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Foreword

Blind Spots

Efe Duyan

Over the past five years**, ADAMARTS Journal** has built a unique profile as a fully **open-access**, double blind peer reviewed publication dedicated to architecture, design, and audiovisual media arts from the Baltic Sea region. Published annually by RISEBA University's Faculty of Architecture and Design & Faculty of Media and Creative Technologies, ADAMARTS brings together both academic research and professional practice, encouraging approaches that range from urban planning and architecture to digital media and creative technologies.

We are pleased to present Volume 5 of ADAMARTS Journal, published partially in conjunction with RIXARCH 2024's theme of **Blind spots in Architecture** — those unseen or under examined forces that shape how we design, build, teach, and remember. This issue brings together ten essays and case studies from the Baltic Sea region, each probing a different "blind spot" in our field. Volume 5 reprises the main theme of the **RIXARCH 2024 Conference: "Blind Spots in Architecture"** — the unseen forces, assumptions, and omissions that shape our built environment and professional practice. RIXARCH is RISEBA's annual International Architectural Design Conference, organized by the Faculty of Architecture and Design in collaboration with the National Library of Latvia and the Arhiteksti Foundation.

Betty R. Torrell opens the issue by illuminating an educational blind spot: the pedagogy of University of Washington Professor Emerita Astra Zarina. Torrell argues that while Zarina's impact on professional practice is well known, the teaching methods behind that impact remain unexplored. Through archival research and reflections on Zarina's Rome and Civita study programs, Torrell shows how her use of student agency—via applied and experiential learning—fostered long term professional leadership in architecture and design .

Helena Gutmane shifts our focus to the hidden socio psychological mechanisms of urban decision making. Drawing on Bhaskar's three domains of reality and Bourdieu's spatial trialectic (physical, social, symbolic), she reconceives decision making as a "symbolic space" where motivations, beliefs, and values are translated into built form. Her framework offers new analytical tools to uncover the causal forces behind planning outcomes.

Efe Duyan then examines a different kind of blind spot in sustainability: the human connection to the natural environment. Through a biophilic lens, he proposes the concept of the "human centric doppelgänger," arguing that biophilic effects can restore that connection and deliver truly regenerative buildings .

Zane Vēja turns to heritage architecture, tracing the life of an 18th–19th century townhouse in Aizpute City. By mapping its transformations—from merchant residence to Soviet era subdivided flats to recent restoration—Vēja reveals how renovation can uncover and preserve layers of social history while adapting to contemporary needs .

In a complementary profile, **Rudolfs Dainis Šmits** celebrates Astra Zariņa herself as "A Force of Nature." He explores her indomitable character and pioneering leadership, arguing that her visionary work in Rome, Civita di Bagnoregio, demonstrates architecture's power to inspire cultural and environmental stewardship.

In the field of audiovisual media arts, **Aigars Ceplītis & Sabrina Durling Jones** delve into digital realms of memory and nostalgia. Using volumetric visualizations—NeRFs and point-clouds—they create immersive installations that evoke collective displacements and cultural loss.

Alexander Sheyn continues the theme of memory, tracing the genealogy of a transmedial project around Vladimir Mayakovsky. He argues that in our platform capitalist age, reappropriating memory

requires recognizing it as a network of relationships, not discrete objects, and he proposes “whatever material” as a metaphor for that fluid archive .

Building on this, **Sabrina Durling Jones** introduces **Neuralpoiesis**, a posthuman feminist framework where memory artifacts are co created with AI—specifically Neural Radiance Fields (NeRFs). Through Edith Stein’s non actuality and Rosi Braidotti’s nomadic subjectivity, she shows how displaced women can use algorithmic tools for emotional healing and agency.

In a brand-new section of ADAMARTS, we are glad to introduce a series of articles based on Master’s Thesis projects by the RISEBA FAD’s MA program graduates, co-authored by their supervisors. In this framework, turning to the city scale, **Fricis Vilnis** (under **Efe Duyan’s** supervision) explore Urban Branding in shrinking Riga. They argue that without a coherent brand strategy—and temporal, experimental tactics—Riga risks losing decades to unfocused neoliberal development. Their case for strategic, community driven branding offers a roadmap for adaptive urban revival .

Finally, **Elīne Rudene** (under **Linda Leitāne’s** supervision) tackle sustainability education through “waste architecture.” Their design for a futuristic Science Activity Center integrates waste sorting workshops, green roofs, and circular economy pedagogy to cultivate environmental responsibility among schoolchildren, demonstrating how architecture can embed ecological literacy at its core .

Together, these contributions chart new territories—educational, psychological, ecological, digital, and material—reminding us that the most profound innovations often arise from making the invisible visible. We hope this issue inspires you to look again, ask deeper questions, and uncover your own **blind spots** in architecture and design.

Architecture and Design

Betty R. Torrell

The Pedagogy of Astra Zarina: Illuminating the Blind Spot in her Legacy.

The Development of Long-Term Student Success through Student Agency

Abstract

University of Washington (UW) Professor Emerita Astra Zarina's legacy as a difference-maker is increasingly acknowledged in the profession.
However, the pedagogy she developed remains a blind spot. Colleagues and students have cited Zarina as one of the "primary influences on their professional practice and how they see and engage with the world" (Torrell, 2011-2013). Zarina's contribution to her students' professional and personal lives has been recognized by academia, her students and practicing design professionals; however, the pedagogy that has made this possible is yet to be fully explored, researched, and documented and is still a blind spot.

References to the role of agency are found repeatedly in how her students describe her teaching methods and Zarina's influence on their lives and work. The pedagogy of student agency is then a point of entry to understanding her legacy as a difference-maker for her students. This paper sheds light on how her use of agency as a teaching method led to her students' personal and professional success as leaders in designing the built environment.

Keywords

design pedagogy, leadership, student agency, long-term student success, Astra Zarina, Anthony Costa Heywood, Civita di Bagnoregio

Acknowledgments

I extend my deepest gratitude to Anthony Costa Heywood (1936–2024) for his invaluable support and contributions to this research. His insights into the life and work of his wife and esteemed colleague, Astra Zarina, provided a vital foundation for this project. His personal encouragement and generous sharing of knowledge were instrumental throughout the research process. I am profoundly grateful for his trust in me to tell this story honoring Zarina's legacy in her pedagogy.

Preface

Blind Spot:

1. *a point of entry of the optic nerve on the retina insensitive to light*
2. *an area where a person's view is obstructed.*

(RISEBA Faculty of Architecture | RIXARCH Conference, 2024)

This paper on the development of student agency in the visionary pedagogy of the University of Washington (UW) Professor Emerita Astra Zarina (1929-2008) is a continuation of my research on the impact of her legacy. The research is based on documents from the Zarins Family "Latona Archives" in Seattle, Washington, and information and documents from her husband, family, colleagues, students, and friends, whose contribution was essential, but also my personal experiences and observations with Astra as my professor, mentor, and friend. I was privileged to participate as a student in the University of Washington's "Architecture in Rome" (AIR) foreign study program in 1975, the inaugural Italian Hilltowns (IHT) program in Civita di Bagnoregio in 1976, and as a Program Assistant for the IHT program in 1979 and these experiences have also become evidence in understanding the basis for this topic, the development of long-term student success through student agency. In 2016, with my first academic position, I found myself not only an architect but also an educator, and I began to focus my research on an exploration of her innovative pedagogy as one critical aspect of her life and career.

If you were asked what is one thing you could give your students through the pedagogy you employed in design education, what would that be? Students in the Interior Design Program in the School of Architecture + Planning (AS+P) at Morgan State University, as well as students at other interior design and architecture programs where I have taught, often tell me that their primary goal is to "get a job" after graduation and this is a valid goal for our students. One of our goals as educators should be to be career-ready students.

Beyond the short-term goal of "landing that job," what other factors are important in terms of end goals for students? Leadership is one of the Morgan State University's Core Values:

Morgan seeks to provide rigorous academic curricula and challenging co-curricular opportunities to promote the development of leadership qualities in students and to facilitate leadership development among faculty, staff, and students.

(Morgan State University, 2024)

As leadership is recognized as a fundamental value for students at Morgan, how can pedagogy support leadership as a primary factor of long-term success in the students' professions? How do you create a leader through strategies and methods employed in a design education pedagogy?

Introduction

Astra Zarina was born in Riga, Latvia, in 1929 to Alma Zarina and Eduard Zarins. In January of 1944, at the age of 15, her family received permission from the occupying German army to leave Latvia. On June 6, 1944, with the Red Army advancing rapidly toward German-occupied Riga, Zarina's mother departed from Riga with her children, the two girls Astra and Vija (Rekevics) and the two younger boys, Valdis and Uldis, on a ship bound for Danzig with the ultimate destination the United States.

Figure 1. Alma Zarina with Vija and Astra in Riga, Latvia (Zarins Family Archives, n.d.)

With the family settled in a refugee camp in Esslingen, Zarina applied for acceptance to the School of Architecture at the Technische Universitaet in Karlsruhe. She was accepted even though she was only sixteen. Zarina studied at Karlsruhe for most of two years between 1947 and 1949, studying under Egon Eiermann (Kögel, 2023). Zarina's father was not allowed to leave Riga with his family. He joined them in the United States after WWII ended when the family's emigration to Washington State was sponsored through the Lutheran Church (Heywood, 2008).

In the United States, Zarina received a Bachelor of Architecture degree from the UW in 1953 and a Master of Architecture degree from the Massachusetts Institute of Technology (MIT) in 1955, both with honors. After graduation from the UW, Zarina practiced in the influential office of Paul Hayden Kirk in Seattle, WA, and after graduation from MIT at Yamasaki and Associates in Troy, Michigan working as a

Figure 2. Student Work at Technische Universitaet in Karlsruhe
(Drawing by Astra Zarina, n.d.)

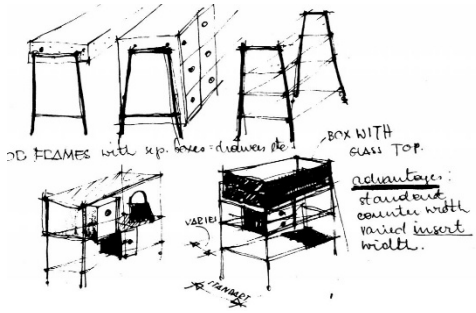


Figure 3. A Ladies Apparel Shop on Boylston Street. Boston: Approach No. 1 Towards Furniture
(Drawing by Astra Zarina for MIT M. Arch. Thesis, 1955)

project designer with architect Minoru Yamasaki (1912-1986), also a graduate of UW's architecture program.

Zarina returned to Europe in 1960 with a Fulbright Award and the Rome Prize in Architecture from the American Academy in Rome (AAR) as the first woman to receive the award. While a fellow at the AAR, Zarina measured the Arch of Septimius Severus in the Roman Forum and drafted plates of the monument along with an analysis of its underlying geometry. In an interview with Professor Richard Brilliant, Professor Emeritus of Art History and Archaeology, an Anna S. Garbedian Professor in the Humanities at Columbia University, who was also a fellow at the American Academy then. Brilliant related that Zarina completed the measured drawings for the arch on scaffolding while experiencing intense vertigo, "Those drawings are the work of a dedicated if acrophobic architect, who for several weeks in rainy weather courageously ascended the slippery scaffold and made the observations which resulted in her magnificent drawings" (American Academy in Rome, 1966).
Zarina remained in Rome after her Fulbright grant expired, where, among other projects, she was engaged as a Project Designer at Litchfield, Whiting, Bowne & Associates. Zarina also worked independently from her home and studio in the center of Rome on

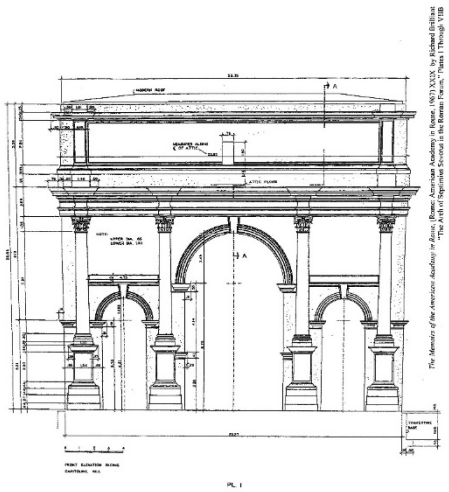


Figure 3. The Arch of Septimius Severus in the Roman Forum (Drawing by Astra Zarina, 1960)

Via Stefano del Cacco, where she worked on various projects, including the apartments for the New Town "Märkisches Viertel" in Berlin (1963) and the Club Facilities for the U.S. Officers in Vicenza, Italy (1967) (Heywood, 2008).

As Italian lawyer and long-term friend Jose' d'Amely Melodie related, Zarina first discovered the ancient hill town of Civita di Bagnoregio when architect Malcolm Davis "took both of us to Civita di Bagnoregio where he wished to buy a house." "Astra and I became friends, and in 1963, we bought our houses in Civita" (Torrell, 2011-2013).

Zarina described her first visit to Civita, the ancient Italian hill town 100 kilometers north of Rome. "We left at dusk, and I thought I was going to file away one more magical memory…Perhaps the fourth time I went to Civita with Malcolm and my vacationing sister, Vija (Rekevics), I was surprised by a tremendous cloudburst. My companions were nowhere near. I knocked on the nearest door and was let in by a small child who then disappeared. The space behind the impassive door seemed so dark and large that the only thing I saw at first was what seemed to be the world's largest fireplace. In it burned a small steady fire braced by elaborate andirons…In those

Figure 4. View of Civita from Mercatello (Photograph by R. Lauris Bitners, 2009)

moments I felt more secure that I ever remembered feeling" (House and Garden Remodeling Guide, 1974).

Zarina proceeded to buy the room and the adjacent lean-to, which was a former pig stye, on the spot. This was the first of subsequent purchases of spaces adjacent to the room with the fireplace. Since the late 1960s, Professor Zarina and her husband, American architect Anthony Costa Heywood (1936-2024) collaborated on the restoration of their property in Civita, including numerous buildings both for themselves and for clients. The restoration of the Zarina-Heywood residences became the classroom for the IHT program and later the facilities for the non-profit Northwest Institute for Architecture and Urban Studies (NIAUSI) they established (Cipalla, 2020).

At this time, Zarina and the prolific and celebrated photographer Balthazar Korab worked on the book, "I tetti di Roma: Le terrazze, le altane, I belvedere," which was to be published in 1976. As John Comazzi relates, shortly after arriving in Italy, Zarina contacted Korab to propose a collaboration surveying the "urban environment atop the roofscapes of Rome," which became Korab's ambitious and comprehensive project during his entire sabbatical in Italy" (Comazzi, 2012).

In 1965, Zarina returned to Seattle to teach in the UW Department of Architecture (as the first women professor), where she developed the foreign study programs AIR I&II in Rome and IHT in Civita di Bagnoregio, Italy. She later founded the UW Rome Center in the Palazzo Pio and served as Director of the facility from 1984 to 1994, after leading the design for the restoration of the building along with her husband, Heywood. "Originally designed for students of architecture, the Pio today houses programs from across the university – from business to literature. On average, 80 to 100 students participate each quarter" (Cipalla, 2020).

In 1982, Zarina and Heywood later established NIAUSI, currently DBA The Civita Institute, as a permanent facility located in Civita di Bagnoregio with the primary mission to "inspire and foster an interdisciplinary understanding of the unique qualities of Italian hill towns that remain pertinent to our contemporary experience through the promotion of historic preservation, education and scholarly research, artistic creation, cultural exchange, and professional explorations" (The Civita Institute, n.d.), originally through the offering of fellowships and residencies for mid-career professionals from the Pacific Northwest.

Zarina spearheaded the creation of a model for a sustainable cultural and architectural future for Civita di Bagnoregio, one of the tuff towns of central Italy. In 2006, Zarina, Heywood, and NIAUSI worked to secure Civita di Bagnoregio's listing to the World Monuments Fund's "100 Most Endangered Places" (World Monuments Fund, 2022).

Figure 5. Professor Emerita Astra Zarina in Lo Studio at Civita (Photograph by Betty Torrell, 1980)

Difference Maker

"Her goal was…to show us the wonder of what we were capable."

Lucy Sloman
(Torrell, 2011)

The above reflection by urban designer and planner Lucy Sloman, American Institute of Certified Planners (AICP), student and teaching assistant on the UW AIR foreign study program, former Planning Manager for the City of Issaquah, Washington (WA), USA and current President of CityWorks, Inc., as contributed to my nomination for Zarina to the Institute of Classical Art & Architecture (ICAA) Arthur Ross Award in Education, illuminates Zarina's legacy and more specifically the brilliance of her pedagogy.

Colleagues and students have credited Zarina as one of the "primary influences on their professional practice and how they see and engage with the world" (Torrell, 2011-2013). Zarina's legacy as a difference-maker is increasingly acknowledged in academia and the profession, but the pedagogy she employed remains a blind spot.

Gifted Architect

"Astra Zarina, perhaps the most talented artist ever to work for Yamasaki, was a fellow University of Washington alumnus who joined the firm…shortly after receiving a master's degree from MIT."

(Dale Allen Gyure, 2017)

It is a given that Zarina was multitalented. Latvian American architect Gunnar Birkerts, Fellow of the American Institute of Architects (FAIA) and Fellow of the Latvian Association of Architects (FLAS) described her as a colleague and collaborator who was "…one of the most gifted and creative minds I have known" (Torrell, 2011-2013).

Zarina introduced Birkerts to her beloved Civita di Bagnoregio, the hill town in central Italy she had adopted, and where he trusted her with the commission of the restoration of his property for his family's Italian home. "Architect Astra Zarina, a family friend and former colleague at Yamasaki's office, introduced Birkerts to Civita after she renovated a home for herself there. It was she who designed and supervised the

reconstruction of the Birkerts property over a five-year period" (Kaiser, 1989).

In testament to her role as an architect, Zarina received the following three recommendations for a position as Visiting Critic in the UW Department of Architecture and Urban Planning and further describe her as an architect and designer:

- Renowned Pacific Northwest architect Paul Hayden Kirk, FAIA, described her as "one of the most talented people in the field of architecture I have ever known."
- Architect Richard A. Kimball, Director of the American Academy in Rome (AAR) (1960-1965), described her as "a most thorough and thoughtful architect."
- Portland, Oregon-based, Italian American architect Pietro Belluschi, FAIA and later Dean of the Architecture and Planning School at MIT, stated, "In my long career, I have known a great many people engaged in the profession of designing buildings; only a handful of them had the magic gift and you (Zarina) are one of them…" (Kirk et al., 1964).

As UW Department of Architecture Professor Emeritus and colleague Phillip Jacobson said, Zarina possessed "multiple talents, interests, and attainments – practicing architect, designer, researcher, urbanist, writer, visionary, historian, academic administrator and above all a dedicated and superb teacher" (Torrell, 2011-2013).

It is this last role that I believe is her true legacy through her influence on the lives and work of the students who have become leaders in the roles of urban planners, urban designers, architects, preservationists, and designers. The influence of this teaching on the professional lives of her students was formally recognized by academia when she received the UW Distinguished Teaching Award in 1979.
Daniel S. Friedman FAIA, then UW Professor of Architecture and Dean of the Department of Architecture and Urban Planning, later described her influence, "Over the long arc of a distinguished teaching career, both in the U.S. and Italy, Astra Zarina influenced thousands of students who continue to benefit from her inspiring passion and genius for architecture, Italy and education" (O'Donnell, n.d.).

Indomitable Character

"She had a strong character and was motivated to accomplish what she wanted to do."

Jose' d'Amely Melodie,
(Torrell 2011-2013)

Zarina has often been referred to as a force of nature. Students and colleagues have often described Zarina's inspiration as a result of her unique personality; "brilliant, funny, open, opinionated, lively, inspirational, passionate, eye-opening, remarkable, intimidating, nurturing, stinging and healing, generous, witty, dedicated, tough and caring, stimulating, sincere, helpful, encouraging, talented, demanding and passionate;" all qualities that make a successful educator (Torrell, 2011-2013). As respected Seattle-based architect Edward Weinstein FAIA, founder and Principal of Weinstein AU and student on the first AIR program, said, "Astra was not a reserved personality. She was opinionated and passionate and challenged her students to exceed their expectations of themselves. For most of us, she redefined the professor-student relationship" (Torrell, 2011-2013).

Although you can't discount the contribution of her personality as inspirational, you cannot ignore her pedagogy as significantly influential to her students' success. When I began to examine her teaching methods, the clues to her wide-ranging and profound influence became apparent in her pedagogy. Zarina routinely taught graduate-level design studios in the UW Department of Architecture. She also instructed the foreign study programs she developed in Rome (AIR I & II) and Civita di Bagnoregio (IHT). Although her methods were similar, this paper employs the IHT program in Civita as the model for her pedagogy, as discussed later in this paper.

Transformative Teacher

"I'm an architect. I am also by nature a teacher. I love to see people develop, grow, and discover themselves. When I work with them, I discover things too."

Astra Zarina
(Griffen and Marmor, 1995)

Zarina's pedagogy is a valuable case study for the development of student agency, as references to agency are repeatedly found in students' descriptions of her teaching methods.

