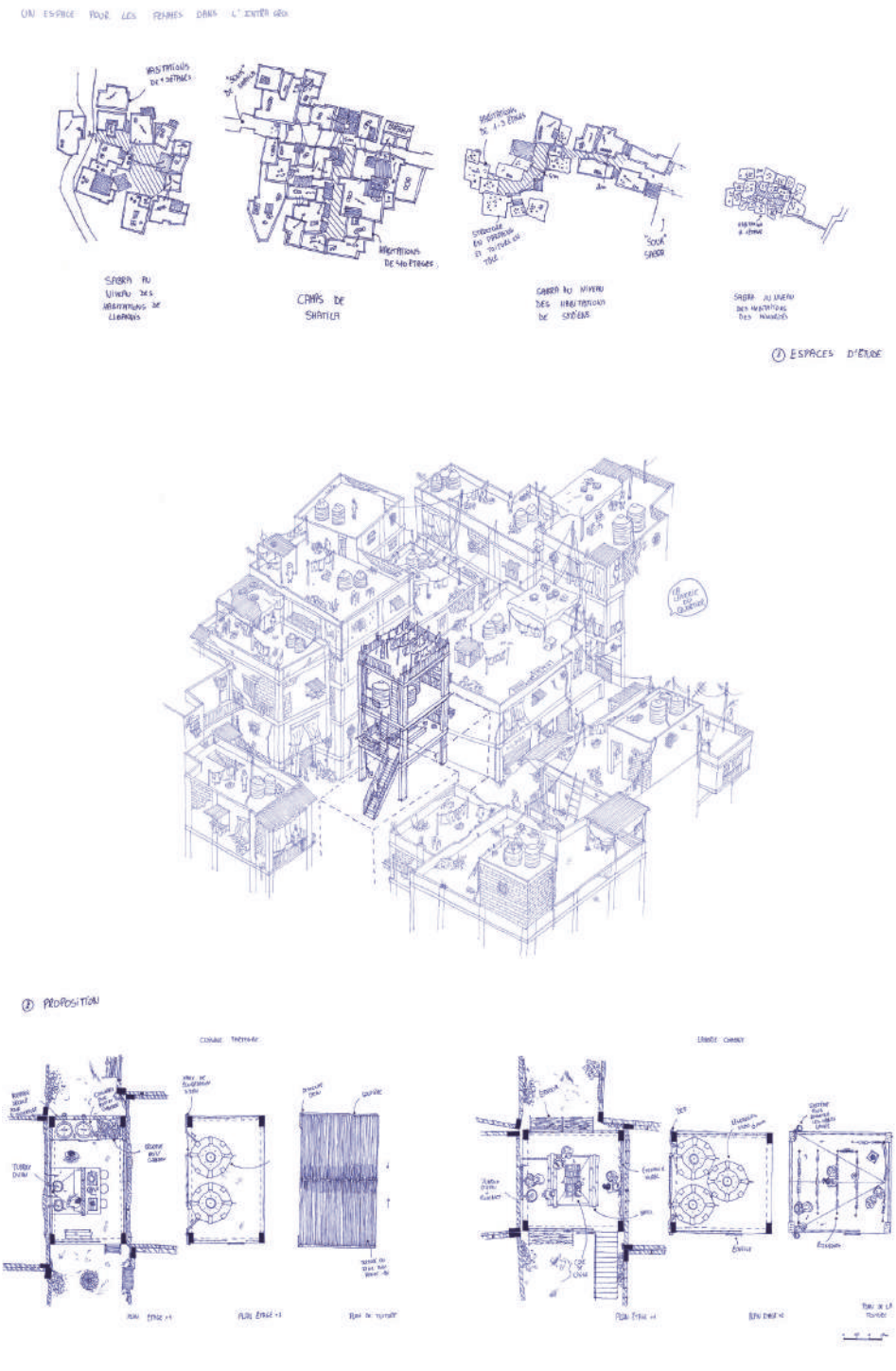


Fig. 5 - Proposition. A space for women for the intra-group scale.

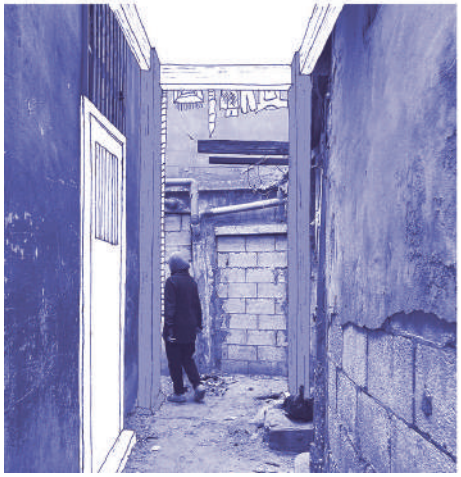


Fig. 7 - Minimal intervention through architecture.