As Portland, Oregon-based architect Michael Dowd, Principal of Dowd Architecture Inc., recalled from his experience as a student in the IHT program, "We also learned that sitting in a classroom was not enough…one must take personal responsibility to learn throughout your life in and out of the academic setting" (Torrell, 2011-2013).

As IHT alumnus and former Senior Planner for the City of Bothell, WA, David Boyd, AIA, recalled, "It was in Civita that Astra introduced me and the other students to…learning by directly engaging with the patrimony of the ancient cultures that formed such a rich environment for all types of human activity…inspiring my work in architecture, urban design and planning as well as my appreciation of history, culture and life" (Torrell, 2011-2013).
As Ed Weinstein further recalled, "She introduced us to a way of observing and engaging in the world that was not even considered in the academy" (Torrell, 2011-2013).

There are several instructional theories in which student agency is central to student success, and it is not a coincidence that Zarina's pedagogy employed many of these active learning methods under the larger umbrella of Constructivist Learning Theory. In short, "Constructivism is the theory that says learners construct knowledge rather than just passively take in information. As people experience the world and reflect upon those experiences, they build their representations and incorporate new information into their pre-existing knowledge (schemas)" (University of Buffalo, n.d.). Much of Zarina's teaching methods, which could now be described and cataloged under the broad umbrella of Constructivist Learning Theory, were applied within Zarina's curriculum years before the tenets of these methods became codified and commonplace in design education. Two of these are:

- Applied Learning, and
- Experiential Learning (ExL).

Although these methods overlap, let us first examine one of these that Zarina's pedagogy actively employed: Applied Learning. Applied Learning pedagogies share a design fundamental: the nurturing of learning and growth through a reflective, experiential process that takes students out of the traditional classroom setting. The approach is grounded in the conviction that learning is maximized when it is active, engaged, and collaborative (Ash & Clayton, 2009).

Figure 6. Professor Emerita Zarina with Students in the UW IHT Program
(Photograph by Betty Torrell, 1979)

The Applied Learning process consists of four crucial phases (Knobloch, 2003). These phases are referenced in several ways, and for this study, the nomenclature is used as follows:

1. Construction of knowledge,
2. Hands-on learning experience,
3. Reflection, and
4. Value beyond school.

In Zarina's pedagogy of the IHT program, these phases were actively employed as follows:

1. *Construction of knowledge* was presented as understanding the historical and existing community, culture, and context of Civita and its original inhabitants, the Civitonici. Zarina shared her extensive research and experiences with the students through formal and informal means.

2. *Hands-on learning experience* was either as an independent student project or a Problem-Based Learning (PBL) project as a student team.

3. *Reflection* consisted of an analysis of the learning experience, concluding in a documentation of the project as a student report.

4. *Value beyond school* consisted of the dissemination of the student work, often in a public presentation to visiting scholars and professionals and the resident Civitonici.

These four crucial steps reinforce the meta-cognitive skills required for lifelong, self-directed learning (agency) that Applied Learning so critically supports (Ash & Clayton, 2009).

The next method Zarina's pedagogy employed that directly promoted student agency was Experiential Learning (ExL). Experiential Learning refers to a pedagogy originally developed by Aristotle. In "The Nicomachean Ethics," Aristotle famously states: "For the things we have to learn before we can do them, we learn by doing them." ExL is a process of education through experience, followed by reflection on that experience, and "…is part of the larger category of active learning because it directly involves students in the process of their own learning" (Top Hat, 2019). There are four elements described as pillars of ExL.

- *Learning in real-life contexts,*
- *Learning by doing,*
- *Learning through projects and*
- *Learning by solving problems* (Knobloch, 2003).

Central to these elements of ExL, the learner must be willing to be actively involved in the experience. ExL invites the student to "take charge," that is, become the "agent" of their own learning.

Student learning experiences in the IHT program were involved through active learning of all four pillars.

- *Real-life contexts* – Student projects were local to Civita or the immediate surroundings, and projects directly engaged with Civita and/or the residents of Civita, the Civitonici. Students understood that the research for their projects was not only a learning experience but an essential way of preserving a culture.
- *Learning by doing* – Student projects were hands-on activities. Projects were as diverse as documenting a traditional kitchen or cantine with measured drawings and photographs to excavating a cistern or inventorying a Civita garden.
- *Learning through projects* – Student work was researched, analyzed, and documented in project reports.
- *Learning by solving problems* – Students were given introductory information about the specific topic, its place within the broader culture of Civita, and its importance of preserving aspects of that culture, but students worked to create their own programs for their project, including objectives, methods, metrics, and deliverables.

As Carolyn Mooney described in "Sketches of Hope on an Italian Hilltop" for the Chronicle of Higher Education, "Over the years Civita has served as a living laboratory

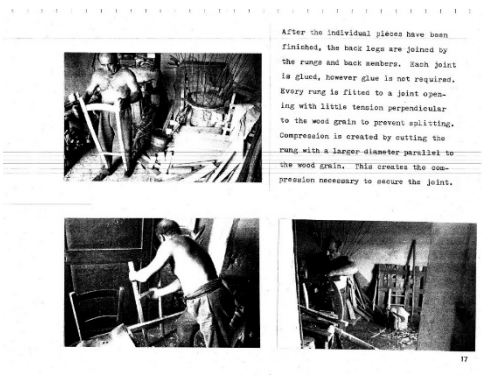
for dozens of students, who have surveyed its residents, analyzed its economic base, complied its genealogy, sketched its buildings, collected its recipes, scrutinized its church restoration, identified its plants…and other projects" (Mooney, 2001).

Student Agency

But what is student agency, and how does it contribute to long-term student success and students' future roles in the profession? Historically, the creation of student agency or "taking charge" has been articulated through various scholarly perspectives. Scholars have underscored how agency intersects with contesting institutional norms, making choices, and constructing identities through dialogue and language. But also important to our understanding, Albert Bandura (1901–1994), a psychologist who developed social learning theory, linked agency to the pursuit of control in one's learning activities and self-efficacy (Bandura, 1986).

Moreover, the concept of student agency, as conceptualized currently in the Organization for Economic Co-operation and Development (OECD) Learning Compass 2030, centers on students' capacity and volition to positively influence their own lives and the broader world. It encompasses setting goals, reflective action, and responsible decision-making to bring about change. According to the OECD, when students are active agents in their learning, they demonstrate higher motivation, engage in self-directed goal setting, and acquire the crucial skill of "learning how to learn" for the lifelong application of learning (OECD Future of Education and Skills 2030 Concept Note, 2019).

Figure 7. The Civita Chair -- A Vernacular Form
(IHT Student Project Page by Betty Torrell, 1976)



The pedagogy of student agency is then a point of entry to understanding Zarina's legacy as a difference-maker for her students in their future accomplishments and contributions. Building from these theoretical orientations, a model of agency empowers students by giving them the ability and confidence to actively shape their own learning experiences through the development of:

- autonomy,
- critical thinking,
- adaptability,
- curiosity,
- self-regulation, and
- purpose.

In summary, when students develop agency, they are more likely to set meaningful goals and connect learning to personal aspirations, instilling a sense of purpose and promoting sustained engagement and lifelong learning beyond formal education, all skills that empower them to make a difference (OECD Future of Education and Skills 2030 Concept Note, 2019).

The intent of this paper then is to illuminate a blind spot in Zarina's legacy, focusing on her pedagogical approach that facilitated the cultivation of student agency through Applied and Experiential Learning methods and underscoring the transformative potential of pedagogical strategies in nurturing lifelong learners poised to enact meaningful contributions to the world as leaders in the creation of the built environment. This student agency fostered through her pedagogy continues to empower her students to effect positive change as difference-makers in various capacities, including educators, mentors, and innovators, shaping not only the built environment as practitioners when architect Michael Dowd relates, "**Her influence lives on in the hundreds of buildings and spaces designed by her students…**" (Torrell, 2011-

2013), but also through their contributions in their professional abilities as related by urban designer and planner Lucy Sloman when she says, "**I regularly cross paths with her students in city government, large architectural firms, and small construction companies…**" (Torrell, 2011-1013), and as catalysts for societal transformation as related by renowned Seattle based architect Tom Kundig, FAIA, Royal Institute of British Architects (RIBA), and Principal, Owner & Founder of Olson Kundig, "**The strongest testaments to the quality of Astra's mentorship are the young practitioners who advanced under her tutelage to become successful visionaries themselves. Today, I work alongside many of Astra's students, many of whom are renowned worldwide, and still see her inspiration and teachings reflected in their work**" (Torrell, 2011-2013).

Conclusion

"There is no past we can bring back by longing for it. There is only an eternal now that builds and creates out of the past something new and better."

Johann Wolfgang von Goethe

An exploration of Professor Emerita Astra Zarina's profound legacy as an educator can illuminate a crucial blind spot in our understanding of her impact: her pedagogical approach fostering student agency. Through her innovative methods aligned with but predating the methods of Constructivist Learning Theory, Experiential Learning and Applied Learning, Zarina empowered her students to become active agents in their learning journeys. By instilling autonomy, critical thinking, adaptability, curiosity, self-regulation, and purpose, Zarina's pedagogy cultivated lifelong learners poised to make meaningful contributions to the world. Her influence extends beyond the realm of architecture, shaping leaders in design, urban planning, preservation, and societal transformation. As we reflect on Zarina's legacy, we are reminded of the 'eternal now,' as described by Zarina's beloved Goethe in the quote above, where the past serves as a foundation for building something new and better. Through her dedication as an educator to the empowerment of her students, Zarina continues to inspire generations of professionals to embrace their potential and effect positive change in our ever-evolving world.

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Helena Gutmane

Decision-Making as Symbolic Space. Understanding Urban Practice with Bourdieu.

Abstract

The article contributes to the debate on rationalism in urban planning and design by addressing the methodological challenges of analysing social and psychological dimensions of communication within spatial transformation, focusing on decision-making. Conceptualizing decision-making as symbolic space, it aims at shifting the enquiry from the operational to the causal level.

Although the crucial role of socio-psychological aspects in the process of spatial transformation is widely acknowledged, their mutual correspondence often receives relatively scant attention from planning scholars, prioritizing the social over the psychological, leaving the latter a blind spot.

Neo Bourdieusian interpretation of spatial trialectic is used to approach decision-making in urban practice as a pivotal 'crossroads', where non-material phenomena are moulded to effect changes in physical space, and where professionals act as an influential group of expertise.

The paper attempts to deconstruct the enigmatic layer of decision-making and to propose analytical tools that are suitable to relate the intangible—motivations, values, beliefs, and perceptions of spatial professional decision-makers—with their social manifestations in urban practice and their footprint in physical space.

Spatial trialectic is an innovative interpretation, which has recently emerged within the sociological discourse, of Bourdieu's conceptual toolkit of habitus, field, and capital. It embraces the mutual correspondence of symbolic space, social space, and physical space, emphasizing the causal role of symbolic space.

Integrating symbolic space as manifesting in urban decision-making into the analysis of socio-spatial processes offers a plausible strategy for research of socio-psychological interplay and opens methodological access to the psychology of communication within spatial transformations.

Keywords

Bourdieu; decision-making; symbolic space; urban practice; spatial transformations.

Introduction

In their recent book How Big Things Get Done: The Surprising Factors That Determine the Fate of Every Project, from Home Renovations to Space Exploration and Everything in Between, Bent Flyvbjerg and Dan Gardner (2023) analyse a database of over 16,000 projects and uncover a massive imbalance in project management's ability to deliver on time and on budget, with a failure rate of 99.5%. They conclude that "psychology and power drive projects at all scales, from skyscrapers to kitchen renovations" (Flyvbjerg & Gardner, 2023 p. xii).

For readers familiar with planning literature, the debate on power will come as no surprise. The issue of power has been central to discussions on rationality in planning since WWII, particularly in the debates between proponents of "rational" or "comprehensive" planning (RCPM) and those advocating for incremental, advocacy, radical, and especially collaborative or participatory planning, largely informed by communicative planning theory (CPT).

The debates on power highlighted the necessity of addressing the psychological dimension in communication during spatial transformations. Several urban planning scholars have contributed to this research by applying various philosophical, sociological, and psychological concepts, as well as methodologies and theories from psychology (Baum, 2012; Gunder, 2011; Gunder & Hillier, 2016; Hoch, 2006; Porter et al., 2012; Schön, 1983).
However, the interrelationship between the social and the psychological remains receiving relatively scant attention due to the tacit nature of the psychological and its challenging analytical accessibility for those researching urban planning and design processes. This phenomenon often leads to a state of "inattentional blindness" (Drew, Võ & Wolfe, 2013) within planning scholarship, relegating the exploration of the socio-psychological dimension to the periphery of urban discourse and research agendas.

The article contributes to the debate on rationalism in urban planning and design by addressing the methodological challenges of analysing social and psychological dimensions of communication within spatial transformation, focusing on decision-making. Conceptualizing decision-making as a symbolic space, it aims at shifting the enquiry from the operational to the causal level.

An attempt is made to deconstruct the enigmatic layer of decision-making and to propose analytical tools that are suitable to relate the intangible—motivations, values, beliefs, and perceptions of spatial professional decision-makers —with their social manifestations in urban practice and their footprint in physical space.

The article is structured as follows. The first section sketches major lines of debates on rationalism in urban planning discourse. The second situates decision-making as a critical component of spatial practice, using the Bhaskarian framework of three societal domains (Bhaskar, 2013) utilised in the third section. The next section is devoted to the Bourdieusian concept of spatial trialectic and symbolic space within it. The fourth section highlights spatial professionals as an influential group of expertise and defines the field of spatial transformations. The conclusions interpret decision-making as a symbolic space and briefly introduce potential future discussions.

1. Debate on Rationalism in urban planning

Discussions on rationalism have been central to urban planning scholarship since WWII and culminated in debates on rationality in planning. John Friedmann (1987) identifies the 'rationality theme' as omnipresent, leading to the dilemma of 'whether and to what extent planning is or can be rational.' Planning theory distinguished multiple planning types (Holden, 1998), including the SITAR model (Hudson, Galloway & Kaufman, 1979), which covers main approaches, each with its own steady set of strategies, in planning

practice since the 1960s. The model includes five types of planning, with the synoptic model considered the dominant 'rational' planning approach. However, incremental planning (Lindblom, 1979), transactive planning (Friedmann, 1973), advocacy planning (Davidoff, 1965), and radical planning (Grabow & Heskin, 1973) are critical of the rationalism of synoptic planning and are viewed as more inclusive and socially responsible alternatives.

At the turn of the century, heavily polarized theoretical debates emerged between proponents of the rational comprehensive planning model (RCPM) and the communicative planning theory (CPT) that was theoretically articulated in the 1980s. These theories highlighted opposing approaches in planning. The first, RCPM, is affiliated with the scientific decision model, predictability, and the predominance of spatial characteristics (Yiftachel, 1989). The second, CPT, argued for the recognition of planning activity as being embedded in day-to-day social relations and the usefulness of a collaborative approach (Healey, 1992; Innes,1996). This dichotomy contrasts those focused on the technical and operational aspects of planning ('being right') with those viewing planning as a moral and political endeavour ('doing good') (Hoch, 1984). The persistence of rationalism in planning practice, despite its intensive critique, was acknowledged, with the psychological reassurances it provides practitioners being named as one of the reasons (Lawrence, 2000).

CPT, which emerged in the 1980s and 1990s as a challenge to 'unsettled assumptions about what planning is, how it works, and how it ought to be done' (Innes & Booher, 2015: 3), formed a strong opposition to the rational approach and largely became mentally equated with the notion of consensus. By reorienting planning towards an interactive understanding of planning activity, it made theoretical use of the theory of communicative rationality and communicative action by German philosopher Jürgen Habermas (1987) to create common ground for involved stakeholders (Innes & Booher, 2015). Simplifying the relationship between the theoretical reflections of scholars within CPT and Habermas's theory of communicative action, opponents of CPT extrapolated critiques of Habermas's work onto the writings of CPT scholars (Innes & Booher, 2015). However, the 'collaborative planners' themselves argued that the practices they analyzed 'were not about searching for a truth in the Habermasian sense, but about finding practical solutions to shared problems in the ways Dewey advocated' (Innes & Booher, 2015 p.6). CPT scholars were criticized for planners' inability to take a stand in the face of societal structures of domination (Fainstein, 2000), for their limited ability to engage with 'the inevitable question of power' (Hillier, 2003; Flyvbjerg, 1998; Tewdwr-Jones & Allmendinger, 1998).

This critique has recently received special attention within discussions on consensus and conflict. An assumption is that collaboration and consensus-building serve to temper episodes of conflict through superficial communication and carefully staged dialogue may paper over conflict rather than acknowledge and confront it, failing to allow for the agonism necessary for legitimate decision-making (Gunder, 2003; Kühn, 2021). The democratic character of communicative planning is questioned, as there is suspicion that 'choreographed' citizen engagement may guide urban planning or design processes toward outcomes predetermined by powerful actors (Allmendinger & Haughton, 2012; Metzger, 2017). Concerns are raised that circumscribed citizen engagement may serve to temper episodes of conflict through superficial communication and carefully staged dialogue, thereby undermining critical discourse (Gualini, 2015; Metzger et al., 2014). The scepticism surrounding the collaborative approach is often tied to discussions on the role of planning practitioners. A recent interpretation of the ideological dynamics in planning situates professionals as practical ideologists, contesting the image of planners as specialists focused on pragmatically

addressing day-to-day challenges (Metzger, 2021).

These discussions reconnect with the debates on rationalism, the role of professionals and the tacit dominance of the psychological in decision-making.

2. Decision-making in urban practice and three domains of society

Decision-making, as a critical component pervasive across all stages and levels of spatial practice, commands significant attention in urban discourse. While a substantial body of literature on urban decision-making covers diverse topics such as governance, policy, public participation, and sustainability, much of it focuses on tangible, measurable dimensions at the operational level. This predominant focus often involves scrutinizing patterns, techniques, behaviors, and outcomes of decision-making, addressing questions of 'who is doing what to whom' (Flyvbjerg, 2004 p.302).

Within spatial change, decision-making represents the time-space where non-material phenomena are shaped to bring about changes in physical space. The analysis of spatial transformations thus lies, albeit simplified, within the realm of intangible driving forces of human actions, juxtaposed with the tangible, countable, and observable phenomena of physical space.

Amidst the prevailing emphasis on operational aspects, there is growing theoretical interest in a deeper understanding of the 'why' behind decisions. Over the past century, influential urban planners have made significant contributions to this discourse, now considered classics in urban scholarship. The inexhaustive list includes Kevin Lynch (1995), Paul Davidoff (1965), Charles Lindblom (1979), Donald Schön (2017), which explored the perceptual aspects of urban form and decision-making, advocated for increased citizen participation in decision-making, highlighted the importance of incremental decision-making and 'muddling through' in public policy and planning and emphasized reflection and problem-solving among urban planning professionals. Others, like John Forester (1993), Judith Innes (1996), Patsy Healey (2023), and Leonie Sandercock (2004), advanced the common understanding of collective and community decision-making through collaborative planning and communicative action.

To improve analytical clarity in the context of decision-making, this article employs the conceptual framework of society derived from critical realism. This framework distinguishes between three societal domains – the real, the actual, and the empirical (Bhaskar, 2013). The real domain represents the hidden and analytically inaccessible realm of generative mechanisms, such as motivations, values, beliefs, attitudes, as well as potentialities, powers, and unrealized events. In contrast, the actual domain encompasses observable and measurable events and facts, while the empirical domain reflects the sensemaking and experiences derived from these events (Boje, 2018; Holt-Jensen, 2018)(Figure 1). According to Bhaskar, the real domain not only includes the actual and the empirical but also encompasses things and events that exist or occur outside human perception or experience (Bhaskar, 2010 pp. 1-2; Boje, 2018). Consequently, the real domain exhibits two primary characteristics: it is both intangible and all-encompassing.

The act of announcing a decision occurs at the actual domain, representing a visible outcome of generative powers operating within the real domain. These powers are often obscured and challenging to apprehend in the moment, making them less accessible for quantitative analysis. Events occurring at the actual domain, particularly those manifested in physical space, are more readily subject to quantitative analysis, offering seemingly plausible and rational explanations for causal relationships. As a result, the actual domain tends to attract greater academic attention, with researchers and funding

bodies focusing primarily on the actual and empirical domains. This focus centers on methods, models, approaches, and outcomes of decision-making, while often overlooking the deeper, more concealed dynamics within the real domain, where the very act of the plan's conception occurs through decision-making. Understanding this process requires an analytical toolkit capable of uncovering the interrelations between the real domain, the sociality of the actual domain, and the physicality of the empirical domain.

3. Symbolic space within a trialectic of spaces for urban practice

The Neo-Bourdieusian concept of the trialectic of space offers an innovative interpretation within the sociological discourse of Bourdieu's theoretical framework of habitus, field, and capital, further developed by Loïc Wacquant. By revisiting Bourdieu's Theory of Practice (1977) and his early works, Wacquant conceptualizes a trialectic of interconnected and interdependent spaces: physical, social, and symbolic, all of which are encoded within Bourdieu's works (Wacquant, 2022). According to Wacquant, these three spaces are continuously interrelated and omnipresent within one another.