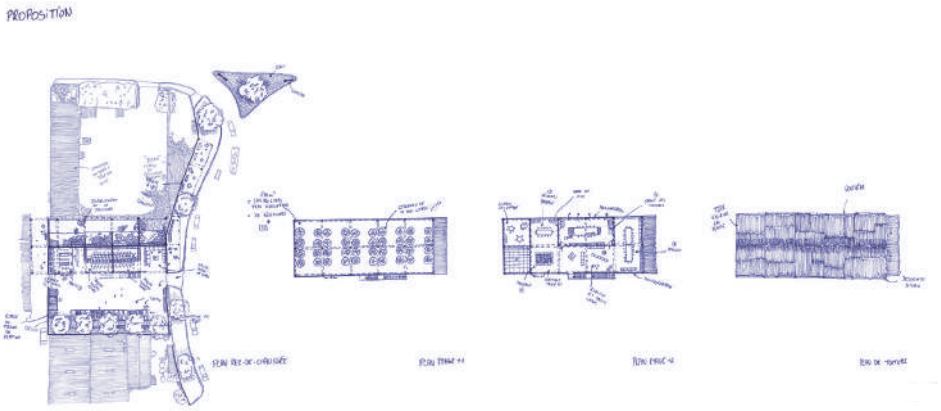
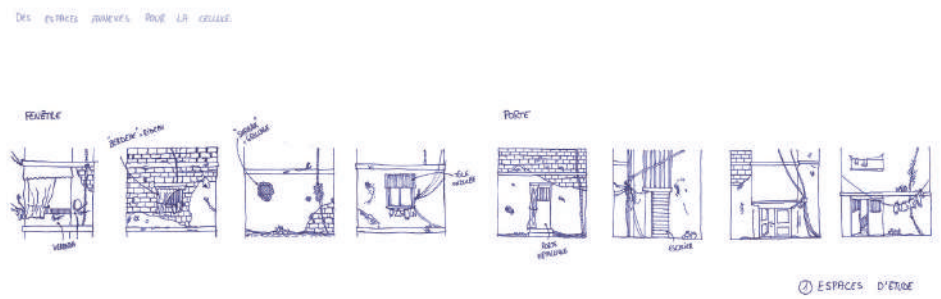
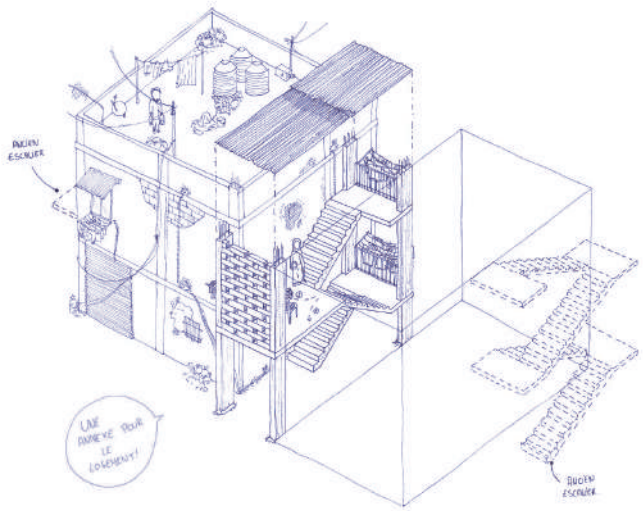


Fig. 6 - Proposed plans of the intervention in Fig. 4.





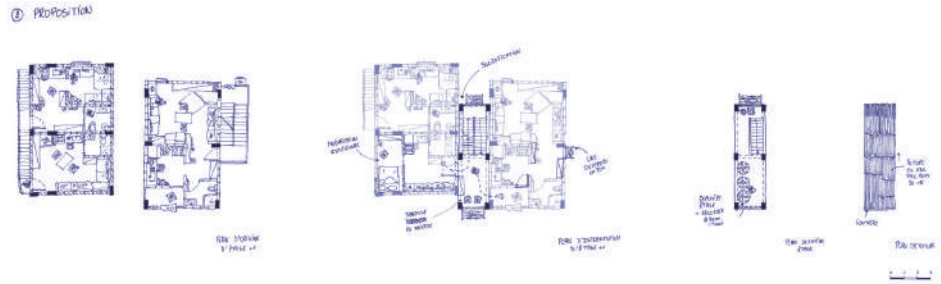


Fig. 8 - Additional spaces for the housing scale.

Architecture and Temporality

Saint Pierre: The forgotten museum city

vestiges
connexion
héritage
réhabilitation
ville tropicale
ruins
connection
heritage
rehabilitation
tropical city

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Le 8 Mai 1902, à 7h52, Saint-Pierre, l'ancienne capitale économique et culturelle de l'île de la Martinique, n'est plus, ravagée par l'éruption péléenne de sa Montagne. En quelques secondes, l'une des plus importantes villes de la Caraïbes est rayée. Plus d'un siècle plus tard, la vie continue, laissant les ruines en témoin d'un passé qu'on ne veut surtout pas oublier. Mais cette ancienne capitale, vidée de ses 30 000 habitants à la veille de l'éruption, peine encore aujourd'hui à retrouver son dynamisme et sa gloire d'antan.

Pourtant, niché au creux d'une ravine, dans les hauteurs de la ville, le Domaine DIKI propose une architecture qui mêle histoire, culture et modernité dans un but de créer un lieu plein de sensibilité. Avec ses grands débords de toitures aux couleurs des habitations tropicales, la réhabilitation des ruines de cette ancienne habitation résonne de nouveau comme une touche d'espoir et de renaissance.

Malgré la menace du risque qui plane, le projet trouve sa place et s'épanoui au côté de la nature qui l'entoure nous rappelant peut-être que l'architecture c'est d'abord accepter de ne pas tout maîtriser et que le risque est une raison suffisante pour que cela vaille la peine d'exister même un instant.

On 8 May 1902, at 7:52 a.m., Saint-Pierre, the former economic and cultural capital of the island of Martinique, was no more, ravaged by the Pelean eruption of its Montagne. In a matter of seconds, one of the Caribbean's most important cities was wiped out. More than a century later, life goes on, leaving the ruins as a reminder of a past not to be forgotten. But this former capital, emptied of its 30,000 inhabitants on the eve of the eruption, is still struggling to regain its former dynamism and glory.

And yet, nestled in a gully high above the city, Domaine DIKI's architecture blends history, culture and modernity to create a sensitive setting. With its large overhanging roofs in the colours of tropical dwellings, the rehabilitation of the ruins of this former dwelling once again resonates as a touch of hope and rebirth.

Despite the looming threat of risk, the project finds its place and flourishes alongside the surrounding nature, reminding us perhaps that architecture is first and foremost about accepting that not everything can be mastered, and that risk is reason enough to make it worthwhile to exist even for a moment.

INTRODUCTION

I've been wondering how best to tell the story of Saint-Pierre. I don't pretend to be able to tell the story that historians and enthusiasts know, nor the one vaguely heard by a lot of curious Martiniquais...

This story, like a travel diary, is the one I learned and lived on my island:

Although the commune's location gives it the air of a town where you just pass through without necessarily stopping, I often got into the habit of staying there in my mind's eye as I watched it pass by through the back window of the family car.

I remember always asking to pass along the path that runs along the island's coastline to see Saint-Pierre, its ruins around every corner, its theatre, its life...

How does the architecture of the town of Saint-Pierre in Martinique, emerging from the remains of the terrible volcanic eruption of 1902, embody and reveal the dynamic relationship between past, present and future, while balancing the imperatives of rapid reconstruction and cultural preservation, in an environment marked by constant volcanic activity?

Between vulnerability and resilience, we are invited to question the behaviour of a territory subject to natural hazards, a highly topical issue given climate disruption. It also highlights the importance of understanding how architecture can serve as a living testimony to the way a community interacts with time, culture and nature.

1. THE NOTION OF TEMPORALITY

First of all, I think it's important to define Temporality according to LaRousse's French dictionary:

Temporality / feminine noun: Character of something that takes place in time.

In other words, we're talking here about something that is situated in time and therefore has a limited, ephemeral duration.

It's a notion that can vary according to the cultures, civilizations and lifestyles that take it more or less into consideration - as in the case of certain grammars of isolated languages, such as Vietnamese, which ignore the conjugation of verbs in the future or past tense.

If I take the example of Western culture, which is more familiar to me, time is considered to be one of nature's "non-renewable" resources. Here, temporality rhymes with sustainability, and that's what we're going to look at below.

But what about the notion of temporality in architecture?

"The notion of "transmission" is included in that of "heritage". According to a generally accepted definition, heritage is that which is inherited from the past and passed on to future generations. [...] In English, “héritage culturel” translates as “inheritance” according to Michel Melot in “*L’échelle de l’architecture et du patrimoine*”.

Architecture has always left a visible trace on the earth's surface. It's a responsibility that every builder and master builder shoulders. In designing buildings, the architect bears a heavy responsibility that goes far beyond the mere creation of functional structures. They must take into account the long-term visual and ecological impact of their creations.

The architect plays an essential role in creating buildings that contribute to a sustainable environment for future generations. His/her responsibility goes beyond simple construction and is based on a deep understanding of the impact of his/her choices on society and the planet.

2. MARTINIQUE: CONTEXT AND BACKGROUND

Before I begin, I'd like to give a brief introduction to my island,

Fig. 1 – Map of Martinique, context and demography (top); Photograph of Saint-Pierre harbour (left) ; Photograph of ruins (right).

Martinique, which is located in the heart of the Antilles and bordered by the Caribbean Sea. It has a humid tropical climate, with two distinct seasons: dry and rainy, and trade winds from the east.

The island is roughly divided in two, with a dense, humid, green north and a drier south with white sandy beaches.

2.1. The city of Saint-Pierre

On a city scale, zooming in on the north of the island, between two cliffs, the town of Saint-Pierre opens out like a green amphitheatre onto an open bay dominated by “la Montagne Pelée”.

With a population of around 4,000, Saint-Pierre is characterized by a way of life that has been rebuilt from the ruins of the 1902 volcanic eruption. It is located on the north-west coast of Martinique, 31 km north of Fort-de-France - the capital, on the Caribbean coast south-west of “la Montagne Pelée”.

My methodology for studying the subject was based on bibliographical and scientific research, on-site architectural analysis and archival documents, half-structured interviews on the well-being of the “Pierrotins” - inhabitants of the town of Saint-Pierre and my own immersive personal experience in the heart of this ruined town (Fig. 1).

2.2. From the town's influence to its oblivion: understanding history

As I wandered around the town of Saint-Pierre, I was quickly won over by the desire to learn more about it. It's also important for me to question the island's way of life in a post-eruption city that wants to show off its extraordinary history.

- Before 1902: At the end of the 19th century, Saint-Pierre was a powerful and radiant city. The economic and cultural capital of Martinique, it attracted visitors with its pleasant lifestyle, theatre, music, beautiful neighbourhoods and more. It's commonly referred to as the "Paris of the Isles" or the "Little Paris", as the Pierrotins like to call it.

The layout hasn't changed much since then. The Mouillage district to the south, bordering the port, was the shopping district with a very modest, even poor, population; the Fort district, at the foot of "la Montagne Pelée", was more residential, and in the middle of the two, the Centre district. Together with the Mouillage district, the latter formed the lower town, populated by the middle and working classes. This lively district was also a major cultural centre in Saint-Pierre and the seat of the city's political life.

Two longitudinal streets cross the town from one end to the other. Today, these same streets are known as "la Rue Bouillé" (on the seafront) and "la Rue Victor Hugo" - originally named "La Grande Rue" or "Rue Royale", the high street further inland. It was a town brimming with vitality and a good place to live, with abundant water supplied by canals that fed fountains and gutters at the foot of houses and courtyards.

It had a tramway that took passengers from the south of the city to the Bourse - at that time the center of Saint-Pierre's commercial and port activities, and also allowed goods to be loaded and unloaded on the commercial streets. It was also the world's first rum port, hosting the Saint-James Distillery, which introduced Martinique's agricultural rum to the international market in the 1810s.

Last but not least, it's a place known for its beautiful walks along the banks of the Roxelane -an emblematic river that rises on the southern slopes of Mount Pelée, where it flows for two kilometres before bending its course towards the Caribbean Sea, the Savane du Fort where visitors and Pierrotins used to flock to listen to orchestras and music, and the mythical Jardin des Plantes, never rebuilt...