Physical space is defined as the three-dimensional material expanse where agents and institutions are situated and carry out their activities.
The tangible nature of physical space offers material opportunities for the embodiment of mental constructs. For instance, it transforms the visions of powerful actors into architectural realities and reflects social divisions through spatial formations, such as delineating distinct neighborhoods or creating gated communities. While physical space is predominantly apprehended through senses and emotions, it is less

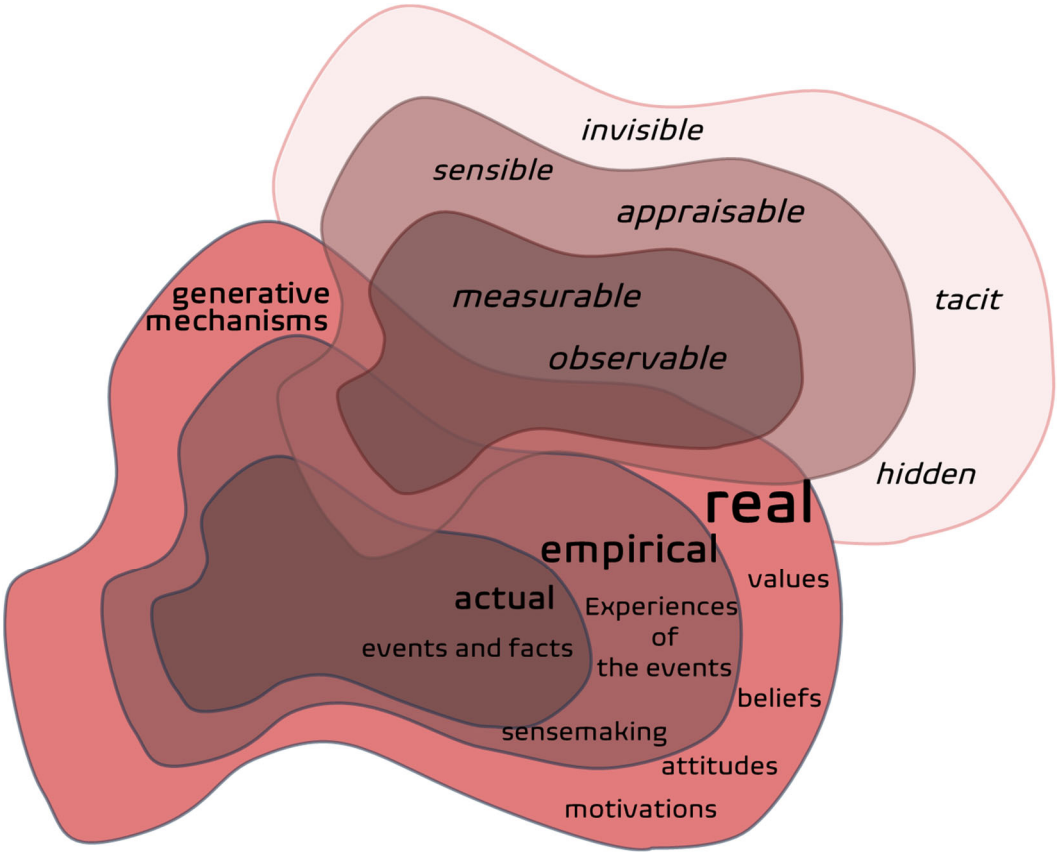


Figure 1. Correlation of three societal domains with their perceived visibility. Landscape diagram created by the author.

cognitively processed, yet it plays a crucial role in the accumulation of social and symbolic meanings. The ineffable and unquestioned nature of physical space is rooted in its non-verbal expression (Lawson, 2007).

In the practice of spatial transformations, physical space holds a central role, serving both as the subject of planning inquiry and the object of activities undertaken by the involved actors. The alteration of physical space becomes the implicit outcome of their efforts. However, unlike other participants such as politicians, lawyers, or real estate developers, spatial practitioners focus primarily on imagining spatial changes, where they must navigate the interactions between various forms of capital and their unequal distributions since physical space ultimately acts as the material expression of social space.

Social space encompasses the multidimensional distribution of agents across objective positions defined by the allocation of diverse forms of capital, a term Bourdieu uses to denote sources of power: economic, cultural, social, and symbolic (Bourdieu, 1984). This allocation follows three primary axes: the total volume of capital across its relevant forms, the composition of capital focusing on the relative influence of economic and cultural capital, and an axis tracking changes over time in both capital volume and composition. The owners of large amounts of capital that form the dominant social groups fall into two categories. The first category includes individuals with a large amount of economic capital and a small amount of cultural capital. The second category mirrors the first: it includes individuals with a large amount of cultural capital and a small amount of economic capital. Between these groups (called "businessmen" and "intellectuals") there can also be a struggle, at the intersection of different fields and capitals. Bourdieu calls this place of intersection and struggle the field of power.

According to Wacquant, social space serves as the "mother category" from which the field emerges. A field represents an autonomous social space shaped by specific forces. Bourdieu introduces the concept of "force“, which unifies various elements around an object, forming an autonomous social field. The force determines the relational dynamics among agents in social space, characterizing them as relations of difference and power (Wacquant, 2001). The relational dynamics within the social field are tied to the distribution of capital, where each agent's social position is defined in relation to the sources of force, shaping their goals and perceived benefits. The force, defined by the value that agents ascribe to it, is referred to by Bourdieu as ‘illusio.’ This notion describes the belief that certain social activities and material goods are important and worthy of investment. Therefore "worth" is another important notion in the Bourdieusian conceptual system of practice.

The clash of planning approaches and perceptions of urban planning and design—whether seen as inclusive social practices or, conversely, as predominantly technocratic and aesthetically exclusive activities—illustrates the complex interaction of different forces, values, and beliefs within the realm of spatial transformation. It raises the question of whether this realm functions as an autonomous social field with its own living community, which defines central forces and ascribes values, or if it is a 'field of power' where various fields and capitals intersect. This, in turn, invites consideration of specific forms of symbolic power by which a community of practice enacts a shared sense of purpose within a field, a collusio (Bourdieu, 2000, p. 145), creating a symbolic space where this power is exercised, influencing both the physical and social dimensions of spatial transformation.

Symbolic space, as defined by Pierre Bourdieu in *Language and Symbolic Power* (1991), refers to the cognitive topography through which individuals categorise and classify the empirical world. These cognitive

categories, functioning as mental grids, consist of interdependent dualities such as masculine/feminine, high/low, right/left, active/passive, and public/private (Wacquant, 2022), which shape how people think, feel, and act. These categories are deeply embedded within the body and form part of an individual's habitus, carrying both individual and collective histories. The collective experience is inscribed within institutions, where individuals gain authority as part of a social entity and derive influence from major symbolic institutions such as the state, religion, science, politics, and law. These categories are further reinforced by everyday life, socialization practices, ceremonies, and rites, all of which reflect the power dynamics and struggles for classification within society. Symbolic space thus is constitutive of habitus as a set of cognitive and motivational structures and dispositions.

The symbolic classifications that guide urbanites, Bourdieu defines as 'the objectivity of the second order' (Bourdieu, 1980a as cited in Wacquant, 2022). Wacquant suggests that mapping the city through these cognitive grids helps track components of symbolic space, such as social order and coherence, as well as potential change and transformation when new categories emerge, and old ones are challenged.

The application of the concept of symbolic space to urban analysis at the city scale provides a clearer explanation of events and phenomena within the actual domain and enhances the understanding of sensemaking in the empirical domain of society. In turn, when applied to decision-making, it offers a lens for examining the real domain of motivations, beliefs, and values, uncovering their causal dynamics.

The relative autonomy of symbolic space develops through the emergence and consolidation of cultural production fields such as religion, art, science, law, journalism, and politics. Within these fields, symbolic forms of power are created by specialists according to internal criteria (Bourdieu, 1994b as cited in Wacquant, 2022).

If the concepts of force and worth capture the 'anatomy' of social space, the notions of illusio/collusio, doxa, and hysteresis describe the dynamics of its continuous formation, adjustment of internal criteria, and the generation of symbolic forms of power. Doxa, as a set of fundamental beliefs, justifies practical sense and becomes apparent only when agents engage within familiar social fields. It transforms into a form of power within

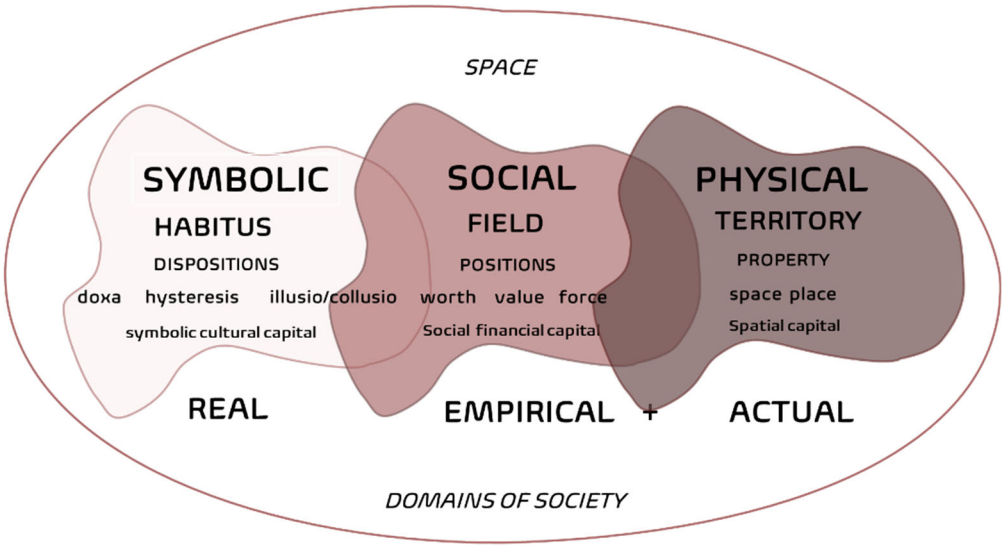


Figure 2. Ttrialectic space and societal domains. Diagram created by the author.

established formal and semi-formal institutions (Bourdieu, 2000).

Doxa ensures the stability of any field, as social structures produce and reproduce themselves through the practices and perceptions of agents, thereby shaping their habitus. Illusio serves as a bridge between habitus and field, mutually reinforcing and amplifying the prevailing power of doxa (Gutmane, 2023). Together, illusio and doxa function as forces that continuously regenerate symbolic space.

Doxa also steers hysteresis—an asynchrony between habitus and field in which agents continue to reproduce old social relations even after these relations have changed or the agents have shifted their positions within them (Bourdieu, 2000). The gap between the slowly evolving normative framework, embedded in collective mindsets and traditional rituals, and the rapidly changing urban practices amid current uncertainty illustrates hysteresis within the realm of spatial transformations.

Hysteresis highlights the process of habitus change, making "visible" the clashing values and reattributing worth within each specific spatial transformation.

Figure 2 graphically summarizes the theoretical tools of the Bourdieusian trialectic space and illustrates their correlations with the Bhaskarian domains of society.

4. Spatial design professional disciplines in the Field of spatial transformations (FoST)

The dynamic landscape of professions within spatial transformations reflects the increasing complexity of urban life. Modern challenges—such as climate change, rapid urbanisation, social inequality, the encroachment of augmented reality on authentic engagement with the physical world, and the decline of face-to-face interactions and outdoor activities—are just a few among many.

Today, a significant shift is occurring as humans increasingly delegate social ordering to technology, diminishing the perceived role of physical space while activities migrate to digital networks and AI-generated realities. These transformations not only diversify professional responsibilities but also place considerable pressure on spatial practitioners, prompting them to deepen their understanding of their role and significance in driving and managing change (Grubbauer, M., et al., 2024).

Sociological scholarship on professions highlights their profound impact on social structures, signalling the advent of professional society. While the characteristics of professions differ across social and economic contexts, they are broadly defined as knowledge-based groups (Nelson & Bobbins, 2017). Research suggests that a significant part of professional practice involves tasks of persuasion. Therefore, beyond delineating the functions and attributes of professions, it is essential to explore their motivations, outlooks, and roles in processes of change (Noordegraaf & Schinkel, 2011).

The role of spatial design professional disciplines and their representatives in the process of spatial transformations has been central to debates within the three main spatial design disciplines—urban planning, architecture, and landscape architecture—since their inception. The global socio-economic shifts and technological revolutions of the 21st century, along with the decline and diversification of traditional professions and the emergence of new ones, create two counterforces within the field of professional spatial design disciplines.

One, centripetal, is driven by meta-disciplinary approaches and interconnected digital design media tendency towards professions' convergence and dissolving of the disciplinary borders as a result, another is centrifugal impulses of professional specialisation and fragmentation prevalent

since the 1950s and following inexhaustible efforts to control the sub-disciplinary borders, e.g. by licensure of professional practice and education (Kullmann, 2016).

Converging meta-disciplinary approaches encompass the collaborative turn (Healey, 2022; Innes, 2016) and a clear shift towards interdisciplinarity (Nelson & Bobbins, 2017), as well as global challenges such as increased environmental and social risks, the rise of information technologies and AI-driven imaginaries, and the growing demand for and threats to democracy and public participation (Metzger, 2017; Steinitz, 2020). Diverging factors revolve around concerns regarding the integrity of institutional identities and the irretrievable loss of intellectual autonomy (Kullmann, 2016), leading to constraints in project management and a reduced capacity to effectively contribute to the quality of the urban environment and societal well-being. This situation can result in hidden miscommunications or open confrontations between urban professionals, shifting the focus from common goals to sectoral interests.

However, all spatial design professionals—whether they are staunch proponents of RCPM or passionate followers of CPT, advocates of interdisciplinary collaboration or defenders of disciplinary boundaries—share two common aspects. First, they develop their professional expertise around physical space and recognize its centrality to their practice. Second, despite differences in focus, their specific discourses increasingly value physical space as a common good. Thus, physical space can be seen as a unifying force for spatial design professionals, who centre their social-professional interactions around this shared attribute.

Consequently, today we can speak of the field of spatial transformations (FoST), where the dynamics revolve around shared values that professional social groups within FoST offer to their members through educational and practical building activities. The unique combination of heterogeneity and turbulence is the key characteristic that distinguishes FoST from other fields.

The heterogeneity enforced by FoST's ability to deflect the central forces of the aforementioned four constituting fields—the economic, artistic, bureaucratic, and political—substitutes these forces with physical space as its central focus. This substitution shifts the inertia of physical space to a particular force, attributing value (worth) to it. The relative immateriality of financial capital becomes solid materiality when territory is turned into property; building regulations and plans materialize as urban patterns; and political decisions are transformed into urban infrastructures of all scales.

Inertia of physical space lies in the material constraints it imposes, the opportunities it offers for location, position, and movement, and the capital, labor, and time required to transform it (Wacquant, 2022). Within a time-space, created by inertia, competing old and emerging values produce hysteresis, which reattributes worth within each specific spatial transformation. This process often occurs automatically and, as a result, remains inattentive in the background. Worth fluctuations range from precisely recorded property values to the invisible shifts in attitudes, motivations, perceptions, and deeper cognitive-emotional flows during spatial transformations.

Meta-disciplinary approaches, such as the increasing call for interdisciplinarity, collaboration, and participation, for finding a 'common ground,' generating collusio, are signalling the formation of FoST as an autonomous social field with physical space as a specific force and the common good as a shared worth.

Urban practice, operating within FoST, can be viewed as assemblages of diverse communities of practice, which in interdependent interactional settings communicate socio-spatial values, defining worth and seeking collusio in order to reach specific goals offered by the field.

Turbulence, another characteristic of FoST, largely depends on the inertia of physical space, turning FoST in arenas of struggle. The turbulence affects all levels of societal domains in the field.

The actual level of visible events and facts may include the normative framework of spatial transformations, institutions and organizations managing spatial change, and projects and plans as instruments of this change. Much has been written and debated about the speed of policy-making, which often delays sociocultural shifts caused by global environmental and technological challenges, issues of horizontal versus vertical urban governance, instrumental aspects like the benefits of land use versus spatial planning, and the increasing managerial ethos of urban development projects.

The empirical level of professional experience is reflected in the debates surrounding the efficacy of RCPM and CPT, as well as the broader role of spatial design specialists in urban change, addressing issues of domination and power. These discussions also delve into the ethical dilemma of whether to be "advocates of the voiceless" or "servants of power."
Finally, the real level amalgamates the often-contrasting values of the four constituting fields of FoST: maximisation of profit in financial, absolutisation of law in bureaucratic, creative imagination in artistic, and power as self-worth in political spheres (Figure 3). This amalgamation occurs during the decision-making process, which is often highly sectoral and closed, particularly at higher hierarchical scales, where political decisions are transmitted through normative channels to design professionals and the final users of the space.

The turbulence is driven by two conflicting factors: the overarching common goal of transforming a physical space on one hand, and the inherent conflicting values of representatives from the constituting fields on the other. This situation mirrors transdisciplinary impulses: the first is centripetal, seeking to find common ground and create a collusio within the field; the second is centrifugal, where collusio transforms into an individual's personal sense of purpose (Threadgold, 2018), as they invest themselves by appropriating the values of the groups to which they belong. This transformation is also significant for professional groups, where individuals share a collective social identity.
The process contributes to professional fragmentation and specialization, fostering the creation of relatively homogeneous subfields within architecture, landscape architecture, and urban planning, each with its own practical sense, values, and beliefs. Each subfield develops its own doxa. The central question in each decision-making event during spatial interventions is whether the specific way of reshaping a particular space is worth pursuing. These events become arenas where spatial design specialists, bureaucrats, politicians, and economists debate the appropriate instruments. Debates over the best route for high-speed trains or motorways in large infrastructure projects, the choice between participatory or comprehensive approaches to planning, and similar discussions, all serve as examples of argumentation based on different values.

Three spatial design disciplines, whose daily practice is to reimagine artistically and to align socially physical space - spatial planners, architects and landscape architects, constitute the habitual group of FoST, having it, unlike the other professional groups involved, their only “home”.

Notwithstanding the fact that the ideal central worth of these professional social groups is a physical space as a common good, differently articulated by different professional groups, there is a specific set of values for each of them.

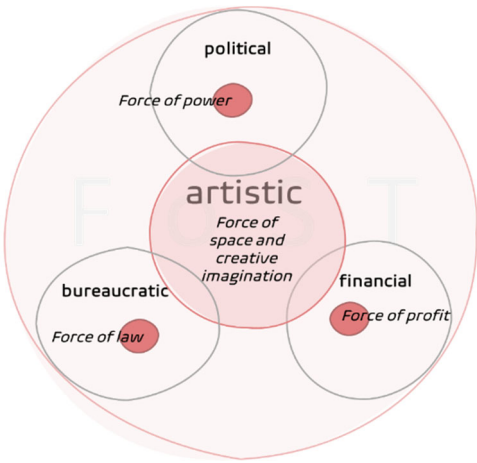
The differentiation of values is defined by the tendency to control disciplinary borders, influenced by economic factors, identity, and the type of spatial structures

professionals work with. Simplifying reality, architects are responsible for building substance and structure, landscape architects work with open spaces and green and blue structures, while planners encompass all structures, including social aspects on a larger scale.

Following historical fragmentation, each subdiscipline seeks to develop its discourse. Architectural discourse is rich in speculation about the aesthetics of architecture as a substantial quality (Scruton, 2021). Aesthetics dominate architectural thinking, resulting in the "ideology of the artistic genius," which is a fundamental axiom of architectural thought (Stevens, 2002, p.8). Well-known memes like "starchitects," the "Bilbao effect," and "wow factor architecture" are examples of this.

Other voices critique modern architecture as "a hollowed-out profession with architects seemingly less vital than ever" and highlight the "hideous consequences of industry fragmentation and mismanagement," contrasting it with the historically heterogeneous nature of the profession (Jolliffe & Crosby, 2023). Evidence suggests that modern architectural practice is increasingly oriented toward promoting environmental quality, yet it faces challenges posed by normative and legislative frameworks that often conflict with architectural thinking, artistic

Figure 3. Composition of the field of spatial transformations. Diagram created by the author



approaches, professional dialogue, and community culture (Mikelsone, 2019).

Landscape architects grapple with the fragmentation and loss of disciplinary boundaries in theory and practice, alongside challenges such as the absence of a cohesive design discourse stemming from the field's diverse origins, and inherent ambiguities associated with landscapes and the term 'landscape architecture' (Kullmann, 2016; Newman et al., 2024; Raxworthy, 2023). The landscape serves as both the object and medium of landscape architectural practice (Steinitz, 2020¬), continually subject to change and growth (Brian Hackett in Raxworthy, 2023). Similarly, to architects, there is a societal shift towards valuing ecology and sustainability (Baird & Szczygiel, 2007). Landscape architects place a strong emphasis on collaboration, working with architects at smaller scales, urban designers at mid-scales, geographers at larger scales, engineers across all scales, as well as layers of professionals including bankers and government officials, without compromising their professional identity (Steinitz, 2020).