- May 8, 1902 and beyond:

Saint-Pierre, this city, still alive in the morning, is no more! There it lies before us, consumed, lying in its shroud of smoke and ashes, dreary and silent as a necropolis. Our eyes search for the fleeing, distraught inhabitants, or those returning to find their dead! But nothing! Not a living thing appears in this desert of desolation, framed by a frightening solitude!

Extract from a report written by the vicar general the day after the disaster, administrator of the diocese in the bishop's absence, sent to Monseigneur de Cormont, former bishop of Saint-Pierre, who was in Paris.

Saint-Pierre was stripped of its title as the colony's capital and has never regained this predominant status. Today, it is the seat of a sub-prefecture and has a division of the Martinique Chamber of Commerce. For years, the town lay in ruins. Saint-Pierre lost its role as economic capital of the colony to Fort-de-France (Fig. 2).

The law of February 15, 1910 even struck it off the map of French communes. Its management was entrusted to the neighbouring

Fig. 2 – "Monte-au-ciel" street before the disaster (left) ; a few days later (center) ; today (right).

town of Le Carbet. The 1910 law authorized the receiving commune to sell the assets of the suppressed commune, and to keep the profits from its liquidation. As a result, Saint-Pierre lost a large part of its archaeological heritage.

It wasn't until 1923 that Saint-Pierre rose from the ashes. The town was gradually rebuilt, sometimes in the same way as before - the identically rebuilt Chamber of Commerce is now one of the island's finest architectural achievements, as is the former Cathedral du Mouillage, sometimes in a more modern way - housing or private property.

The population gradually returned to the town, but never reached the 30,000 souls who lived there on the eve of the 1902 eruption. The town's population has grown from 3,000 in 1923 to 4,122 today.

The ruins of the disaster and the town's history are the main tourist attractions. However, despite the town's steady daytime appeal and its considerable landscape assets, it has not managed to capitalize on its extraordinary background and remains.

2.3. The hunt for ruins

During this immersion of just over ten days, I get to know the city, meet people and immerse myself in life there. I soon left my car parked at Place Bertrand every morning, not far from the covered market and its metal architecture.

My creative process gradually began to take shape. For the first two days, I would wander around in a haphazard, random fashion, without a plan or support, delighted to be surprised by the ruins scattered around every corner. Stopping, drawing, photographing, questioning passers-by.

Then I decided to ask for a map of the city, so I can follow an organized route and make sure I don't miss anything. I subsequently embarked on what I decided to call a "ruin hunt", which enabled me to realize the potential of walking around the city, a veritable open-air museum with tourism that is unfortunately under-exploited and unregulated.

Fig. 3 – The different types of ruins: decorative ruins (top line); ruin-gardens (bottom line).

Fig. 4 – The different types of ruins: ruin-support structures (left-hand column); sinister ruins (right).

There are four different types of ruins at St-Pierre (Figs. 3 and 4):

- The *decorative ruins* stand out for their monumental appearance. They are regularly maintained - even summarily - to keep them in good condition and create an attraction.
- The *ruin-gardens* are home to the island's northern vegetation. You can take a stroll or simply enjoy the natural surroundings, which seem to be reclaiming their rightful place within the building.
- The *ruin-support structures*, as their name suggests, are used to support a new construction. Depending on the state of the remains, they can be rebuilt identically or used to enclose a new building.
- The *sinister ruins*, often large sections of entire house walls that have never been altered to enhance the ambiance of the town and the wider landscape. Left as they were on the day of the disaster.

Sometimes, certain neighbourhoods reveal a new way of life and living after the eruption. This is what I discovered on Rue Levassor, with its dwellings built on the ashes, an image perfectly illustrated by souvenirs as a foundation.

The first floor reveals the remains of a window or door frame, yet the foundation of the house is on an upper landing, a landing composed of ruins and ash. The story goes that, due to a lack of resources, not all individuals have been able to remove the ashes and have chosen to rebuild on the traces of the past, leaving levels and half-levels planted with dense vegetation that has reclaimed its rights - the ashes fertilize the soil in the north of the island enormously - and act as a sight-breaker, or with staircases that give access to the new construction above often made of very modest, lightweight materials.

Also, the “Mont-au-Ciel” street, a true monument that stands the test of time, like the “Pont Roche” spanning the Roxelane River, perpendicular to the Levassor street with its 84 steps that linked the lively neighbouring districts with the heights of the city's north. Its wide, angled stone gutters continue to evacuate sewage and tropical rainwater as they once did.

2.4. Living with risk

The architectural and historical wealth of Saint-Pierre bears witness to the rebuilding of life after the 1902 disaster. But the ruins are also a reminder of the risk that hangs over Saint-Pierre and the north of the island.

The life that has been recreated from the ashes is seen as a sign of resilience and a determination not to forget what happened.

As Martiniquans, we've always lived with risk. The risk of natural disasters like eruptions, earthquakes, landslides, and the risk of climatic disasters like hurricanes, cyclones, tropical storms, rising waters.

Saint-Pierre is a response to the fact that nature decides at all times, and that we have a duty to deal with it. Despite the fact that a new awakening of Montagne Pelée is hovering over the Pierrotins and the north of the island, isn't it precisely an opportunity to question ourselves, to take a step back from our relationship with nature, with the passage of time, with our way of building, with life? How can we listen to all these elements? How can we respect them and make them merge within the architecture during its lifetime? I realize that the notion of time is omnipresent in this study, and that it would be a good idea to keep it in mind in order to build modestly and frugally.

There's something inspiring about the Pierrotins' mentality. Far from the banal "misfortune only happens to others", it's an awareness of having chosen to live in spite of the risk, following in the footsteps of those who weren't so lucky.

Today, more than ever, Pierrotins believe that life takes precedence over the grim possibility of another eruption, and that Saint-Pierre deserves more than anything to regain its former glory. And if the mountain rumbles, they'll have no trouble leaving until they can do it all over again.

3. A TEMPORAL GATEWAY: THE DOMAIN DIKI

Through my various encounters with Saint-Pierre, I've come to appreciate the richness and diversity of its ruins. At times, they bear witness to places of life, religious or cultural, such as the “Théâtre du Petit Paris”, or simply to perspectives framed between land and sea that stand out insolently and tenaciously. With this red thread running naturally through the points of interest generated by the remains and their enhancement, I see the possibility of an initial response, leading us step by step to the Domaine project, a few metres higher up.

I wanted to take things a step further and condense the information brought back from the town of Saint-Pierre into an architectural project that would, in my view, be a possible response to the problem of temporality.

This is why the choice of site naturally fell on the ruins of the former Saint James distillery, buried under the ashes after the eruption: Domaine Diki, where the remains of this "rum factory", like a jewel case, seem to accompany, even drive, any transition (Fig. 5).

3.1. The site and existing buildings

First of all, why Diki? Diki comes from the Amerindian language. It's a relative name in the language of the Arawaks, so-called Amerindians, meaning "footprints". I chose this word to honour memory and the past, and to establish the cultural and historical importance of my project.

Nine years after being bought out in 1996 to become a sawmill, the establishment closed its doors for good. Since the site’s closure the atmosphere is bleak, the access road to the site is no longer as well-maintained despite the few surrounding dwellings.

Fig. 5 – Saint-Pierre city map: Project location.

Fig. 6 – Aerial view of the site of the former Saint-James Distillery in the hills above Saint-Pierre.

It's a very natural, plant-filled site set in a basin created by the slopes of a morne. It has a regular slope that runs all the way down to the Saint-James river. Its location ensures a clean microclimate at all times, with natural ventilation predominantly from the east, reinforced by its orientation within the vat.

Most of the sun's rays come from the south, but its high position means that the use of large, generous roofs could be a first response. Despite the masks created by the nearby trees, solar protection to the east and west needs to be addressed for optimum comfort in the spaces.

The former Saint-James dwelling is a place steeped in history with the many lives and functions that have shaped its current form. It comprises five buildings in varying states of repair, surrounded by dense vegetation (Fig. 6).

Here one would find the villa, currently the only renovated building. The facades are full of character and surround what remains of a slab, which is now overgrown with vegetation.

The first depot, completely submerged by vegetation as it no longer has a slab to waterproof its floor, the rhythm of its facade, its high windows and a remnant of its metal framework are still in good condition.

The second depot is in a very poor state of repair. Plant roots have found their way into the fragile slab. It has a very damp lower level with few openings, which may have served as a crawl space. Not counting the separation created by the slab, it's an 8-meter-high volume from its so-called "basement".

In my opinion, the former sawmill has the most original facade on the site, with openings that merge into doors and windows of varying heights and widths. The metal frame is in relatively good condition, unlike the tin roof. Most of the ashlar walls have been coated with plaster and concrete, although in places the original materiality of the stones is still visible.

Finally, the factory, with the upper part in very poor condition. It's a very damp place, as rainwater seeps through the roof and runs over the ground floor of the building.

3.2. A legacy from the past

In summary, there are some 1,800m² of buildings that could be rehabilitated. Some of the gables are visually dominating and of little aesthetic interest - for example, ashlar roughly secured by concrete, or in a poor state of conservation -, but there was also much that was positive and poetic about the former Saint-James dwelling. Most of the original materials have survived the test of time, such as the red brick of the factory ovens and the dressed stone of the majority of the buildings, which have remained in good condition. In addition, some of the façades are very open-ended, allowing the visitor's imagination to hint at past uses. As a result, certain choices could be made to establish an architectural and climatic strategy, such as providing very high ceilings in the second warehouse and promoting natural through-ventilation in the first by removing its gable (Fig. 7).

3.3. The project

After days of wandering around the town of Saint-Pierre, meeting the locals, visiting the sites and