Despite historical ties between planning and architecture, a significant gap between these professions emerged in the latter half of the 20th century, often marked by mutual antagonism. However, there is a growing tendency to acknowledge and encourage more productive collaboration to enhance the quality of urban environments (Nelson & Bobbins, 2017).
Urban planning, operating at larger scales, is particularly influenced by power relations and control of resources, as well as socio-political dynamics (Moulaert, 2005). These dynamics present key challenges, including navigating conflicting interests among various stakeholders, balancing economic development with social equity, and responding to the complexities of environmental sustainability. Additionally, urban planners must address the tension between short-term political agendas and long-term planning goals, while managing the spatial inequalities that often arise in rapidly growing urban areas.

Urban design, as an emerging discipline lacking a clear definition and well-developed professional structure, shares common values with related disciplines. Schurch (1999) argues that while some architects see urban design as an extension of architecture and some planners view it as a branch of urban planning, the significant contributions of landscape architects to urban design are not always fully recognized (Nelson & Bobbins, 2017).

5. Conclusions

This article attempts to revisit the debates on rationalism and rationality in urban planning that were prominent at the turn of the century, with the aim of addressing the pressing issue of the psychological dimention in urban planning and design decision-making.

The analysis of these debates leads to the conclusion that, despite the development of more inclusive approaches in urban planning and design, and the widespread political and professional recognition of collaborative practices, the habitus of the rational planning model remains subtly embedded in the day-to-day work of spatial design professionals. This latent presence is reflected in the somewhat diminished debates on rationalism and rationality in urban planning and design, which are now being revitalized through discussions on participation, ideology, power, and democracy.

A plausible explanation for the persistence of the Rational Planning Model (RPM) lies in its idealized attributes: the perceived clarity of its explicit and adaptable procedures, its systematic process, and the clear foundation it provides for justifying decision-making. The well-defined role of the planner as an expert advisor contributes to psychological stability within the profession. However, the growing professional and public attention to the discrepancy between plans and their implementation highlights the non-linear and rationality-resistant nature of these processes. Recent debates on uneven power distribution have drawn scholarly focus to lines of antagonism, often overlooking the more nuanced and complex nature of decision-making—particularly its socio-psychological dimension—due to the methodological challenges associated with accessing this aspect of urban practice.

The novel interpretation of Bourdieu's framework of habitus, field, and capital—the trialectic of simultaneously interdependent yet autonomous spaces: symbolic, social, and physical—was employed to ascertain analytical tools suitable for examining socio-psychological interactions in the collective settings of planning decision-making.
Key concepts such as doxa, illusio/collusio, hysteresis, force, and worth were analyzed in greater depth, as they provide critical insights into the mutual interdependence between the constituent elements of the urban—territories, places, actors' interactions, and the mental factors influencing situations or activities.

These concepts serve as theoretical tools or mechanisms that help understand the mutual relationship between symbolic, social, and physical spaces. While the trialectic space (a term often associated with Henri Lefebvre's work (1991) refers to the interaction between perceived space, conceived space, and lived space, force, worth, doxa, illusio/collusio, and hysteresis are specific theoretical concepts used to analyse and explain the social practices, power relations, and temporal dynamics within spaces.
The conclusion drawn is that symbolic space, shaped by historically and culturally influenced modes of thought and emotion, informs the decisions and actions of both the general public and, more importantly, urban practice professionals, who are omnipresent throughout the decision-making process.

This perspective highlights the distinctive role of urban practice, which seeks spatial transformation by leveraging symbolic forms of capital and power as instrumental tools.

Symbolic capital strengthens the position of spatial design professions within the field of spatial transformations (FoST), which can be viewed as an autonomous social space with emerging disciplinary subfields of planning, architecture, and landscape architecture.

It can be assumed that this position ensures a form of domination in the field—no decision to transform space, even by the highest-ranking politician or financial magnate, can be materialized without it being drawn by a designer or without using the designer as a "tool" for legitimizing the individual action of spatial transformation. On the other hand, this reinforces the ethical vulnerability of design professionals and places additional responsibility on the symbolic forms of power spatial designers wield.

This concept integrates the psychological dimension into the social realm of the actual domain, enabling a nuanced analysis of the typically concealed psychology of decision-making and providing methodological access to psychological dynamics. Such integration allows researchers to address the challenge of engaging with the cognitive and emotional aspects of collective endeavours, such as urban planning and design.

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Efe Duyan

Human-Centric Doppelgänger to Sustainability: The Biophilic Effect in Architecture.

Abstract

This paper investigates the intersection of sustainability and biophilic architecture while advancing the novel theoretical construct of the biophilic effect. It critiques the prevailing architectural emphasis on technical precision in sustainability, contending that such approaches, while indispensable, inadequately address environmental design's perceptual, behavioral, and psychological dimensions. By centering human experience, this work advocates for integrating climate sensitivity into architectural spaces to foster a profound human-nature connection.

The biophilic effect, as introduced in this paper, constitutes its central scholarly contribution. This concept addresses the limitations of current biophilic design frameworks by offering a cohesive theoretical lens to unify diverse strategies and bridge the experiential gap in sustainable architecture. Based on the dynamic interplay between space, body, and mind and defined as a two-way path between nature, built environment, and inhabitant, the biophilic effect encapsulates the potential of architectural interventions to enhance mental well-being, ecological consciousness, and sustainable behavioral shifts. By positioning architecture as a transformative medium that mediates and reframes natural phenomena, this concept foregrounds design's psychological and sensory dimensions as integral to sustainability.

Biophilic design is presented as a transformative paradigm capable of enhancing human well-being, challenging habitual behaviors, and promoting ecological awareness. Through historical and contemporary theories of biophilia, alongside illustrative architectural examples, this paper traces the evolution and impact of biophilic principles. The analysis further extends to embodied design perspectives, emphasizing the interwoven sensory, cognitive, and emotional engagements between humans and their built environments. Ultimately, the biophilic effect is advanced as a unifying framework that synergizes the technical rigor of green design with the lived experiences and behaviors of architectural inhabitants, offering a more holistic and human-centric approach to sustainability.

Keywords
Biophilia Hypothesis, embodied architecture, cognitive psychology, ecology, act-perience

1. Introduction

As the climate crisis has been one of the most critical issues in the last decade, it is not surprising that sustainability and green design have been at the center of architecture, a self-proclaimed socially responsible profession. The mainstream design and academic discourse focused on sustainable buildings with longer lifecycles, diminishing the carbon footprint of the built environment, and energy use by our living machines. We know that buildings produce a considerable amount of carbon footprint, and architectural efforts are diverted to minimize the resources and create eco-friendly environments, in other words, to achieve technical perfection in sustainability.

While the long-term goal of saving the earth and securing humanity's future is undeniably crucial, it may seem distant. A warning about the potential future end of the world may not effectively influence our present decision-making, as the challenges in legislative transformations imply. It is a long-term goal, a future utopia, with limited benefits for our day-to-day lives. Our collective acting self can easily convince itself to procrastinate. Technical perfection in sustainability for a healthier earth's future may be the basis, yet it tends to be too invisible for users and technical for architects. Generally, the mainstream tendency is to go full-throttle in green techno-excellence, yet the scientific aspects seem to lack the mental aspects, especially mental health, when looking at the big picture depicting the earth's health. Moreover, the functional arrangements and daily life seem to revolve only around circularity but not singular human beings, and aesthetics are an afterthought, barely surpassing natural and local materials' visual effects. It seems to lack a theoretical load of design for individual inhabitants.

A more human-centric approach to ecological architecture is translating climate sensitivity into a three-dimensional experience, seamlessly integrating it with mental health, lifestyle, and perception. Such a framework not only makes the abstract urgency of climate change more tangible but also rekindles an innate sense of harmony between humans and nature, fostering responsibility and care. To achieve this, this article positions biophilic architecture as a complementary paradigm to the technical precision of sustainability. By delving into the historical evolution and thematic foundations of biophilic design, this paper introduces the concept of the biophilic effect as a unifying framework. This effect connects diverse biophilic strategies, linking the natural environment, the built space, and the human occupant in a dynamic and transformative interaction. The discussion ultimately aims to establish a theoretical foundation for reimagining sustainable architecture through the lived experiences of its inhabitants.

2. Biophilia

2.1. Historical Background

While the technical perfection of green design brings concrete benefits, the built environment's health, functional, and esthetic aspects may play vital roles in climate-friendly architecture. Stephen Kellert, one of the leading advocates of Biophilic Design, wrote in Metropolis Magazine (2015) that much of today's built environment -most of the places we call home- reminds of the barren sensory-deprived cages of the old-style zoo, now ironically banned as "inhumane." In that regard, the approach of Biophilic Design claims to suggest a working framework, a wide and varied sum of design strategies in terms of functional decisions and esthetic outlook.

The term biophilia was coined by social psychologist Erich Fromm from the 1960's on to describe the "love of life" that explained two fundamental tendencies of living organisms: sustaining life from death threats and the positive integration with each other. The biologist and naturalist Edward Wilson's 1984 book Biophilia proposed that humans are genetically predisposed to be attracted to nature, establishing an evolutionary, innate

connection between them. In his Pulitzer-winning book published by Harvard University Press, Wilson argues that our natural affinity for life—biophilia—is the very essence of our humanity and binds us to all other living species. He defined biophilia as "the innate tendency" to focus on life and lifelike processes and emotional affiliation of human beings to other living organisms, which is supported by psycho-evolutionary theory, arguing that some emotional reactions are rooted in human evolutionary history and developed to adaptive responses to modern society as explained by Roger S. Ulrich as early as 1983. The Biophilia Hypothesis, an edited volume by Wilson and Stephen Kellert, developed the biophilia hypothesis to interpret that the emotional connection with "life" was conserved after humankind migrated from the primitive natural environment into the artificial new environment and that the "innate tendency" represents the characteristics of hereditary. (Wilson, 1993, 31).

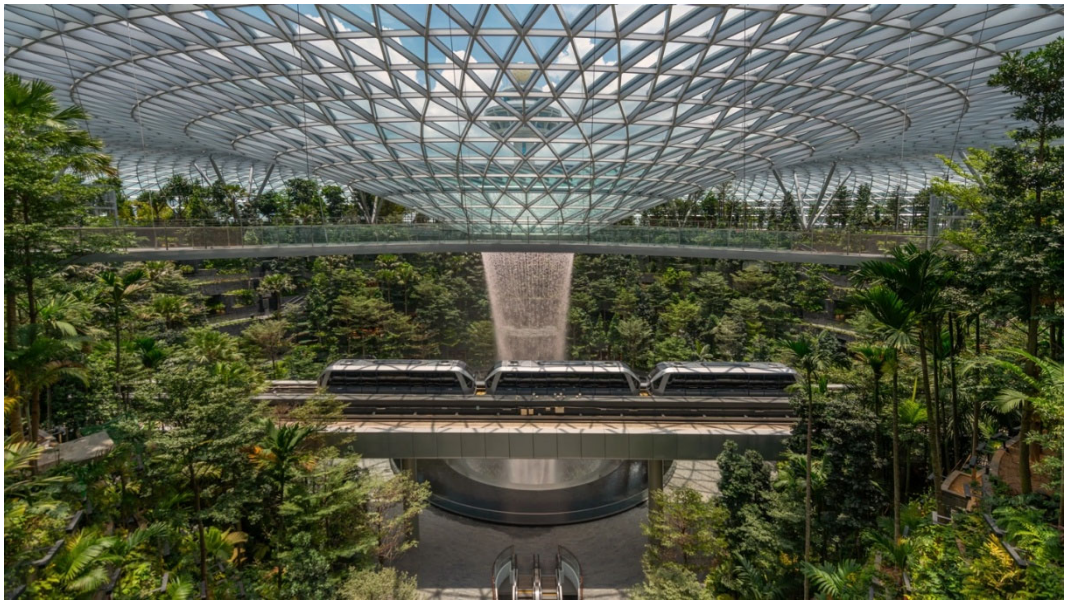
In the early 2000s, researchers began exploring the psychological and health benefits of natural elements in built environments, drawing on the concept of biophilia, which suggests humans have an inherent affinity for nature, while the academic work expanded on defining biophilic design principles. The "Biophilic Design: The Theory, Science, and Practice of Bringing Buildings to Life," edited by Kellert, Heerwagen, and Mador, brought specialists from biological sciences and design together in 2008. The book has been transformative in permanently engraving the hypothesis into the realm of architecture. Empirical research and case studies, especially neuroscientific developments and cognitive psychological takeaways throughout the 2010s, validated the benefits of biophilic design, demonstrating improvements in mental health, reduced stress, increased productivity, and enhanced creativity, thus putting an emphasis on the concepts of experience and atmosphere in architecture. Pallasmaa and Robinson's multiauthored volume "Mind in Architecture: Neuroscience, Embodiment, and the Future of Design," published in 2015, demonstrated the potential of crossovers between biological sciences and user-centered design.

As the late 2010s approached, biophilic design became a hot topic and keyword occurrences in academic articles rising; it has increasingly been linked with sustainable architecture and public health, highlighting that biophilic elements not only improve occupant well-being but also contribute to environmental goals like energy efficiency and biodiversity. (Zhang et al., 2022) In the 2020s, biophilic design principles began to be incorporated into architectural standards and guidelines, with certifications like WELL and LEED including these concepts. Urban planning policies also emphasized green spaces and nature integration, driven by growing evidence of their benefits. Throughout these last two decades, the academic focus has shifted from theoretical exploration to practical implementation and policy integration, with interdisciplinary research bridging architecture, cognitive psychology, environmental science, and public health.

2.2. Biophilic Design Themes

The biophilic design arguments have several historical roots. Vitruvius discussed the necessity to respond to climate and environment in construction; Louis Sullivan's form follows function motto is based on a nature metaphor; and Gropius firmly claimed the benefits of transparent facades to workers' health regarding his Fagus factory; and the Austrian-American modernist Richard Neutra, who noteworthily worked for Frank Lloyd Wright, wrote in the aftermath of World War II the Survival Through Design (1954), an early warning that "technological wizardry might go wild," explored the critical role of architecture in enhancing human health and well-being by creating harmonious environments that respond to natural and social needs.

From Wölfflin to Rasmussen and Pallasmaa, architectural theory has suspected that we



Safide Architects, Changi Airport in Singapore, 2019

have innate preferences for spaces based on our anatomy. The recent and conscious interest in biophilia welcomes those roots, covers several historical examples, and differentiates itself with its evolutionary psychological basis. In doing so, the contemporary, self-aware biophilic design created a categorization field on how to use the innate connection between humans and nature.

Several analytical attempts have been made to define biophilic design in taxonomies, incorporating various perspectives and techniques to provide insight into the human-nature relationship rooted in biology, evolutionary psychology, neuroscience, and phenomenology.

Browning and Ryan's article, Categories and Patterns of Biophilic Design (updated from 2008 article with Cramer and 2014 booklet with Ryan and Clancy), and Zhang, Schröder, and Bekkering's critical review in 2022. A consensus can be seen among key contributors to biophilic design taxonomy based on different "types of experiences" (Kellert), "attributes" (Browning and Ryan), or "approaches" (Zhang et al.) as themes

Santiago Calatrava, World Trade Center Transportation Hub, 2016

implemented by the designer agent that recur and pervade in a work of architecture. Despite uncertainties, controversies, and overlaps in previous categorizations and the obvious usage of different terminologies, their themes maintain similar guidelines.

It is possible to observe a trend for triadic categorization in various works, especially in the neat schemes of Kellerts 2018 book Nature by Design: The Practice of Biophilic Design (developed from his 2008 book chapter and 2015 text with Calabrese),

Source	1st Theme	2nd Theme	3rd Theme
Kellert, 2018	Direct Experience	Indirect Experience	Experience of Space and Place
Browning and Ryan, 2020	Nature in the Space	Natural Analogues	Nature of the Space
Zhang, Schröder, Bekkering, 2021	Nature Incorporation	Nature Inspiration	Nature Interaction

2.1.1. First Theme: Incorporated Nature

The first theme, the incorporation of nature or the direct experience of it, is the mainstream and straightforward one. It is

about bringing in natural elements to create point-blank exposure to nature, using them as interior, façade, or landscape elements, connecting the plot area to various natural processes, and contacting with basic features and characteristics of the natural environments (water, air, daylight, plants, animals, landscape, weather, seasonal changes). A frequently used example is Changi Airport in Singapore by Safdie Architects, completed in 2019. In his essay, Thoughts on Biophilia, featured in Frank Lloyd Wright Quarterly, Moshe Safdie states that "an urban hustle bustle" was integrated with the experience of nature in a park-like setting. A public space with a garden at its center where the rainwater is collected to be reused in the building via a massive waterfall generated by the flow of the glass dome above. The waterfall becomes the central piece of the design, complimented by the interior garden, using the topical climate of long rain seasons in Singapore, thus creating a direct experience of nature by solidly incorporating elements of rain and plants inside in an ecologically sensible way.

2.2.1. Second Theme: Imagined Nature

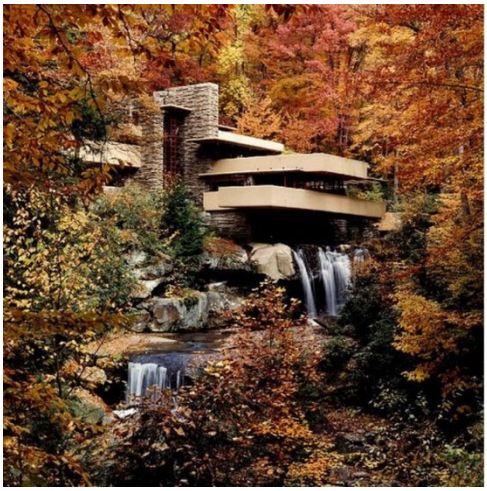
The second theme is the inspiration by nature or establishing an indirect experience of nature by using metaphorical shapes signifying a natural entity, reproducing mechanisms as in biomimicry, recreating patterns as in biomorphic design, reminding a habitat by using natural materials, and imitating nature by abstract ways. The inspiration-by-design theme utilizes design elements transformed from their original state and particular natural processes that have been especially instrumental in human evolution. A common example is Santiago Calatrava's World Trade Center transportation hub on the Ground Zero premises in NYC, which is designed at the intersection of biology, engineering, sculpture, and, most importantly, symbolism. A common image in uncommon ways, the building reminds the anatomical features of a bird ready to take off, an optimistic emblem of flight "as an answer to airborne disaster in the aftermath of 9/11," in the words of architecture critic Justin Davidson.

2.2.3. Third Theme: Simulated Nature

The third theme draws on the nature of our senses by employing certain spatial arrangement techniques derived from how

our sensing circuits have evolved, uncovering the peculiarities of our anatomy and cognitive capabilities. It is an ambiguous definition and a multi-dexterous category; Kellert calls it the “experience of space and place,” Browning and Ryan, “the nature of space,” Zhang, Schröder and Bekkering, “nature interaction.” While the terminology doesn’t overlap and the definitions are not neat, they mean the production of space strictly based on our biological and sensual mechanisms that evolved throughout millions of years while exposed to natural forces. This theme addresses spatial configurations of various kinds, which rely on how we sense the world around us. It particularly suggests exploiting the genetically encoded sensual and mental preferences. This idea is supported by neuroesthetics, a field within cognitive neuroscience investigating the neural underpinnings of esthetic experience, and rests on a compelling biological and genetic basis. For example, humans hypothetically have a tendency to appreciate organized complexity because it has increased the chance of survival by being able to recognize patterns in natural environments. They could locate danger or food better on the backdrop of a pattern of a jungle, and, thus, our visual system (a combination of several organs, electrical and chemical processes, and cognitive abilities including memory and imagination) evolved in such a way that a pattern fits in it operates. Thomas Albright (2015, 207) explains that we perceive the features of our environment with a sense of order, and such features are easily processed without visual scrutiny because they tap into our brain systems’ inherent organization for visual perception. This order provides a suitable background—and liberates neuronal resources—for detecting novelty (a predator or an intruder), which is nearly always of behavioral significance and demanding attention. The selective pressures over human evolution have yielded a visual brain with particular and tunable organizational properties for representing key statistics of the environment, such as commonly occurring features and conjunctions of features. As art historian Gombrich put it in 1961, the sense of order is deeply rooted in man’s biological heritage. Various historical examples reflect how visual perception works as landscapes locking in our senses contribute to our ancestors’ survival and how certain traits of natural spaces can be traced throughout history, as demonstrated by Hildebrant’s Origin of Architectural Places (1999).