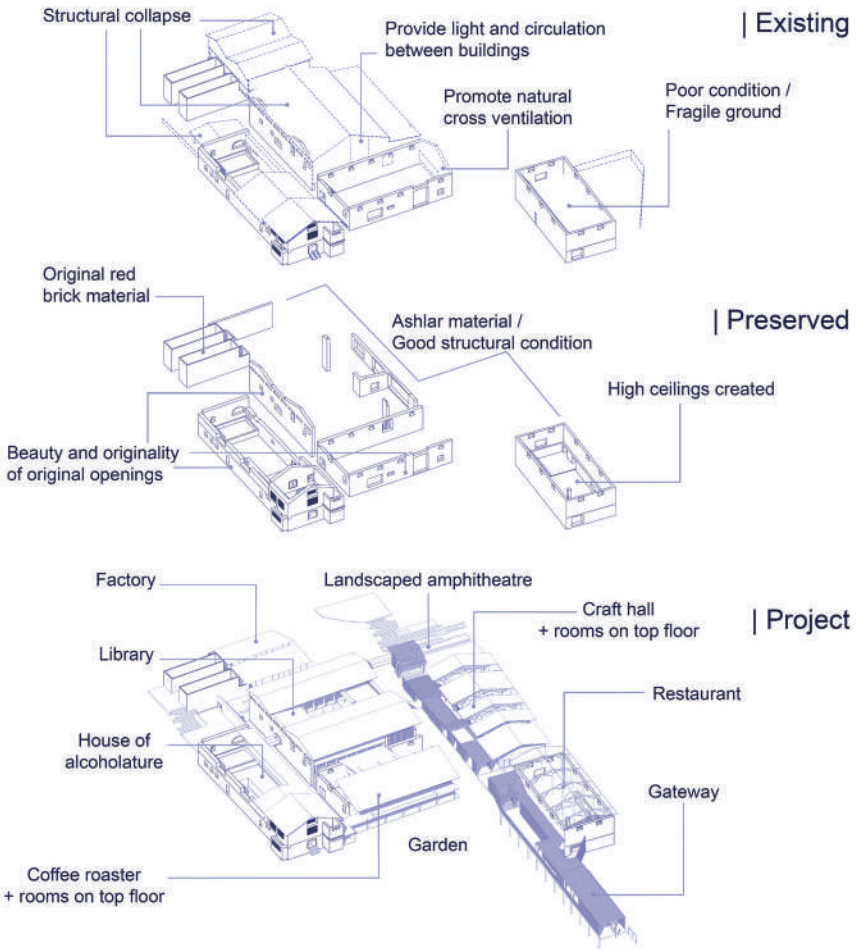

Fig. 7 – Domain Diki: project axonometry and architectural intentions.

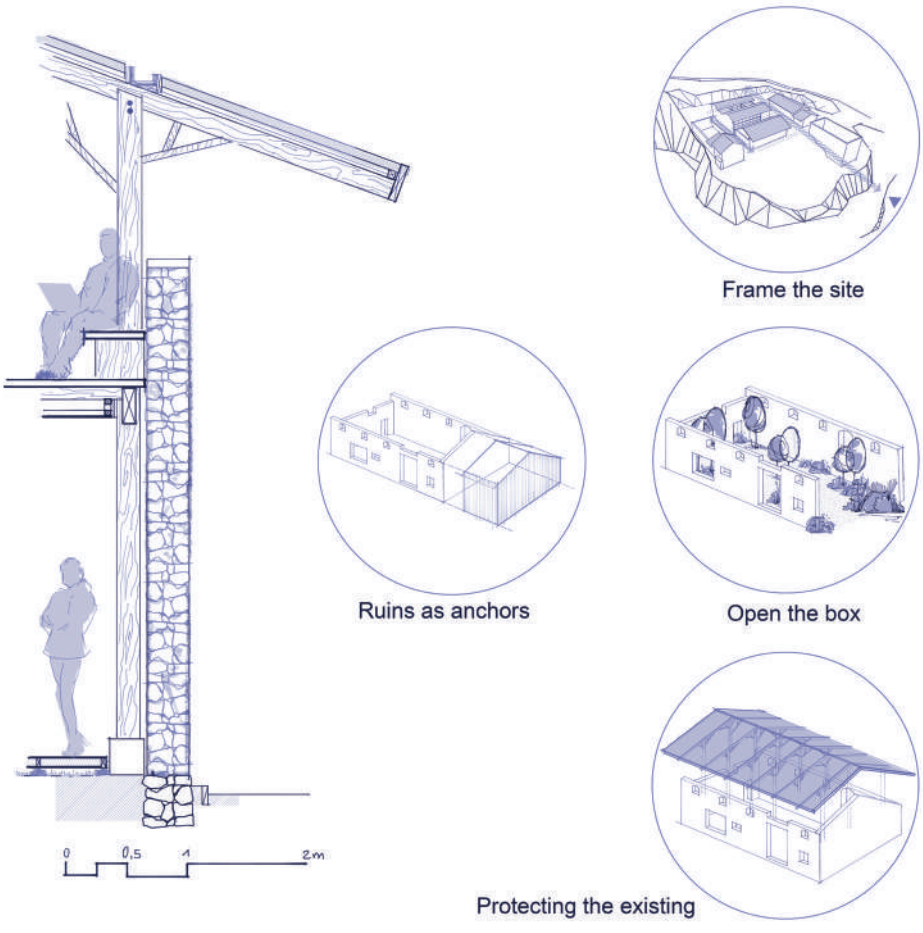

Fig. 8 – Structural cross-section: Ruins and detached roof (left) ; Architectural concepts (bubbles on right).

various ruins, and spending long periods of time exploring the site, I decided to create a place with a program capable of combining a few notes of Saint-Pierre's past, the existing and a mixed program to bring back life and activities. This place is Domaine Diki. It consists of four poles:

- **Crafts**
- **Education and culture**
- **Health and well-being**
- **Catering & Accommodation**

This project has a commemorative and cultural function, and in order to establish a certain identity, I have drawn inspiration from emblematic landmarks such as:

- The main axes of Saint-Pierre to frame strolling on the site in the image of that in the city and connected by more intimate transversal lanes.
- "Le Jardin des Plantes", the Caribbean islands' first botanical garden, a mythical place for a certain social class to meet and stroll among lush tropical plants. The Saint-James river connects the Domaine Diki with the waterfall of "Le jardin des plantes", which is still in ruins today.
- The "Mont-au-ciel" Street, perpendicular to Levassor Street, with its steps connecting the upper and lower parts of the Port district.

Based on all this information and analysis, the architectural approach is as follows:

- *Frame the site* to create a new building to frame the plan and materialize an interior commercial Street as Saint-Pierre's main seaside thoroughfare.
- *Open the box* to flirt with the outside-in boundary by creating porosity, views and perspectives. From a highly enclosed professional space, with high walls and small windows, we move towards an architecture that opens up to the wider landscape and leaves plenty of room for vegetation.

Fig. 9 – Cross-section to reveal the elevation of the Domain's terrain: tropical identity and connection with surrounding nature.

Fig. 10 – Perspective view from the wooden gateway: Gradual immersion into the heart of the Domain.