Then, our way of perceiving the world has biological mechanisms that, almost in a Kantian sense and to a certain extent, create default preferences for certain settings, which constitute subthemes of prospect/refuge, familiarity/novelty, mystery, organized complexity, or transitional spaces. We prefer these characteristics in a setting because of our evolutionary desire to be able to see beyond our immediate surroundings, our fascination with the slightly unknown and revelatory moments, and sometimes even phobia-inducing properties when they include a trusted element of safety. An example of the third theme of using the nature of our senses is Frank Lloyd Wright’s Fallingwater House, which simultaneously provides prospect and refuge. According to the one hypothesis, “Prospect and Refuge” by Jay Appleton, dating back to 1975, taste in art is "an acquired preference for particular methods of satisfying inborn desires, which are for opportunity (prospect) and safety (refuge). Hominini, our zoological tribe of various extinct species, of which only one exists today, homo sapiens, have walked the earth for millions of years and have developed an evolutionary preference for places with an unimpeded view over a distance for surveillance and planning in front of them, while, at the same time, a place for withdrawal, from environmental conditions or the main flow of activity, in which the individual is protected from behind and overhead.



Frank Lloyd Wright, Fallingwater, 1934

Wright's masterpiece of organic architecture is not only an example of the prospect and refuge balance, fulfilling our ancestral inclination, but also of how to interact with the surrounding natural environment to create the genius loci.

3. Biophilic Effect

The diverse themes of biophilic design offer valuable frameworks for exploring humanity's intrinsic need to connect with nature, grounded in the Biophilia Hypothesis. These themes delineate strategies and tactics, ranging from direct incorporation of natural elements to biomimetic inspirations and sensory engagements within architectural spaces. However, this variety, while rich, presents challenges of cohesion and conceptual clarity. Without a unifying tie, these approaches risk being fragmented, leaving a gap in understanding how biophilic principles can holistically foster design processes and experiences.

What remains essential is a precise, human-centric design concept that bridges the gap between the architectural process and the lived experiences of inhabitants. Such a concept must not only integrate the varied strategies of biophilic design but also foreground the sensory, cognitive, and emotional interactions that constitute meaningful human-nature relationships. Addressing these ambiguities, this chapter introduces the Biophilic Effect—a novel theoretical construct aimed at unifying disparate biophilic strategies into a cohesive design framework. The Biophilic Effect will serve as the foundation for reconciling nature, architecture, and human experience, offering a pathway to enhance both the psychological and ecological dimensions of sustainable design.

3.1. Embodied Perspectives

Firstly, a deeper understanding requires a closer look at the core of the idea, the human-centric focus, and, thus, how architecture brings together nature and the inhabitants. Designing using a sequence from nature through architecture to the inhabitants and back necessitates a view connecting mental processes, genetic abilities, and the space surrounding us. Humans, once the users of functionalist programs, need to be seen as a hybrid of mind and body in space so that we can create a theoretical basis for the human-nature connection, namely an embodied perspective. Sarah Robinson's Nesting: Body, Dwelling, Mind (2011) explains that body and mind cannot be separated in the sense of Descartes anymore, and our mental activities originate within and are beholden to the body. Each of our conscious states and every cognitive function -emotion, thought, perception, desire, memory, imagining—is generated, in part, "by galaxies of electrochemical interactions" that take place in the body. The concept of neural correlates, developed by neuroscientists, links the first-person subjective states to the observable biological brain activity that generates them. The consensus among experts in biology, psychology, and cognitive neuroscience is that none of our experience, thought, and communication would exist without our brains functioning as organic members of our bodies, which in turn are actively engaged with the specific physical, social, and cultural environments in which we dwell. Our presence is nested in a mind-body continuum, like two sides of the Möbius strip. Moreover, our body is nested in space, while our mind is nested in our body. (Robinson, 2015, 138) The space

around us is a continuation of the space in us, creating a nexus of space-body-mind, transforming each other. The notion of a nexus of space-body-mind linked together by knots of perception, cognition, and movement/acting has gained prominence in previous decades thanks to cognitive and evolutionary psychology, neuroscience and neuroesthetics, and ecological thinking. This relational stance can be further valued for its correspondence to the long-standing tradition of phenomenological thought in architectural scholarship, arguing that such connectedness between the inhabitant and the space is a prime characteristic of what it means to dwell and to be in the world" as put by Andrea Jelic in 2020. Phenomenology and thinkers such as Husserl, Merleau-Ponty, and Mark Johnson set up a philosophical framework that reality opens up from our consciousness, the world outside is a phenomenon we experience and is relative to our perspective based on the location and movement of our body, and presents infinite interpretation possibilities rendering the world subjective.

3.2. The Components of the Biophilic Effect

In that context, to unify various biophilic examples, we must follow a continuum from our experience to the built environment and nature through bodily actions. As a fulcrum concept to associate the design's decision-making with specific biophilic outputs, we can now identify the Biophilic effect: An biophilic outcome in an architectural setting is an effect.

The first theme's effect enables an interactive experience of natural phenomena with relative benefits. The second theme's effect facilitates an imagination of nature, a simulation of direct experience—as neuroscientific studies showed that sensing, imagination, and memory work closer together than we previously thought. The third theme's effect uncovers and extracts the nature of our senses whenever the observed environment locks in the workings of our perception. Designing through the Biophilic effect might give us a strategic path, bringing the inhabitant into the center of the design process. An effect can broken down into the natural forces, *the source,* the architectural setting, *the medium,* and the experience and actions of the inhabitant, *the recipient.*

3.3. The Role of the Biophilic Effect

A Biophilic effect starts with a natural phenomenon, whether sensual, imagined, or the natural workings of our perception. It does not matter if the phenomenon is physically part of the built environment or if the architectural setting only brings it to our attention. It does matter, though, that natural phenomena are experienced through architecture, which means they are transformed through the built environment. Architecture's archaic mission has been to control natural forces, which has been overdone in modern times to bring us to the edge of catastrophe. Still, the benefits of sunlight are limited by the danger of sunburn. Biophilic design, in various examples, has been refining and filtering, or framing in, natural forces to extract the benefits. Framing in means leaving certain parts out and creating a meaningful composition inside the frame. Incorporating nature cannot be put as a default strategy

Biophilic Effect	Source: Natural Phenomena	Medium: Architecture	Recipient: Inhabitant
Biophilic Effect Experiences	Sensual Experience of Natural Phenomena	Experience of Imagined Nature	Embodied Experience

effect brings the designer's process, the built environment, and the inhabitant's exposure together with a focus on the psychological outcome. As the space-body-mind nexus is the basis of any biophilic theme, we can break down the essence of the design theme, which is fundamentally fulfilled by a biophilic effect. Each realized

without filtering in—our biologically encoded self associates with the positive effects of natural processes, not all of them. Any organism placing itself in a space actually frames out the ill effects of the environment. Biophilia has only a selective attention focus on nature, and the role of design creativity starts here. The architectural medium frames an element of nature, rendering it a phenomenon by bringing it to our attention and weaving it into our body-mind continuum.

The way architecture filters through natural forces and brings them to our attention to create multiple effects is a testament to its transformative potential. It not only alters the perception of nature as a medium but also can transform human daily life and actions (and carbon footprint as a result) in a way that changes how it affects nature. In that regard, architecture is a two-way medium. We not only see nature through architecture, but we also affect nature through it. The perception of space is not a passive deed like a TV screen projecting the data; it is sensual and cognitive, which triggers the movement in space. Through the concept of the Biophilic effect, we can follow this two-way interaction of nature and humans.

The fulcrum concept of Biophilic effect brings all Biophilia themes together by arranging nature, buildings and humans as continuum with possibilities for meaningful interaction and the architect can realize the potentials of interaction.

4. Conclusion

Biophilic design provides an essential human-centric complement to the technical objectives of sustainability, offering tangible mental, emotional, and behavioral benefits. The concept of the Biophilic Effect introduces a unifying framework that integrates natural phenomena, architectural mediums, and the lived experiences of inhabitants. Through this lens, architecture transcends its conventional role as a shelter or eco-sustainable solution, becoming a transformative medium that nurtures human-nature connections.

By emphasizing the sensory, cognitive, and emotional dimensions of design, biophilic architecture aligns ecological goals with individual well-being. It addresses the gaps left by the abstract, long-term objectives of green design by grounding sustainability in immediate human experiences, thereby fostering deeper ecological sensitivity and influencing everyday behaviors.

Biophilic Effects can revolutionize how we design and inhabit spaces, promoting not only ecological awareness but also mental resilience, productivity, and aesthetic satisfaction. Embracing biophilic effects can help create spaces that resonate with our biological heritage and inspire meaningful interactions with our environment. Ultimately, biophilic design might embody a vital paradigm shift—a movement towards architecture that sustains both humanity and the planet, harmonizing function, sustainability, and beauty in the spaces we call home.

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Zane Vēja

Unfolding the Life of a Townhouse. Exploring 18th - 19th Century Townhouse Renovations in Aizpute City.

Balancing history with modern functionality.

Abstract

Every city possesses its own spatial appearance, a history that has influenced and shaped it, and the people who inhabit it. Various changes are inevitable, continuously occurring, with some being more noticeable than others. This research includes three historic townhouse, located in the city of Aizpute, examination. All three buildings have been experiencing renovation in recent years. By analyzing the historical plans of all three buildings over different time periods and other available evidence, such as photographs, façade drawings, research materials, and the current layout, common characteristics are revealed. The author found it particularly interesting to identify possible corelations between different time periods and how they influenced both the functional zoning and the overall appearance of the townhouses. Equally compelling was the characterization of current spatial needs and the present situation of the city. Notably, each of these buildings has a different future, each reflecting the diverse needs of the contemporary world.

Keywords

Aizpute, townhouse, reconstruction, building plans, track changes, history, future, decisions

The transformation and adaptation of historic townhouses in Aizpute highlight the intricate relationship between architecture, societal change, and preservation. These buildings, spanning the 18th to 20th centuries, encapsulate the evolution of urban lifestyles, reflecting political, economic, and cultural shifts over time. However, the challenge lies in balancing the preservation of their historical essence with meeting contemporary functional needs. This article investigates three representative townhouses, case studies, aiming to uncover how these structures transitioned through various uses, architectural modifications, and cultural narratives. The research examines archival documents, historic plans, and physical transformations to trace their journey from private residences to rental properties and, finally, their envisioned future roles, focusing on similar essential qualities in the restoration processes. The study underlines the broader implications of such transformations for heritage preservation and urban development in small towns like Aizpute.

The significance of the historical layers of Aizpute

The historic center of Aizpute dates back to the 13th century when it gained city rights. At that time, it was called Hasenpoth in German. The city exhibits many layers of development, signifying its important role as the regional center from the mid-13th century to the late 18th century. During this period, most of the cultural monuments were created, including the historic city center, the Livonian Order Castle, St. John's Church, the synagogue, the manor mill pond, and watermills, among others. (pārvalde, 2022) In the 17th and 18th centuries, the role of Jews in both the economic life and administration increased rapidly. As a result, the town of Aizpute had a large Jewish community, and its architectural evidence has been preserved to this day. Aizpute is one of the small towns of Dienvidkurzeme region whose historic wooden heritage is included in the national list of cultural monuments, thereby highlighting its significance and the need for preservation and further in-depth study. The richness and significance of the history of Aizpute are evidenced by the available historical sources, including the Aizpute City Book, postcards, coats of arms, and other graphic records. Meanwhile, the preserved buildings, landscapes, and spatial structure of the city provide insight into its cultural and social aspects. (Aizputes pilsētas grāmata. Hasenpother Stadtbuch. 1566 - 1910)

Based on this rich history of the city, the author has chosen to examine three case studies, focusing on buildings for which the following parameters will be compared: the year of construction, original use, building materials used, analysis of the building's volume, architectural, and functional details, documented stages of changes up to the present day, and the planned functional and visual changes as of now. After examining all three case studies it is planned to draw conclusions, summarizing the common transformations of buildings over time, and comparing the applied methods.

"Architecture has its own realm. It has a special physical relationship with life. I do not think of it primarily as either a message or a symbol, but as an envelope and background for life which goes on in and around it, a sensitive container for the rhythm of footsteps on the floor, for the concentration of work, for the silence of sleep" Peter Zumthor (Zumthor, 2017)

Case study No 1 - Pasta street 5

The initial subject of examination is the townhouse called "Lēvenhaina nams" located at Pasta Street 5, Aizpute. Archival materials from Latvian state historical archives, corroborated by an architectural and artistic investigation conducted in 1992, indicate that the construction of this building dates back to approximately 1797. Archive materials initiates that land plot initially has belonged to duke Laža's manor. In 1782 Pēteris Bīrons, Duke of Kurzeme, signed a new lease agreement with the Jewish merchant Herman Wulf of Aizpute regarding the plot of land belonging to the Laža manor for the right to fence and build on it, as well as to sell it to someone else. Hermanis Wulfs built two buildings on the plot of land, and after his death landplot with both buildings was sold and repaired according to new owners, a couple named Lēvenhains, needs. Main purpose for buildings was townhouses for single family use – house consisted of 9 rooms with entrance halls both on front side and back side, with separate kitchen, cellar and laundry room, shed in the yard.

Figure 1. Image representing the visual state of townhouses at Pasta Street 3 and Pasta Street 5, Aizpute. 20th century 60-70s.

Investigation suggests that the building's volume and façade finishes have largely remained intact since the latter half of the 19th century. The structure is a single-story wooden building with a dual-pitched roof, forming an "L" shape. It is constructed from log beams in a post-and-beam framework, later treated with tar, and the roof is covered with clay tiles and shingle lining (Figure 1) (Ziemele, 1992).

The courtyard side of the building features several small extensions, originally designed as toilets and later converted into hallways. Substantial stone masonry cellars have been constructed beneath the right end of the building and the courtyard extension, which are prominently visible on the building's rear facade. Notably, the main entrance doors were particularly ornate and highlighted; it is important to note that the street facade lacks symmetry, with the main entrance doors positioned to the right, where a commercial premises once existed. Over time, the facade facing Pasta Street has undergone minor modifications, for example windows on the right side were replaced to smaller, by filling the lower part of the former commercial premises entrance and display windows. The facades facing the courtyard lack significant decoration, featuring wood cladding from various periods (Ziemele, 1992).

The floor plan of the first story of the building reveals four apartments, while the attic contains three additional units. These reflect the layers added during the Soviet era, when residential buildings were nationalized and subdivided into multiple

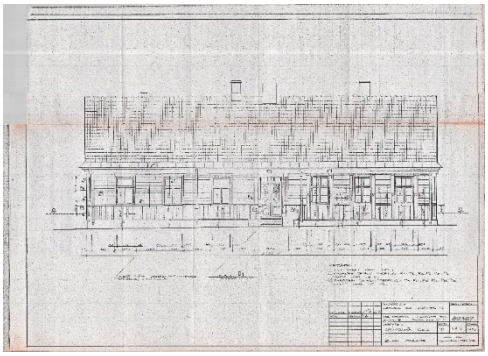


Figure 2. Measurement of the building façade showing asymmetrical façade, on the right side can be traced large window frame places. Restoration Institute (Restaurācijas institūts). Pre-project research was carried out in 1992

apartments to accommodate as many inhabitants as possible. Notably, the area in the first floor on the right, historically a commercial space, has also been converted and adapted for residential use (Figure 2).

In recounting the building's revival, it is pertinent to note that the structure stood vacant for approximately 20 years prior to its acquisition in 2022, with the intent to save it from collapse. At the time of purchase, the building's condition was unsatisfactory, with the courtyard side's roof partially collapsed, resulting in the partial collapse of an exterior wall and the foundations. Despite these issues, the new owner decided to restore the building, partially reinstating its original functions on the street side by designating spaces for a restaurant and commercial premises, and restoring the original facade rhythm by installing floor-to-ceiling windows for the shop. The rear of the building is planned to be renovated into a rental apartment, expanding its space to include the attic, thereby creating a two-story unit. Additionally, the cellar is intended to be converted into a wine cellar (Figure 3). Since it is not possible for us to examine the original building plans and other technical documentation, the owner's future vision is partially based on this 1992 study, its plans, and conclusions. For example, one of the

valued aspects is the restoration of the commercial space windows located on the right side of the façade, potentially to their original form.

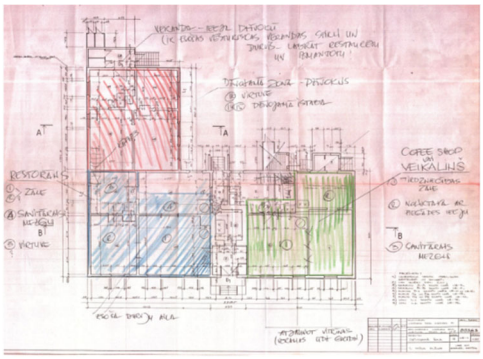


Figure 3. Building plan, complimented with hand sketches showing intended zoning of the building. Sketch of the owner

Figure 4. Facade of the building on Kuldīgas street 5, 60-70s of the 20th century, showing the building's well-preserved facades. Archive material of the Aizpute Local History Museum.

Figure 5. Image revealing renovated facade of the building on Kuldīgas street 5, renovated in 2022. Photo from owners archives.

Case study No 2 - Kuldīgas street 5

Right in the heart of Aizpute historical center at Kuldīgas Street 5, a single-story wooden townhouse is located. It was built in 1856 as a private residence for a local manor family from Aizpute. Until 1856, the main owner of the land was the Vecpils Catholic Church, which sold it to the merchant Herman Kristians Frey. The very next day after concluding the purchase-sale contract, the married couple of Freys pledged their newly acquired real estate, as well as the building materials they had acquired, and borrowed 500 silver rubles from the lord Moritz von der Osten-Saken for the construction of a residential house and an outbuilding.

At the beginning of 1857, the new house was almost ready, and Frey signed a lease agreement with the owner of the Padure (today Laža Padure) manor, Baron K. von der Osten - Saken. According to this contract, Freys rented out his house under construction with all the adjacent buildings for two years, starting from midsummer 1857, to the feudal lord of Padure for 280 silver rubles per year.
According to this agreement, Frey rents to Osten – Saken an apartment consisting of 10 heated rooms and a kitchen on the ground floor, and 3 heated rooms in the attic conversion, along with a bathroom accessible only to the tenant, a basement, a wheelwright's workshop, a stable with a hayloft, a woodshed, pigsties and small livestock sheds. (Silārs I. , 2019)

In 1898, the house was purchased by a grain merchant from Aizpute, who converted the building into rental apartments. The purchase price indicates that the building was in quite good condition. There is no information suggesting that there were shops or workshops in this house. According to materials from the Latvian State Historical Archives, the building was rented out as a single apartment, The residential house had unusually high ceilings for that time (2.85 meters), creating spaciousness, and additional indoor spaces were separated by double doors, indicating a

relatively high level of luxury, as well as the foresight to include a bathroom and a well-equipped entrance hall in the building at that time.

The new owner's vision coincided and took shape based on the above-mentioned period (end of 19th and beginning of 20th century), renovating it as a rental building consisting of two short-term rental apartments on the street side, and a long-term rental apartment on the side of the yard. Since there were no traces of the original layout, the short-term rental apartments were supplemented with small sanitary units and kitchen niches, partially preserving the layout created in the middle

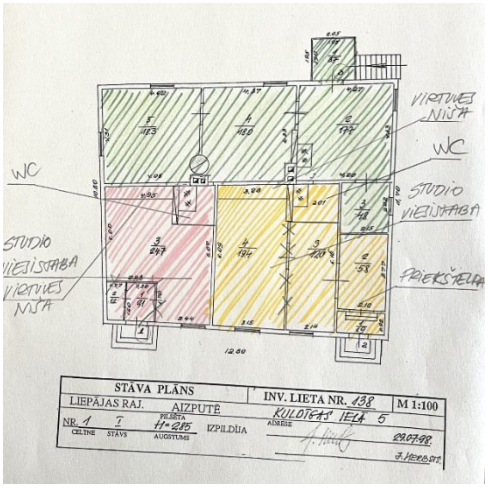


Figure 6. Building plan, complimented with hand sketches showing intended zoning of the building. Sketch of the owner.

of the 20th century. The interiors of the apartments are also playfully dominated by furniture from the 60s-70s of the 20th century and other interior elements. The owner also sees the renovation of the habitable attic space on the second floor as an unrealized potential. Building facades, roof covering and details of windows and doors have been preserved or restored as found in historical images, for example the white insides of window shutters characteristic of city Aizpute.

It is noteworthy that such a plan has been chosen due to the fact that this is the only temporary accommodation in Aizpute, and it is relatively busy, demonstrating contemporary trends and the necessity for this new typology. Of course, no city aims to be overly saturated with a large number of short-term rental apartments, but in reasonable proportions, this typology is beneficial for a small city like Aizpute.

Case study No 3 - Jelgavas street 16

Aizputes city's development towards Kazdanga expanded relatively late and at a slower pace. Possibly contributing to this expansion in that direction was the establishment in 1904 of Gertrude Lindberg's Cardboard Factory, located at 5 Atmodas Street (Silārs & Santa, 2014). The development along Jelgavas Street has been very varied over time. In the city plan of 1797 , there were once the city's meadows and pastures located here. The residential building at Jelgavas Street 16, was built in 1905 and situated very close to the aforementioned Cardboard Factory, now the metal hardware factory "Kurzemes Atslēga" (Figure 8).

The original plan of the building reveals a single-family townhouse, possibly with shop premises on the first floor, on the left side, at least that is what can be deduced from the 1926 reconstruction plan. This conclusion is supported by the fact that the building belonged to a widow, and the rent of the shop premises was one of the ways to maintain the property. Based on this plan of

Figure 7. Interior view of the short-term rental apartment showing mid century style interior. Photo from owners archives.

the household building made in 1926 and the drawing of the facade, it can be concluded that the entrance on the right side was more luxurious, with a vestibule and intended as the entrance of the owners' parade to the building, while the entrance on the left side was simpler, closed with shutters, and served as an entrance to the shop. This plan reveals the intention to rebuild the building, accommodating of two additional rooms in the roof structure,

Figure 8. Aizpute city map made by Julius Derling, 1797.

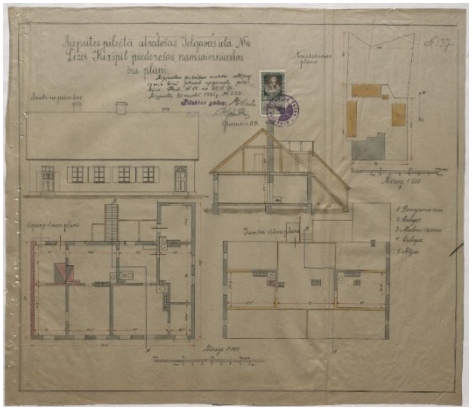


Figure 9. Plan and facade drawing of the household building made in 1926 confirming spatial layout of plans and facades at that time, and depicting the planned changes affecting the use of attic spaces. 1926 Archive material of the Aizpute Local History Museum.

providing access by supplementing the courtyard facade with stairs. Most likely in the post-war years, to ensure greater comfort for the tenants, the outdoor stairs to the second floor were built indoors.

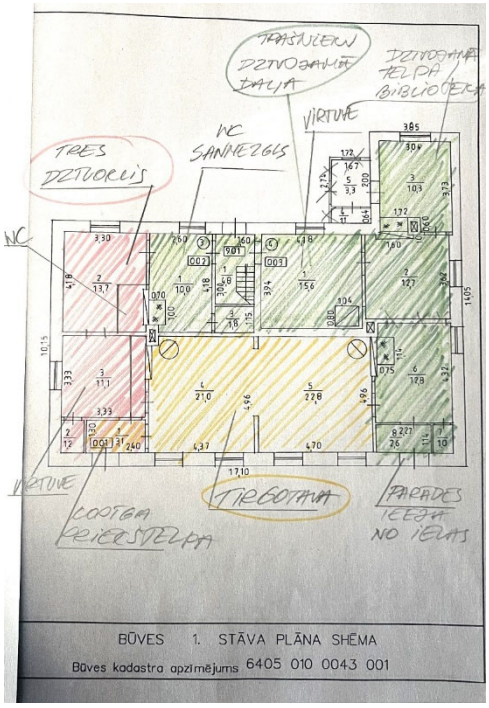
The current situation reveals a different layout, which is no longer intended for a single family but serves as a rental property divided into four apartments, with commercial space on the street side. These spatial changes that most likely occurred in the 1930s-1940s, was driven by the increasing urban population in the city. The significant reasons for this could be the growing influx of peasants into cities, the increasing number of jobs in factories, and the relatively easier and more modern lifestyle in the city. During these years, residential buildings in cities underwent significant changes in their layouts – buildings were divided into as many small apartments as possible, each with a vestibule containing a kitchen with a stove or oven and one separate room. This house, too, was divided and adapted to the needs of that time, creating 4 apartments and shop premises in front side, two of them on the first floor and two on the second. The toilet facilities were located outside, in the courtyard (Figure 10.)
The character of this building has transformed from a single-family house into a rental property, owing to the adjacent factory which served as temporary housing for workers. One of the apartments in the first was kept for owners family use until nowadays. Over time, the facade of the building became adorned with various wooden extensions, as evidenced in post-war photographs, though not all have survived to the present day.

The future vision for the building is to preserve the historical (1926) facade on the street side and maintain its commercial functionality. Meanwhile, the courtyard side is to be functionally designated for a single-family summer home, with an increased window area to allow more light into the spaces.

The attic spaces would retain their functionality, serving as sleeping quarters connected to the first floor by internal stairs constructed in the post-war period. The materials for the facade and roof will be preserved as authentically as possible, restoring the building's original exterior appearance.

Each era dictates its own spatial and functional needs; building layouts evolve over time, adapting to the needs of people. In this article, I would like to highlight and emphasise the common aspect that all three buildings have changed their functionality multiple times during their existence. This can be observed in the historical and transitional plans of the buildings, as well as in historical images and descriptions. Initially, all the buildings served as city mansions for a single family, with or without shop premises on the street-facing ground floor. Over time, during the Soviet era, all the buildings were converted into rental houses with very small apartments. However, today, the new owners wish to view these buildings slightly differently, in line with current needs: the Lenevheim House is reverting to a somewhat modified version of its original function, becoming once again a mixed-use building with rental apartments and shop premises; the house at 5 Kuldīgas Street currently functions as a (short-term) rental property; and the house at 16 Jelgavas Street is regaining its original charm, being revived as a family residence with rental or shop premises. A possible explanation for these functional choices is that the size of modern families is no longer what it was a hundred years ago, and all these houses are somewhat too large for the needs of a single family in today's world.

Figure 10. Building plan, complimented with hand sketches showing intended zoning of the building. Sketch of the owner.



Analysis Result

The study of the three townhouses—Pasta Street 5, Kuldīgas Street 5, and Jelgavas Street 16—reveals a tapestry of architectural and functional evolution emblematic of Aizpute's layered history. Initially conceived as single-family residences, each building reflects its era's spatial and stylistic priorities, including features such as high ceilings, log-beam frameworks, and ornate facades. Over time, socio-political changes led to their subdivision into smaller rental units, often stripping them of original elements to accommodate denser urban populations during the Soviet era. Noteworthy aspects include the preserved asymmetrical façade and tar-treated wooden finishes of Pasta Street 5, the adaptive reuse of high-ceilinged interiors and mid-century furnishings at Kuldīgas Street 5, and the careful integration of attic spaces and shopfronts at Jelgavas Street 16. Across all cases, a conscious effort to balance restoration with modern functionality is evident. The reintroduction of original design motifs—such as the commercial space windows at Pasta Street 5, reuse of the attic floor space at Kuldīgas Street 5 or the 1926 façade layout of Jelgavas Street 16—illustrates a commitment to honoring their historical integrity and the unique architectural heritage of Aizpute. Meanwhile, the varied approaches to spatial reuse, from short-term rental apartments to mixed-use developments, reflect

contemporary trends in urban living, mobility, and heritage tourism.

Concluding remarks

The residential buildings in Aizpute have undergone various changes, with their original plans adapting to the needs of each specific era, portraying rhythm of life of the people who lived there and reflecting all the political events of the 20th century. These various layers of time can be deciphered from historical evidence, plans, descriptions, and the buildings themselves. Although all these buildings are dated with different construction time, their spatial layout clearly marks several stages of change: initial function and layout of the building, a phase where the buildings were partially rented out, the later division into smaller apartments during the 1930s-1940s due to political pressure, and finally the actual layout of the building at the time of acquisition.

Just as these periods of change marked distinct needs and trends, contemporary times also highlight certain needs and tendencies. It is important to note that in Latvia, as people achieve a certain level of financial independence, the typology of summer houses (in small towns) is experiencing a renaissance. Meanwhile, mobility and remote work are driving the supply and demand for short-term rental spaces in regions. The planned functionality in all three buildings I studied reflects these contemporary trends and goes along the dynamic characteristic of the small town of Aizpute.

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Rudolfs Dainis Šmits

Prof. Astra Zariņa | A Force of Nature

Abstract
Prof. Astra Zarina teaching shaped the careers and perspectives of many students including renowned architect Steven Holl. Astra Zariņa the director of the University of Washington architecture program in Rome, had been among Holl's earliest mentors. He was one of six students to attend the 1970 inaugural program in Rome. Zariņa's teachings shaped the careers and perspectives of many students and their careers.

Steven Holl identified seven key values that defined her approach to teaching architects these values include the importance of urban space, field work, social agency, myth & ritual, nature and cuisine. Though her influence was international few know of her impact, and pioneering approach and methods to teaching design. In recent years a resurgence to investigate her pedagogical process and methodology has emerged.

In 1960, Zariņa was the first women to receive the Rome Price from The American academy in Rome and a year later received the Fulbright fellowship. Zariņa's architectural focus shifted, she became deeply influenced by her time in Rome, where she re-evaluated her modernist convictions and career direction. Zarina initiated and directed the UW program in Rome for thirty years and later started parallel Italian hilltop village program in Civita di Bagnoregio.

Astra Zariņa's created tripartite teaching methodology, which she developed throughout her career as: knowledge, action, and reflection. Zariņa's pedagogical approach transcended the traditional classroom setting, bringing learning into real-world contexts and her pioneering methods preceded David Kolb's, Experiential Learning Theory (ELT). Experience and reflection are essential to the learning process and the subject on hand and Zarina added culture and context

Zarina's teaching legacy profoundly impacted her students, shaping both their lives and their careers as skilled architects. Today, a new generation of architecture students is being introduced to her pioneering tripartite experiential teaching method: knowledge, action, and reflection.

Introduction

"In one of my letters sent back to my mom and dad, I said this lady is so demanding and egotistical, I don't think I can ever be alone with her" (Sudermann, 2020)

Steven Holl, 1971

On July 10, 2022, after a demanding semester and an extensive accreditation process, I was looking to unwind. Unable to find a decent movie, I settled on a YouTube lecture titled *Steven Holl: Architects, Not Architecture.* As I listened, I learned that Astra Zariņa had been Steven Holl's teacher. Zariņa, the director of the University of Washington's architecture program in Rome, had been among Holl's earliest mentors.

Holl explained that he was one of just six students to attend the inaugural Rome program in 1970. The story might have passed me by if not for a moment when Holl mispronounced her name. I paused the video, rewound, and was taken aback to realize that he was referring to Astra Zariņa, a Latvian architect whose influence on Holl's career was profound. His respectful reflection on her impact piqued my curiosity and introduced me to an architect, preservationist, and educator whose story had long remained untold.

Astra Zariņa's teachings shaped the perspectives of many students and career architects like Ed Weinstein and Tom Kunding along with Holl, who identified seven key values that defined her approach to both architecture and education. These principles — ranging from the importance of urban space to a commitment to community and sustainability — set her apart as a teacher and had a lasting influence on Holl's own architectural journey.

Astra Zariņa immersed her students in a rich blend of architecture, art, history, philosophy, food, and culture. Steven Holl, one of her most notable students, identified seven core values that defined her teaching

Figure 1. Astra Zariņa in the café. https://magazine.washington.edu/feature/astra-zarina-visionary-uw-architecture-professor/

approach: the significance of urban space, the study of maps and fieldwork, community agency in architecture, the importance of myth and ritual, and a contemporary understanding of sustainability that encompasses plants, animals, and indigenous foods. (fig.1)

"If you want to be an architect you need to learn how to cook", this uncustomary requirement challenged Steven Holl, one of seven principles attributed to Astra Zarina. These principles align closely with the work of today's social urbanists, cultural planners, and advocates for "adaptive reuse" and "historic preservation." Zariņa's holistic and socially engaged approach to architecture continues to resonate in current practices that emphasize both the preservation of heritage and the integration of sustainable, community-driven design.

Astra Zariņa's life work as an architect, educator, and cultural advocate was a significant yet largely unrecognized legacy—one that I, too, was unaware of for many years. Despite being a lifelong friend and collaborator of renowned Latvian architect Gunnar Birkerts, I had never made the connection between them. It is now time to bring Astra Zariņa's remarkable contributions to light for Latvian architects, students, and the broader public.

Astra's Journey

Astra Zariņa's journey began in the early years of World War II when her family fled Latvia and emigrated to the United States, passing through Austria, Esslingen (Germany), and finally settling in Washington State. Zariņa went on to earn a Bachelor's degree in Architecture from the University of Washington (UW) in Seattle in 1953, followed by a Master's degree in Architecture at MIT in 1955, where she graduated at the top of her class. During her time in the United States, Zariņa worked with renowned architect Minoru Yamasaki in Detroit, where she met Gunnar Birkerts, also a Latvian immigrant, who would become a lifelong collaborator and friend.

Zariņa and Birkerts both worked for Yamasaki, a modernist architect known for designing the Twin Towers, in the late 1950s. Yamasaki himself recognized Zariņa's exceptional talent, acknowledging her the best designer he had ever worked with—one of many accolades she received throughout her career. In 1960, Zariņa became the first woman to win a prestigious American Academy in Rome fellowship, and the following year, she received a Fulbright Fellowship. These opportunities allowed her to further refine her approach to architecture and teaching. Despite diverging professional paths, she continued collaborating with Birkerts on various international competition projects, and their friendship remained strong throughout their careers.

As Zariņa's architectural focus shifted, she became deeply influenced by her time in Rome, where she re-evaluated her modernist convictions and that which she learned at MIT and UW. (Sudermann, 2020) This experience prompted her to embrace a more holistic view of architecture, one that integrated the cultural, historical, and social aspects of the built environment. In Rome, Zariņa's career took a pivotal turn. Between 1970 and 1980, she split her time between Rome and Seattle, teaching a groundbreaking program she developed at Washington State University. She spent her days studying the city's architecture, its urban spaces, and its people, and her teaching grew from these explorations.

In 1976, Zariņa established the Civita Hill Town Program, where she published *Tetti di Roma: La Terrazze, Le Altane, Il Belvedere* (The Roof Tops of Rome), a seminal work that analyzed the concept of the "roofscape." She argued that rooftops were not just architectural elements, but social spaces that blurred the boundaries between private and public. The book, which she co-produced with famed photographer Baltazar Korab, beautifully captured the social life of Rome's rooftops and became an essential reference for architects and urban planners.

In 1980, Zariņa developed the idea for a permanent UW location in Rome at Palazzo Pio. She founded and directed the UW Rome Center at Palazzo Pio from 1984 to 1995 while continuing to teach her Civita program. Meanwhile, the buildings Zariņa restored with her husband, Anthony Heywood, in Civita de Bagnoregio served as the center for the second program developed by Zarina. Her vision for Civita involved restoring dilapidated historical buildings, repurposing them with new functions, and breathing new life into the hilltop village. Zariņa's creative approach helped inspire local families to return, revitalizing the community and establishing Civita as a place where architecture, history, and social life intersected.

Zariņa also convinced Birkerts to invest in Civita de Bagnoregio, where he purchased a derelict property and worked with Zariņa to restore it into a beautiful hilltop villa. Their collaboration on these restoration projects exemplified her commitment to using authentic materials and preserving the historical integrity of buildings while adapting them to contemporary needs. Zariņa inspired local residents to understand the value of their properties and encouraged them to reconstruct. This approach contributed significantly to the revitalization of Civita.

In 1981, Astra and Anthony co-founded the Northwest Institute for Architecture and Urban Studies (NIAUS) in Seattle, which would later become known as The Civita Institute. Astra Zariņa passed away on August 31, 2008, leaving behind a lasting legacy. She and Anthony donated the properties they had restored in Civita, including a terrace, garden, library, and archive, to The Civita Institute. The Institute serves as a hub for post-professional education, research, and creative practice, offering residencies, academic workshops, topical seminars, and studio space for architects and students.

The Civita institute

Today, The Civita Institute continues to honor Zariņa's vision by fostering interdisciplinary learning and promoting sustainable, socially conscious architecture. The legacy of Astra Zariņa, her approach to architecture as a cultural and social force, and her work in restoring Civita de Bagnoregio remain central to the Institute's mission. Through these ongoing efforts, Astra's influence continues to shape the future of architecture and urbanism, ensuring that her profound impact on students, architecture, and the communities she touched endures for generations to come.

Astra Zariņa's connection to Latvia, and Latvia's connection to the Civita Institute, has recently been revitalized. In November 2023, the first group of teachers and students from Latvia traveled to Civita for an immersive workshop titled Imagining My Civita. This collaborative effort was initiated by the Arhiteksti Foundation and The Civita Institute, in partnership with the RISEBA University Faculty of Architecture & Design. The workshop marked the beginning of an annual teacher-student program, a tribute to Zariņa's pedagogical legacy, and to her unique approach to learning, creativity, and architectural engagement.

Civita 2023 Workshop

The Imagining My Civita 2023 workshop brought together twenty-one participants—faculty members, architects, and students—for five transformative days in Civita de Bagnoregio. During this time, they engaged in an interdisciplinary exploration of the village, experiencing its architecture, culture, and landscapes through various creative and investigative teaching methods. The workshop was designed to help participants "see" Civita—not just as a physical place, but as an emotional and intellectual experience. Participants observed and interpreted the village through drawing, painting, writing, urban mapping, and even cooking, immersing themselves in the sensory and cultural richness of the surroundings. The purpose of the workshop was to connect Astra Zariņa's legacy to Latvia and structure a workshop based on Astra Zariņa design values and tripartite teaching method-knowledge, action and reflection.

Steven Holl, one of Astra Zariņa's most prominent students, articulated the enduring significance of her pedagogy at the RIXARCH Conference 2023 in Latvia. He identified seven core principles central to her architectural theory: the value of urban space; the sensory and cultural importance of organic food; the preservation of historic buildings; the social role of the urban roofscape; the importance of community; the integration of ceremony and myth; and the interconnectedness of the earth, plants, and animals.

Citing Steven Holl; "She taught us all these things that were central to being and architect. But then there was another dimension of learning – the cultural dimension" (Sudermann, 2020). These principles, unconventional in the 1970s, reflected Zariņa's foresight in approaching architecture as an interdisciplinary and culturally embedded practice.
Zariņa implemented an innovative tripartite teaching methodology - knowledge, action and reflection, this gave her students the process to experience and unpack the urban

environment. Observation was central to engage deeply with urban spaces as dynamic, interconnected, layered and social entities. Her focus on the roofscapes of Rome as a transitional social space exemplified her attention to subtle architectural elements that shaped human interaction. Both Rome and Civita, she emphasized activities such as field measuring, excavation, sketching and journaling refection to uncover the historical layers and social narratives embedded in material, texture, and form. Her field trips included visiting other hilltop villages, monuments and contemporary buildings.

Interdisciplinarity was another cornerstone of Zariņa's pedagogy. Her focus on organic food extended beyond sustenance, symbolizing the sensory and communal aspects of architecture, while her exploration of myth and ritual imbued spaces with cultural meaning. This holistic approach was applied in her Civita Hill Town Program, where students participated in preservation projects, learning to balance historical integrity with contemporary needs.

Reflection completed Zariņa's tripartite teaching method, pushing students to critically assess their work's social and ecological implications. Holl credited Zariņa's principles with shaping his architectural philosophy, particularly her emphasis on the cultural and environmental dimensions of design. Her legacy, though once unconventional, continues to inspire discourse on sustainability, cultural preservation, and community-centered architecture, making her a model for architectural education.

Zarina's Experiential Pedagogy

Zariņa's pedagogical approach transcended the traditional classroom setting, bringing learning into real-world contexts. As researched by former Zariņa student Betty Torell, her didactic approach - knowledge, action and reflection; aligns with the Applied Learning model, which predates David Kolb's groundbreaking Experiential Learning Theory (ELT) published in 1984. (Torell 2019). Applied learning pedagogies share a fundamental design principle: fostering learning and growth through a reflective, experiential process that moves students beyond conventional classroom environments. According to Ash and Clayton this approach is rooted in the belief that learning is most effective when it is active, engaged, and collaborative. (Ash & Clayton 2009)

Dr. David Kolb defined learning as a never ending process, a holistic process for creating knowledge through transforming experience. In 1974, Kolb developed his own learning model. He considered three classic influential learning models of the 20th. cen. – behaviorism (Kurt Lewin), cognitivism (John Dewey) and the constructivist (Jean Piaget) approach . These three models were total opposites in approach, to accept one was to reject the other. Dr. David Kolb claimed that learning requires a balanced approach to all three of these disparate learning models. Kolb argues in his experiential learning cycle that we learn best by experience which includes: doing, reflecting and thinking critically about it and then doing it again, which provides for a powerful feed back loop. This process is not linear we can jump into this cycle at any point. (EMS 2009)

Some see learning as a straight line from not knowing to knowing. Ideas and knowledge are not fixed we continue to experience things and our view of the world. According to Kolb we constantly learn and absorb these personal experiences. As such learning is in constant conflict between what we expect and what we experience. This point of conflict or occurrences in four stages: 1. Concrete experience -do, feel and see; 2. Reflective observation – start thinking about what happened; 3. Abstract conceptualization based on reflection; 4. Active experimentation – our new views are then tested. (Growth Engneering) (fig.2)

Zariņa's experiential approach required knowledge and action (doing, feeling and seeing). Observation required reflection

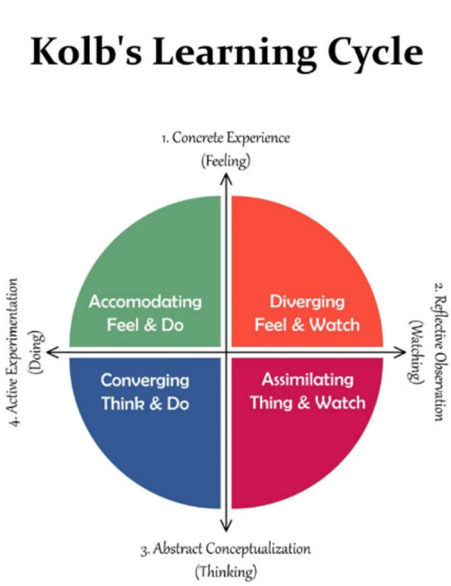

Figure 2. Kolb's Learning Cycle. https://www.simplypsychology.org/learning-kolb.html

necessary for learning. Experience (doing) is not enough. For the student the learning and understanding process must include thinking and reflecting about it otherwise according to Ash and Clayton, citing Shanton, whenever reflection is weak students learning may be haphazard, accidental and superficial. (Ash & Clayton p.27)

Reflecting is essential component to gaining knowledge and action to ensuring a holistic learning process. The Civita 2023 workshop days were organized into three sessions: morning input talks, afternoon plein air sessions, and "show and tell" reflections before dinner. Each day began with a lecture or discussion on a specific topic, followed by hands-on sessions that enouraged participants to engage with the landscape and architecture of Civita and the surrounding rural landscape. Each day would close with informal reflections where everyone shared their insights (thoughts) by means of presenting their observations through drawing, sketching, painting and journaling.