- *Protecting the existing*, inspired by the large, generous roofs of tropical houses, which are designed to protect from the elements and the sun, while preserving the principle of openness, a large roof detached from its wall, on a free-standing wooden structure.
- *Ruins as anchors*, from a solid existing structure, create a lightweight extension that can be dismantled more or less quickly, depending on the need - cyclones, storms, earthquakes. Time-tested ruins as a historical anchor, a witness to the passage of time and a structural element that, in contrast, accommodates a lightweight structure within it or as an extension (Fig. 8).

Finally, the main element is the wooden footbridge, the backbone of the project, which offers a view of the existing landscape and nature at all times and on different scales, as it progresses with the site's topography. This element connects all the poles and activities of the Domaine Diki. It is both a remarkable witness to time and a means of raising visitors' awareness of the reality of the concept of temporality, its impact on the living and the material, the legacy of the past and the possible evolution that results from the choices we make (Figs. 9 and 10).

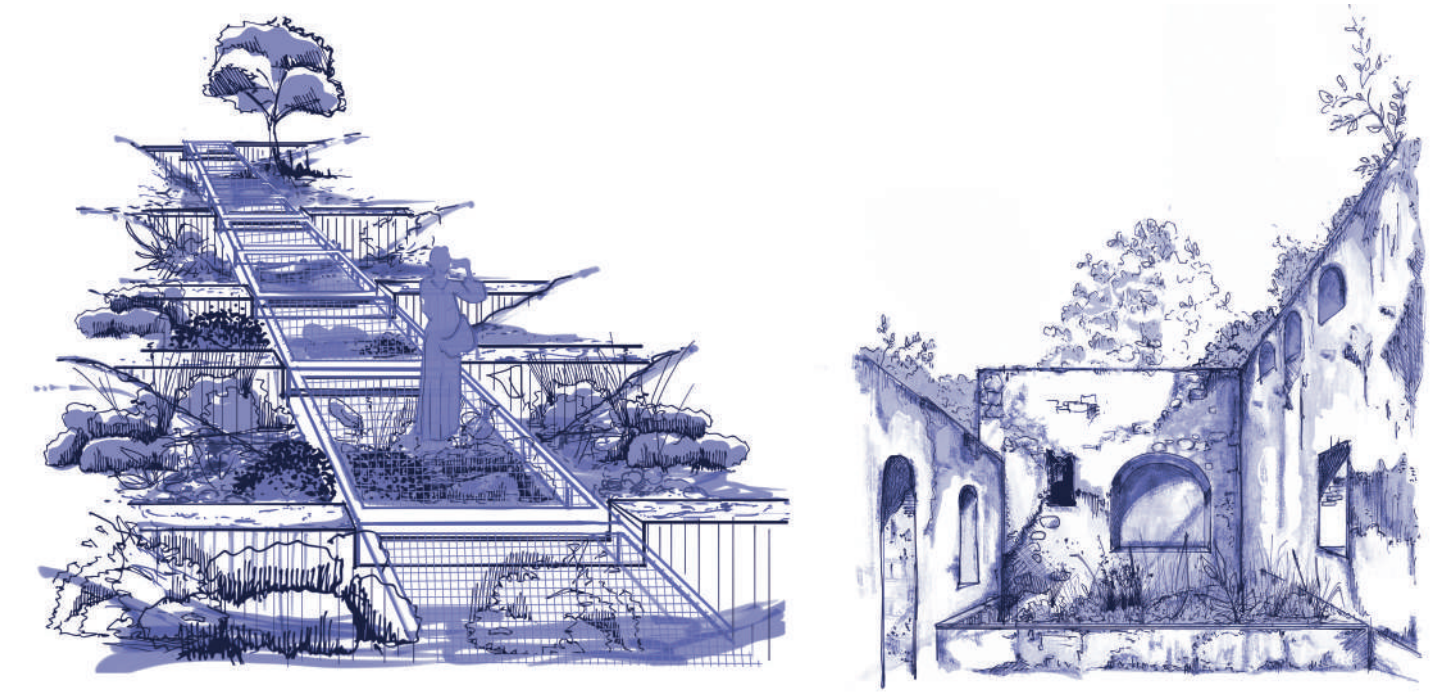

Fig. 11 – Sketch of the terraces and latticed walkways to allow rainwater to drain away naturally (left); Atmospheric sketch of the Villa's backyard today (right).

3.4. The landscape project

As far as the landscaping is concerned, I chose to keep the site as natural and planted as possible. The main paths are laid out on gridded slabs, allowing the site to be raised off the ground, allowing vegetation to grow and water to infiltrate into the natural soil. I was able to observe that water flows naturally from the higher slopes down to the river, a phenomenon accentuated by the initial materiality of the site, which is half-paved and half-concreted on the axis between the villa and the former sawmill.

In order to remove the few areas of stagnant water, I chose to create planted valleys to accompany the two main paths, allowing the water to gradually infiltrate the soil without clogging it.

These valleys and water paths are visually appreciatable thanks to the grids in the slabs, which form walkways above them so as not to impede drainage. By raising the pathways with open-work walkways, you can admire the run-off from above and let it follow its course to the various gardens or the river that surrounds the site.

The rest of the ground and the access path are paved with interlocking paving to allow vegetation to pass through, and with stabilized soil for more delicate junctions (Fig. 11).

3.5. Materiality

As the Diki domain is intended to be "light/modular/dismantlable", the choice of materials allows for rapid action in the event of a need - volcanic eruption, for example - to dismantle the whole, while at the same time being culturally and contextually anchored.

- The dated Stone, anchoring point for the lightweight structure.
- Douglas-fir Wood associated with a Japanese burnt-wood technique to commemorate the 1902 disaster.
- CLT Wood, quick to assemble, it allows the "box within a box" principle to be established, with its smooth materiality contrasting with the project's existing and new textures).
- Corrugated iron, recycled and/or new, is the main roofing material in the West Indies. Its red color allows the possibility to create, from certain angles, a trompe l'oeil aimed at recreating the red clay tile roofing that existed before the 1902 disaster.
- Concrete for anchoring, foundation, consolidation of existing structure.
- Vegetation, which at times becomes new ground, new facades depending on the point of view.