Our Civita 2023 workshop project was organized based on Astra Zariņa's teaching methodology. The six input talks during the workshop provided the intellectual framework for participants' explorations. The lecture topics included – a brief overview on Astra Zariņa's legacy and teaching methods and 'Observing through Painting' - to capture the descriptive and emotive aspects of the city through paint. 'Observing Through Drawing'- to explore the power of visual representation to capture the essence of a place. Italian Hill Top Villages, which looked at the cultural and historical significance of villages like Civita di Bagnoregio. The Poetry of Architecture & The Architecture of Poetry – an exploration of how architecture can evoke emotions and narratives, and how poetry can deepen the understanding of space. The Significance of Heritage – What is an Artifact? a discussion on the role of cultural heritage and the idea of artifacts in architectural practice. Finally, "Urban Mapping & Slow Food" - a session that explored how the slow food movement and urban mapping, the layers of symbols, signs and meaning that can offer deeper insights into community and place-making.

Each of these talks unpacked complex ideas and stimulated our group discussions, inspiring participants to observe the city and think about architecture and design not just as a technical exercise. Participating faculty and students were challenged to engage with the urban condition considering: materiality, space, nature, social , historical and cultural aspects. The workshop's emphasis on observation and reflection encouraged participants to discern and adopt new perspectives on the built environment, moving beyond the descriptive to the deeply perceptive and emotive.

Students were asked to think about the knowledge they received, observe through the means of drawings, painting and writing and then to reflect upon what they have learned or discovered. Reflection included brief presentation to the group and discussion. Workshop afternoon session

Figure 3. Ilze Paklone sketches. Civita 2023

included a plein air session were participants, left the studio to and engage with the village and their surroundings.

Observation is a primary mode for perceiving and mapping the city. Observation requires that we physically experience and engage with the city. Zarina's didactic and investigative approach, required that students leave the studio, to experience and engage the city in real time to facilitate learning. Zariņa's, study program assignments included the study of Rome's Nirolli plan and selected sites throughout Rome. Students in Zariņa's Rome program and Italian Hill top village program physically experienced the village and public space through looking, measuring and sketching, not only engaging the physical city but also its inhabitants, customs and local cuisine. To observe and experience the city physically and emotionally are essential components to Zariņa's studio assignments.

Deliberate observation requires various means of investigation - spatial mapping, journaling, and sketching to gain a deeper understanding of Civita's history, artifacts, and spatial condition, as well as its intricate details—rooftops, alleyways, gates and locks, edge conditions, textures, windows, doors and its light—through both artistic and analytical lenses. Cooking together, sharing meals, and experiencing food as a communal activity were also central to the group's experience, echoing Zariņa's belief in the importance of culture, food, and social engagement as integral parts of the architectural experience.

Our, "show and tell" sessions gave opportunity for each participant to share their observations, insights and discuss their findings. Each student expressed their own personal and emotional connection to Civita, offering a diverse and rich range of interpretations of the village. This reflective process helped to solidify the core teaching method that Astra Zariņa had established: the fusion of knowledge, action, and reflection, which fosters both intellectual growth and emotional engagement through action, collaboration and our group discussions. The group's observations—written journals, poems, sketches, and paintings from the workshop—have been compiled for publication, showcasing the

results of our first collaborative workshop with The Civita Institute. (fig.3)

Observation and Mapping

Sharon Mentyka (Astra Zarina 2012 fellow) in her research identified seven steps or elements of observation for mapping the city: discovering, navigating, symbolizing, preserving, describing, recording and imagining. Mentyka's lecture Civita Immaginata: Mapping a Historic Landscape", inspired our workshop theme and input lectures.

Sharon Mentyka's, explains that mapping historical landscapes and the complex layers of information, may not actually be initially accessible or perceivable. She sees Civita as, "a different kind a place and different to many kinds of people". The goal is to simplify and redact all the visual information and data. When we make maps we chose what to add or what to leave out, we are editors. Mentyka states that in one sense to map something is to lie about it. We chose how to show the content, we chose the style of representation and add our experience, emotions and meaning to it. Just like a portrait artist may reflect his own character in the painting, rather then the sitters. (Mentyka, 2014)

Sharon Mentyka presents seven criteria in mapping the city: discovering, navigating, symbolizing, preserving, describing, recording and imagining. Sharon Mentyka simplifies the visual information and data to search for recognizable patterns. We caricature and understand places in straight lines rather than complex diagrams. We also impose our own personality and sensibilities in making maps. We may not depict every angle, twist or turn in representing a route. Mentyka's visual maps, describe and incorporate emotional experience and triggers: symbols and landmarks are added to help describe a route. (Mentyka, 2014)

Ilze Paklone PhD , in her talk on Observing Through Drawings, highlights the factual vs. the intangible and intuitive sensitivities in representation, mark making and mapping. For example, Paklone explains that Japan conceptualizes space as shared and heterogeneous, while the Greek idea of space, exemplified by the Agora, is more homogeneous and distinct.

Historical mapmaking precedents show that cities are not accurately represented as topographical maps, which record every detail of data. The Babylonian map from 500 B.C. (fig. 4) or the Etruscan mundi (fig. 5) conceives the ideal city scheme, dividing the heavens into four quarters. This best serves the Etruscan's in determining where to build their temples to please their gods. These maps do not serve a geographical purpose, rather abstractly represent a place or serve as organizational diagrams, to convey symbolic or religious information. Mentyka, explains while maps may not be geographically accurate, they convey a very different narrative about a place. They reveal symbols and their intricate interconnectedness, particularly in Civita, where Etruscan and Roman cultures shared and appropriated symbols of various

Figure 4. Babylonian Map of The World. https://www.britishmuseum.org/collection/object/W_1882-0714-509

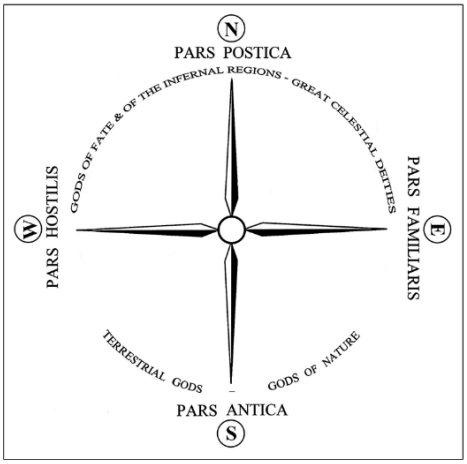

Figure 5. Etruscan mundi. https://www.researchgate.net/figure/Etruscan-conception-of-the-heaven_fig2_320266628

categories-historic, religious and vernacular. (Mentyka, 2014)

Zariņa valued the study of physical space but also understood the overlapping social and cultural aspects components like symbolism, ritual, myth that make up the meaning of a place. Zarina's, students experience involved living with a local family, enjoying local foods and cooking to better understand the milieu of the neighborhood and the weekly beer or glass of wine with the father of the house. This important aspect of context and culture was missing from David Kolb's ELT learning model. While, a holistic model should include the social and cultural condition. Kolb's model does not consider emotive aspects such as emotion and motivation which also are necessary to facilitate engagement in the learning process. (Growth Engineering 2024).

Emotion and motivation are essential to the learning process. To fully understand the city we need to observe the physical city as well as understand the cultural and social milieu. The word civitas in Latin means city. The city must be perceived beyond its visual and physical form but also understand its social function and historical significance. Unwrapping the layers necessary to perceive the city to grasp its meaning include symbols, rituals and myths which impact our subconscious and emotions.

Spirit of Place

Dr. Jana Jēkobsone, heritage protection specialist, researcher, and lecturer delivered a thought-provoking presentation focused on the concept of Genius Loci—the spirit of a place. Jēkobsone examined the complex relationship between an artifact, a monument, and the broader cultural and geographical context that defines its significance. Jēkobsone raised crucial questions about what truly constitutes the "spirit of place" and how we can protect it in the face of modern challenges. She cited Aldo Rossi, that the collective memory of the inhabitants resides in those artifacts and monuments that make up the city.

Jēkobsone emphasized that understanding heritage requires looking beyond the physical object to consider its context. "We can't speak about the object without its context," she said, stressing that heritage is not just about built form but also the intangible layers of meaning attached to it. This idea of context was part of Zariņa's approach to deciphering the city and necessary for learning. She explained that heritage is constructed in our minds and attributed to multiple layers of significance, each of which must be carefully examined. These layers include historical, cultural, and social dimensions, all of which contribute to the artifact's value. These social and cultural observation that contribute to the spirit of a place are beyond the visually perceivable objects. (fig.6)

Mentyka, explains that the mapping process includes discovering objects (visual elements) that can help us understand the urban context and can aid in navigating the city. When visually perceivable objects like symbols enter our subconscious we construct architypes in our minds that guide us in particular behaviors. (fig.7)

John Hejduk (1929-2000), architect and former dean at Irwin S. Chanin School of Architecture (Cooper Union) differentiates

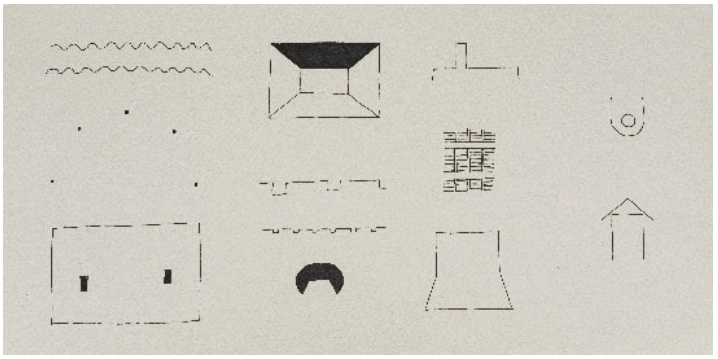

Figure 6. Emilija Kiselova - symbols & signs of Civita. Civita 2023

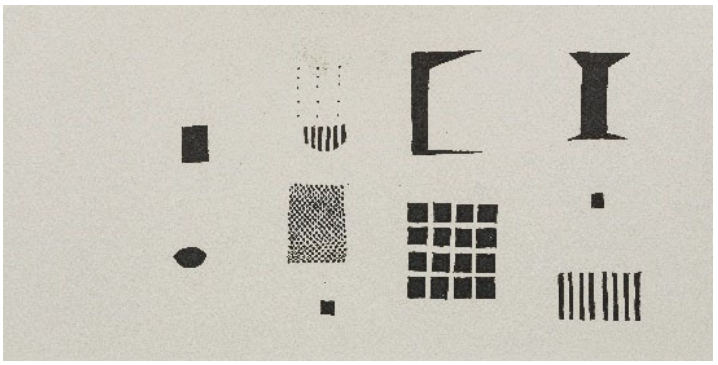

Figure 7. Emilija Kiselova - symbols & signs of Civita. Civita 2023

architecture from mere building by its emotional impact on the subject. Hejduk's claim, if an object does not speak to us beyond its visual form it is not architecture. Hejduk's own reiterative methodology of teaching stipulates- imagination, drawing and fabrication. First we imagine, then draw a thought and test our ideas by making physical models. Hejduk's iterative process requires a critical reflection on the thing imagined vs. that which is real. Does the made object communicate the imagined idea? We may need to re-draw or reimagine to achieve the desired intent. Similar to Dr. Kolb and Prof. Zariņa, this continuous feedback loop is essential playing a crucial role in experiential learning and the creative process of design and making.

Further, Jēkobsone, addressed the importance of recognizing what makes heritage significant—asking, What is its original value, function, and use of the building? Jēkabsone noted that a deep understanding of these questions is vital for the preservation of heritage. Without understanding the full spectrum of heritage's meaning, we risk losing the very essence of what makes it valuable. "Heritage is vulnerable," she explained, "and understanding its vulnerabilities is essential to knowing what needs to be protected. Zarina, understood the threat of loosing this fragile heritage. She motivated the local residents to understand the value of their own properties. This made it personal, emotional and gave them vision to act and protect it.

Authenticity and Place making

Jēkobsone's reflections resonated deeply with Astra Zariņa's approach to architecture, which consistently links building value and urban spaces to their social function. For Zariņa, the significance of a building or space was always intertwined with its role in shaping social interactions and place-making. This is highlighted in Zariņa's seminal publication on the roof tops of Rome, she identifies a subculture within the city. Authenticity and integrity are paramount to preserving heritage. A heritage building deprived of its original function, or one that lacked necessary interventions and relevant repurposing, would merely become a dorment

monuments—nonfunctional relics. . Zariņa's values and methodology are distinctive and align with current ideas on preservation and original building value. These principles are clearly seen in her own work, , particularly in her approach to restoration and adaptive reuse of buildings in Civita.

Jēkobsone also addressed the concept of living heritage, emphasizing that heritage should be people-focused and should benefit the community. In this context, she asked, Who is benefitting from the current status of Civita? To truly protect the spirit of Civita, it is necessary to assess who the heritage serves today, not just who it served in the past. In Civita, as in many historic places, there is a delicate balance between preserving the past and adapting to present-day needs. The present commercial needs and tourism, for the inhabitants and businesses in Civita, are both a livelihood and a threat.

Our workshop discussion focused on Civita's unique context - its landscape, materiality, and relationship with nature and agriculture. The discussion highlighted the importance of Civita's geographical and geological features: the tufa stone upon which the town is built, the distinctive color palette of its materials, and the natural forces, such as earthquakes and erosion, that are constantly reshaping the landscape. The donkey, the caves, paths and basements form a building types that witness Civita's vibrant past connection to olive oil , chestnuts and wine production. These elements are integral to the spirit of Civita, and the challenge to preserving them critical to maintaining Civita's life blood.

Astra's Legacy

Astra Zariņa's legacy is one of profound significance. She taught us that architecture is not just about buildings—it is about the people who inhabit those spaces and the social functions those spaces serve. Her teaching emphasized the importance of observation and the act of seeing—not only with the eyes but with the heart, mind and emotions.

Figure 8. Imagining MY Civita 2023- group picture. Igors Malovicskis 2023

Zarina saw the city is a continuum —a network of interconnected social spaces, from the public square to the private courtyard, extending through to the kitchen and beyond to the rooftop terrace. Her holistic approach to teaching and vision of architecture, often dubbed "architecture from city to spoon" by her former students, reflects her belief in the importance of integrating architecture with everyday life.

Astra was a true pioneer, an innovative and early urbanists who understood that architecture's role in cultural production must address both its historical significance and its relevance to contemporary society. Her didactic approach to teaching and experience based learning components - knowledge, action, reflection - align with David Kolb's ELT learning model and contemporary research validate her pioneering approach. Her methodology is unique and holistic to align with context and emotion which perfect the experiential learning process and valuable for deciphering the city and its multilayered meaning.

Our workshop based on Zariņa ‘s teaching methodology resulted in twenty one unique inquiries providing insightful portraits and revelations about Civita. Students experienced a new approach to learning and understood the value of observation. Input talks provoked thought and a catalysts for action and reflection. Students, experiencing Civita, learned to observe and perceive the hilltop village in their own unique styles, capturing descriptive and emotive information through sketching(fig. 3), photography, painting, journaling, and poetry. The Civita 2003 workshop output was incorporated into Astra Zariņa | Rome and The Teacher exhibit in Riga , Latvia, curated by Arhiteksti foundation and T-Space.

Zariņa was a visionary urbanist. She saw that adaptive reuse is necessary in preserving our heritage and place making. Reimagining spaces to accommodate the future while preserving their intrinsic value. Her approach to teaching and architecture was driven by a deep commitment to creating sustainable, socially integrated urban spaces. As we move forward, our hope is that Astra Zariņa’s legacy will continue to inspire new generations of students and architects.

In the words of Jules Verne, “Look with all your eyes, look.” By following her example of thoughtful observation and reflection, respect for heritage, and creative adaptation, we can ensure that the cities and towns we build and restore based on this approach will endure as vibrant, sustainable, and culturally rich places for the future.

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New Media and Audiovisual Arts

Aigars Ceplitis, Sabrina Durling-Jones

Evoking Cultural Memory and Nostalgia with Volumetric Visualizations: NeRFs and Point Clouds as Metaphors for Displacement

Abstract

The article that follows examines using NeRF and point cloud visualizations to evoke cultural memory and nostalgia. Through a triune framework that encom-passes cognitive, emotional, and placial aspects, the study investigates how advanced volumetric imaging techniques can be employed to represent and convey the complex as-pects of displacement experiences. Contextualized through the analysis of a 5-channel immersive installation created by the authors, this inquiry analyzes technical processes and discusses ethical implications, while also providing a novel approach to creating visual representations of memory and belonging.

Keywords

neural radiance fields (NeRFs), point clouds, displacement, cultural memory, virtual reality (VR)

1. Introduction

The intersection of art and technology continues offers unprecedented opportunities to experiment with emerging creative processes. In-spired by the recent increase in mainstream accessibility to advanced computing tools, the authors of this text created a moving image installation using NVIDIA Instant NGP (NeRFs) and point cloud visualizations to produce photorealistic 3D animations. The explanation provided here represents the authors' unfolding investigation of phenomena and realities as they relate to the use of algorithmic technologies in generating volumetric visualizations of cultural memory.

Taking inspiration from time-based art pioneers like Bill Viola and Leo Villareal, *Triunes of Displacement,* the artwork used here as a case study, was presented in July of 2023 at the inauguration of the incoming Rector at Riseba University of Applied Sciences (Riga), following the death of her predecessor. The piece was designed to allow the audience to reflect on the ephemeral nature of being and loss while also confronting ongoing changes in perception created by technological advances that have the power to augment our view of reality. The artwork, which relies heavily on Latvian cultural codes, as well as ecological and architectural imagery, immerses viewers in cognitive interludes of eco-symbolism and cultural references that function as mechanisms to produce sensations of nostalgia and shared remembering.

1.1. The Art of Remembering

Connection and cultural memory are essential elements of the human experience, linking past and present. Incidences of dislocation due to loss or occupation disrupt this dynamic and can deprive individuals of maintaining a sense of belonging. In most cases, this type of displacement has a highly detrimental impact on those affected. In contrast, this article examines how combining structure-from-motion imaging and advanced computing processes can be used to generate, or reinforce, a sense of connection and nostalgia. The case study also utilizes the practices and observations of the authors as they mitigate Latvian post-colonial displacement and cultural memory to comment on the efficacy of NeRF and point clouds to create algorithmic artworks that become metaphors for displacement.

2. Theoretical Framework

The theoretical framework for this study is grounded in the notion that volumetric visualizations can serve as powerful metaphors for cultural memory and nostalgia, especially in contexts where viewers have personally experienced some form of displacement. The approach taken by the authors is to experiment with using advanced computing and algorithmic technologies to identify humanistic applications for AI. The research employs a triune approach encompassing cognitive, emotional, and placial perspectives to contemplate a novel application for structure-from-motion photogrammetry and AI compositing techniques. At the center of the investigation is the exploration of whether or not the methods employed by the authors achieve the creation of dynamic visuals generated through a metacognitive scanning practice that renders a graceful, suspended motion user experience reminiscent of the tenuous and transient nature of displacement.

2.1. Cognition

NeRFs and Point Clouds function as transformative volumetric algorithms by utilizing fully connected deep networks of photogrammetry, optimizing contiguous scene function with spatial and directional coordinates as inputs [9] (Yang et al., 2023), but they also serve as nodes of metaphor in processes of remembering. The technical framework utilized to create the *Triunes of Displacement* installation is complex and is intended to convey the intricacies of comprehending human consciousness,

memory, and emotion as metaphoric clusters.