To be an architect is, in a way, to know how to accept, with humility, the idea that it's not always possible to master everything.

Domaine Diki is a resilient architecture that raises awareness of this acceptance of risk, while at the same time proposing a way of coping with it.

In no way does this project wish to thwart nature, but rather to enhance it, to create the necessary conditions to accompany it rather than channel it. And just because a place is said to be at risk doesn't mean it doesn't deserve to be considered. Don't we have the right to have places that are dear to us and in which we'd like to blossom with full knowledge of the facts?

The architecture of Domaine Diki aims to address and connect history with the existing through a site deliberately left to nature to magnify the whole.

CONCLUSION

In conclusion, I'd like to return to the notion of risk, clearly evoked at the start of this presentation with the 1902 disaster that devastated the town of Saint-Pierre.

In Western models, architecture tends to oppose nature by protecting itself from it, rather than dealing with it. Looking back, I realize that I have lived most of my life in areas that are subject to all kinds of risks.

If I take the example of my native island, Martinique, there are seismic, cyclonic, volcanic, climatic and other risks. It's an island that is "used to" unpleasant weather, that has always lived with this sword of Damocles "hovering" over it. Yet when I walk around Saint-Pierre, I'm serene, at ease and amazed at every moment.

If you ask a Pierrotin what he thinks of Montagne Pelée, he'll tell you that this "Grande Dame" is beautiful, and that he loves waking up and seeing it through his window in the early hours of the morning.

Isn't this, in the end, an opportunity to raise awareness of a new approach, an architectural vision totally in tune with the natural context, taking risk and therefore temporality into account?

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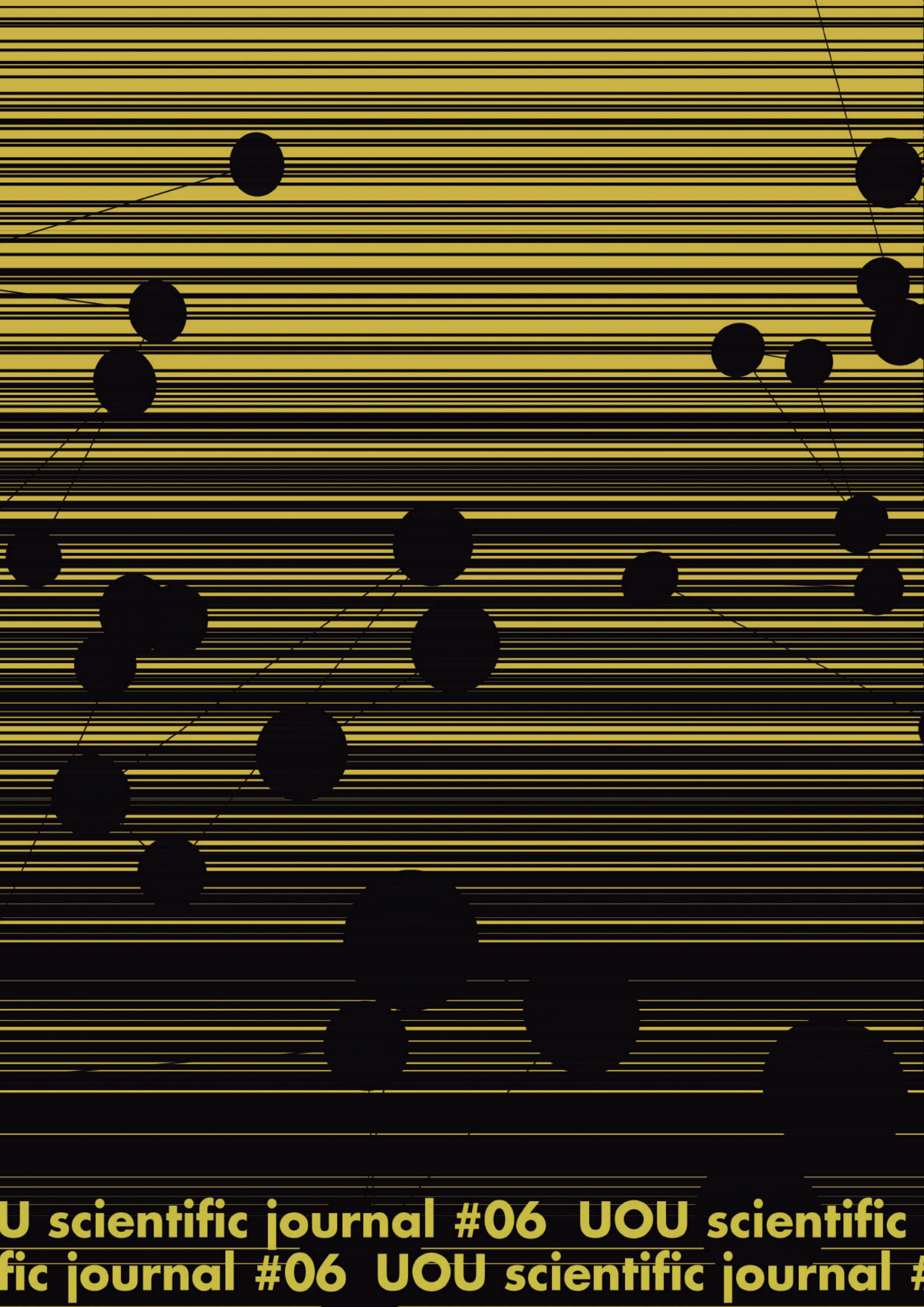
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