The metaphorical framework proposed by George Lakoff (2008) offers a profound lens through which to interpret the interplay between past and present, where Lakoff's conceptual metaphor theory posits that our understanding of abstract concepts is deeply rooted in physical and social experiences. This emotional response can be seen as a form of cultural memory that selectively reconstructs the past, much like NeRFS and point clouds, which selectively reconstruct surface details of an object [10] (Xue and Woolley, 2009). With respect to the Latvian experience conveyed in this text, selective reconstruction can lead to contested memories and varied interpretation of history, distorting the visual field of memory.

Lakoff's theory, in giving hope that the metaphors we live by shape our perceptions and actions, suggests Latvian society should have the ability to foster a more nuanced and empathetic resolution of collective trauma, paving the way for reconciliation and healing, which is what the volumetric visualizations in *Triunes of Displacement* seek to accomplish. Exploring the complex connections between displacement, memory, and perception with an innovative combination of algorithms to shape audience awareness, this novel approach to experiencing memory and displacement as metaphors becomes evocative.

2.2. Emotion

Advanced immersive technologies can add a new dimension to capturing and recreating three-dimensional representations of physical spaces and objects with remarkable accuracy. Neural Radiance Fields (NeRF) generate photorealistic 3D models from a limited set of 2D images, while Point Cloud visualizations extend representations of detailed spatial data [1] (Peng Tu et al., 2024). The landscapes and architectural spaces captured by the authors/artists encompass emotional dimensions of memory. As discussed in the article "Symbolic Significance and Cognitive Dimension of the Latvian Landscape," environments are not just physical places but also emotional and symbolic structures intertwined with human perception, self-identification, and cultural memory (Nitavska, 2023).

Triunes of Displacement takes a unique approach to utilizing volumetric visualizations by creating emotional connections that promote multi-sensory engagement. As a result, a comparison can be drawn between the metaphorical

Figure. 1

representation of disjointed and overlapping memories associated with trauma and the neural processes NeRFs and point clouds use to synthesize coherent image data from disparate camera angles and scattered data points (Fig. 1).

In "Displacement and Identity Discontinuity: The Role of Nostalgia in Establishing New Identity Categories," displacement impacts identity continuity through the lens of nostalgia, helping individuals reestablish a sense of identity [3] (Milligan, 2003). This phenomenon is essential for understanding the emotional resonance and implications of the *Triunes of Displacement* installation, where the introduction of NeRFs and point cloud visualizations into the realm of collective memory presents a unique counterpoint to the challenges of cognitive dissonance the audience may feel and can help bridge the gap between conflicting narratives or interpretations of the past. For instance, a NeRF reconstruction of a Soviet monument in the Baltic states might seek to remove or to erase the narrative of occupation, but it would also allow individuals to explore and experience that

space from multiple perspectives, potentially reconciling disparate accounts or challenging preconceived notions about the relationship between the occupied and the occupier. While such volumetric visualizations can mitigate feelings of displacement, making the abstract concept of historical trauma more tangible and easier to digest, they also offer the possibility to begin addressing deep-seated anxieties passed down through generations, ultimately contributing to a more integrated and resilient society.

2.3. Place

Throughout human history, displacement has been a recurrent theme, almost a default condition, affecting numerous communities globally through forced migrations and mass movements caused by wars and environmental disasters, all of which leave lasting imprints on cultural memory [4] (Refugees, U.N.H.C.F., 2022). Events like war, economic migration, and environmental dislocation leave lasting markers on collective memory. In the case of Latvia, cultural memory and displacement have become a never-ending sore, enhanced and shaped by economic and political austerity, which serve as an ominous warning of the demise of the nation [5] (Sommers, J., & Woolfson, C., 2014).

To better understand the historical context of displacement events that are crucial for creating accurate and meaningful cognitive visualizations and reconstructions of historical spaces [6] (Beeckmans, L., 2022), emphasis must be placed on metaphorical immersive experiences channeled by those who have been personally impacted by displacement and are witnesses to the dislocation process. To this end, the development of NeRFs and point cloud models echoes the symbolic significance of landscapes where the visual deconstruction of place provides insight into a community's gradual disconnection from belonging as an immersive and visceral testimony to foreboded events (Fig. 3).

The technical and emotive manifestations evident in *Triunes of Displacement* are designed to create an equilibrium of historical, ideological, and psychological viewpoints that promote a holistic experience for audiences. This is pivotal when trying to anticipate future events using history as a guide to facilitate an enhanced appreciation of cultural memories.

3. A Technical Analysis of Displacement & Memory

Through the amalgamation of photogrammetry and NeRF visual rendering, combined with affective narratological design, haunting music score, and temporal components, the authors of this text created the installation *Triunes of Displacement* to demonstrate the efficacy of their integrated approach. The framework established considers the audience's psychological response to objects of Latvian nostalgia, influencing emotional response. The interconnection of these cognitive, emotional and placial symbols supports the authors' intent to produce holistic visualizations that are representative, emotionally resonant, and technically impactful.

Figure 2 NeRF rendering of a pastoral Latvian scene

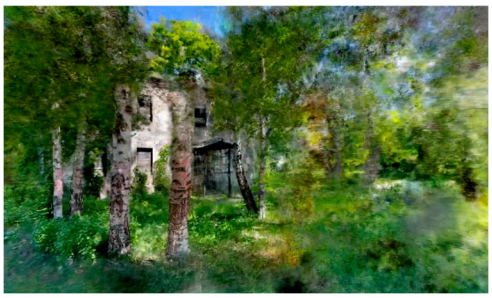

Figure 3 Still of a NeRF rendering of a Soviet building

3.1. Photogrammetry and Structure-from-Motion

At the core of *Triunes of Displacement,* which was originally presented as a 5-channel video installation approximately 5:50 in length, are 3D scans depicting light, color, and movement, that portray the ephemeral nature of being. The use of slow motion throughout the piece accentuates the delicate and transient nature of the visual elements, promoting a sense of dislocation amid an atmosphere of clouded memories.

Because technology can serve as both a repository of truth and a potential source of distortion, NeRF and point cloud data can be used to verify or refute historical claims about the physical characteristics of places or objects, as well as mitigate the cognitive dissonance that can exacerbate psychological discomfort from contradictory beliefs or interpretations of the past (Fig. 3). This is relevant in the context of Latvian collective memory and historical trauma drawn from its agrarian feudal past; the eventual birth of the Latvian nation; guilt associated with Nazi collaboration during World War II; oppression under Soviet rule; and economic devastation following the International Monetary Fund's 2009 neoliberal policies. In combination, these shared experiences of cultural memory contribute to a fractured and dislocated sense of national identity.

Ultimately, the visual sequences created for the installation were carefully designed to evoke a sense of historical and cultural memory. For example, the inclusion of symbolic elements such as flowers (Fig. 4), folk dancers, and Soviet buildings anchor the visual experience of the Latvian diaspora in specific cultural contexts, reinforcing the notion that place, whether real or virtual, is a powerful symbol of cultural memory and identity [8] (Nitavska, 2023).

This approach to the integration of technology in art opens new avenues for exploring complex themes and meaningfully engaging audiences. The use of NeRFs and point clouds in *Triunes of Displacement* highlights the ongoing role technology plays in contemporary art and presents artists with an opportunity to create experiences that are aesthetically unique, visually compelling and, ultimately, deeply meaningful (Fig. 5).

3.5 Auditory Components

Complementing the visual elements of the *Triunes* installation is a hauntingly monophonic musical score. As Ceplitis [11] observes in "The Curious Aspects of Audionarratology in Stereoscopic Cinematic VR," sound plays a pivotal role in amplifying the immersive effects within virtual reality spaces. Along with the volumetric visualizations discussed in this text, the artwork's original score targets the deep emotional core of viewers, potentially evoking diasporic sensibilities through a binary narrative structure. The composition begins with a rather vibrant, complex, and bright textural element written in the key of F major and featuring a crisp staccato articulation and syncopated rhythms using vibraphone crescendos (Fig 6) that contribute to its lively, energetic mood. Gradually, however, the initial exuberance transitions into darker themes reminiscent

Figure 4 Still of a NeRF rendering of flowers in the Latvian landscape, symbolic in its popular culture

Figu
trees

of Philip Glass's minimalist motifs: what starts as an echo of childhood innocence swiftly morphs into waves of repetitive hints, generating tension and anticipation through Logic's tremolo effects. The shift to C#/Db3 minor (Fig 7) underscores the intensity and raw, persistent ache of perpetual displacement that one might endure on a difficult journey. This builds an emotional trajectory that becomes a lingering strain, simultaneously soothing and disquieting, mirroring the complex experiences of those grappling with cultural dislocation.

4.Ethical Considerations

Triunes of Displacement explores complex themes of displacement, fragility, and the precarious nature of perception using an innovative combination of visual, temporal, and auditory elements. The artwork consists of five screens projecting slow-motion NeRF and point cloud animations
of objects and spaces meant to elicit feelings of nostalgia via photorealistic animations. The technical execution of the piece is designed to enhance its immersive and interactive nature, allowing viewers to be participants, rather than simple observers [7] (McCreary, 2018).

Neural radiance fields (NeRFs) and point clouds are powerful tools for evoking memory and nostalgia, which can, in many cases, be a positive experience. They also provide a rich contextual framework with which viewers can engage. However, capturing places and objects using these hyperreal photogrammetric processes might also reproduce many of the negative emotions associated with displacement. As a result, the authors would like to emphasize the importance of considering emotional complexities and ethical concerns, especially those of representation and inclusion, when utilizing these techniques in similar scenarios. Creating immersive cultural memory and displacement experiences that respect and accurately represent the complexities of stories that might be difficult to recount, or to be reminded of, is of utmost importance to the authors of this text.

5. Conclusion

The integration of historical and emotional narratives in "Triunes of Displacement" provides a cohesive representation of displacement. The installation, which weaves together cultural and historical symbols, creates a rich tapestry of autobiographical remembering. The approach outlined here represents experiences as trajectories within a high-

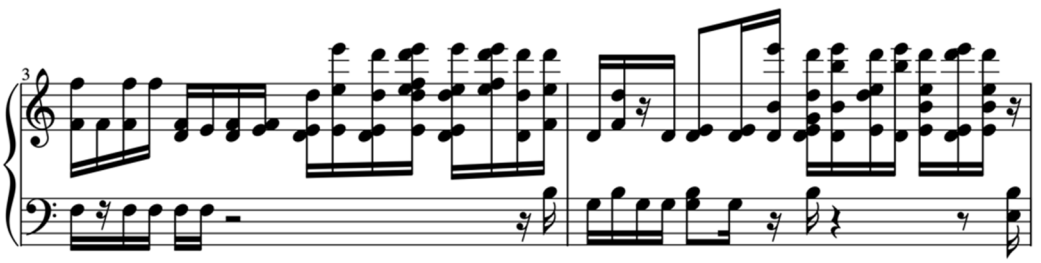

Figure 6

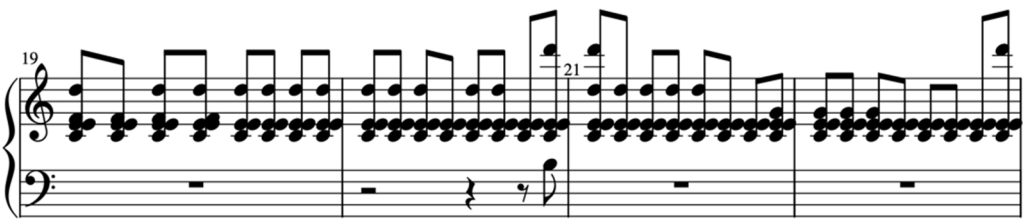

Figure 7

fidelity experiential space, defining a framework to convert visual data into dynamic cultural memory content and nostalgia experiences.

This case study is an example of deploying emerging algorithmic processes can lead to the successful expression and exploration of complex themes, including memory, emotion, and displacement. This is particularly poignant in the Latvian context, where collective memory encompasses a complex history of agrarian feudalism, collaboration with Nazi forces, Soviet oppression, and recent economic challenges, all contributing to a fractured national identity.

The study also succeeds in bridging the disciplines of computer science, time-based art and the social sciences, and by leveraging advanced visual and auditory techniques, the installation provides a powerful immersive experience that encourages viewers to reflect on the transient nature of being and the delicate fabric of memory. In the case of Latvia, it offers unique opportunities to bridge gaps between conflicting narratives, mitigate cognitive dissonance, and provide tangible representations of abstract concepts. Finally, the installation's complementary and monophonic score enhances the work's ability to mirror an emotional trajectory of displacement, from childhood innocence to the persistent ache of cultural dislocation.

The emotional and psychological impact of these processes is a testament to the power of emerging immersive technologies in an increasingly interconnected world, providing a means for societies like Latvia to address deep-seated anxieties and work towards a more integrated and resilient national identity. As collaborations between art and technology continue to expand into new spheres, works exploring experimental techniques will play an integral role in shaping the future of immersive experiences.

Disclosure of Interests

The authors have no competing interests to declare that are relevant to the content of this article.

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Alexander Sheyn, Nikolai Margiev

Translating Memory into History: on Reappropriation of Memory in the Age of Platform Capitalism

Figure 1 — Atlas VMayakovsky

The genealogy of the artistic project that was started in 2011, which includes the creative teams' feature film VMayakovsky (2018), the dance film Lacanic (2016), the documentaries Timur Novikov. Zero Object (2014), Monroe (2022), Nazidanie, A Whatever Film (2022), the essay film The All of Everything (2022), and the museum projects Signals of Precise Time (2017), 37+1. Punk Divination (2016), Atlas VMayakovsky (2017–2021), traces back to the issue of the language rupture during the era of global political changes and the digital turn at the end of the 20th and the beginning of the 21st centuries.
This rupture speaks to the impossibility of discovering an authentic language of interaction with the transformed reality. Altogether, the project's audiovisual archive represents over 700 hours of diverse material: original feature scenes, interviews, research expeditions, chronicles, rehearsal takes, and everyday footage. This archive reflects the life and work of many people — a labyrinth without entrances or exits, a collection of transmedial material, constantly intersecting but never reducible to a single center.

One of the project's main themes has been the exploration of the fate of a modernist artist against the backdrop of the tectonic shifts of the 20th century — the fate of the mythmaking author. This exploration is particularly reflected in the film about Vladimir Mayakovsky — VMayakovsky. In one of the project's further iterations, we created a museum from texts and objects literally tied together by countless threads, the Atlas VMayakovsky project. It is precisely this museum logic, this intention to preserve both the "important" and "unimportant," that gave rise to the idea that a work of art is not a collection of separate objects but rather of the relationships between them. To better define this interconnectedness, we introduced the concept of "whatever material" — a structural representation of a work as a collection of metaphorical connections, a formal approach to such construction. We believe that when these relationships are properly defined, a work of art can be created from anything. Within such a construct, there is no difference between professional filming and everyday smartphone videos; thus, anyone can be an author, and everyone's memory, their archive, becomes the main material for this meaning-making construction.

Collapse of an Empire and Digital Turn

Two important shifts happened on the eve of the millennium that bear significance to our project: the end of the Cold War and the onset of digital technologies. The 1990s historical defeat of the Eastern Bloc in the Cold War suggests that the semiotic system of relations between signs collapses on a sixth part of the world. A breakdown of an empire changes the reality beyond recognition, creating an epistemological shift. The common "recognition" that Warsaw Pact citizens were used to is no longer possible because of the enormous amount of social, political, and economic changes. Such a collapse, even though it poses obstacles for signification and therefore constrains everyday communication, also brings forward an artistic deautomatisation as it is described in Yuri Lotman's theory of communication:

"In the structure of an artistic text two opposite mechanisms take place: one tends to submit all the elements of the text to a system, to turn them into automated grammar, without which the act of communication is impossible, another one aims to destroy such automatisation and make the structure the information carrier"

(Lotman, 1970:95)

In other words, in the absence of the possibility for communication, the relations between text and "reality" are radically estranged, and words are no longer connected to things.

In this context, we are reminded of a position expressed by Francis Fukuyama in his famous essay about the end of history (Fukuyama, 1989). Indeed, the defeat of the Eastern Bloc manifests that the "Soviet" system of signification is thrown away as history's garbage as superfluous: these relations are no longer able to describe the world. At the same time, the model of liberal democracy and free market, with their inherent paradigmatic features, gets a carte blanche and is being exported around the globe.

As we have mentioned earlier, another epistemological shift that has been brought by the turn of the millennium is the one that is referred to as the "digital turn" (DFG, 2020) in contemporary humanities. The internet's development, globalisation, and cultural tourism of the last 30 years have rapidly conquered the planet, as if mending the ruptures of the 1990s. Such hasty expansion naively assumed that the world has turned transparent, multi-cultural, that border walls have fallen, and that the signals of times are conventional and are simultaneously received by people in Riga, Bangkok, Buenos Aires, or Sydney as of yet. Later on, it has resulted in a presumption that a simple possession of a smartphone with a camera equals us all by bringing forth a longed-for "universal" language, the most modernist of the modernist dreams.

In such hopes of the millennium, we can discover an extreme artistic situation: every owner of a smartphone is a content creator, dedicated to the expression of their individual "I". However, a critique that follows suggests foul play. Dreams of the universal world brought with democratisation of technical means are buried under the platform capitalism (Srnicek, 2017) is another iteration of the economic regime that now governs the whole planet. In platform capitalism, the individual "I" of the subject is turned into commodity, our supposedly free actions being the cogs in an enormous extracting machine extorting our fossilised memories and feelings. We must remember the renowned words of Marshall McLuhan about medium being the message [McLuhan 1964:7] and should agree, that it is indeed the way that social interaction in digital spaces is formed that defines the modern world, but not the "message" that each and every one of us are trying to carry into it. Since there is no other ideological system to compete with after the collapse of the Berlin Wall, platform capitalism (or technocapitalism (Suarez-Villa, 2009)) has become the sole mode of existence in the contemporary world.

The Authorial Position

A contemporary person creates innumerable amount of memories — he is taking photos, makes recordings, creates videos about himself and the others. His life is documented like no other in history before the digital turn. The democratisation of technical devices suggests that our memory, photos, messages, purchase data, and browser history no longer perish. Instead, they are stored on servers like a dump of something superfluous and unnecessary, existentially questioning us — the dump of memory requires to be reassembled, it asks to be turned into history, it longs to be reappropriated. In other words, the question at hand is how to overcome such an estrangement, brought forth by the ubiquitous commodification of memories and feelings in the age of techno-capitalist platforms.

Mikhail Yampolsky writes in *The Memory of Tiresias. Intertextuality and the Cinema:*

"Sightedness, vision, seeing, looking — all these concepts are related to spectacle. Many texts of culture are presented to us in the form of moving images. In the 20th century, cinema became the embodiment of this cultural drive towards increasing the spectacle. But the story told by Homer reminds us that seeing without remembering means not understanding. Tiresias's memory turns out to be a better observer than the unobscured gaze of Odysseus's mother. A spectacle that is not immersed in memory, not allowed access to the sources of Mnemosyne, remains a meaningless collection of disjointed fragments. The memory of culture, the memory of Tiresias, must be connected to the text for the desired 'connection of beginning and end' to occur, for a history to arise"

(Yampolsky, 1993:9)

We can envision this "connection of beginning and end" in the form of a thread that links the disjointed fragments of memory into history, biography, and image. Undoubtedly performing an estrangement, this thread is a tool of contemporary artist painting their autoportrait. Following Yampolsky, we should stress that only the memory with an access to the sources of muses and their mother Mnemosyne, only recontextualised and interconnected memory may be allowed to talk of the world.

It is not accidental that we see a tendency towards auto-fiction in contemporary art at the turn of the millennium. Autofictionality sees authorial reflexive experience as artistic material. The term "fictionality" here is of utmost importance, suggesting that "fiction", or artificialness, the muses' touch, is a mediator in relations between subject and his memories. Fictionalised memory may be perceived as recontextualised memory. Such a memory, the one that has been allowed to Mnemosyne's source, is in no way a mere registration of events, but its artistic ascension and estrangement: it knows both of its unreliability (after all, fiction implies a fantasy, something "artificial") and of its materiality — in this it bears resemblance to clay in sculptor's hands. It leads us to a vision of memory that can be subjected to an artist. Thus understood, memory assumes the artist's gaze, and from that gaze, the reappropriation starts. It begins from the position of the one who remembers, at the same time reflexive and creative, from the position of an author. Recollection then is nothing other than the montage of fragments of how we perceive our ways of remembering, sort of a double-play with memory's form.

Aura and experience

The dramatic tension we observe in front of modern subject boils down to the relationships between "memory" and "history", in other words, to the clash between our own experiences of the world and our idea of the world. Memory, as manifested in media, is fragmented and placed in the limbo of endless reproduction; contemporary reality suggests that it is just a mere "content" among hundreds of algorithms striving to create an illusion of a sensible and complete world. History, on

the other hand, the perception of reality, is a subordinated memory, reorganised into a certain order by the subject's own reflection. Since we view the translation of memory into history as a fundamental task of modern humanity, it is necessary to identify the essential difference between these two concepts, to discover the principle around which the entire medial structure drastically transforms and turns to face us.

Remembering means recollecting the experience. It is no coincidence that in the tradition of 20th-century European literature, from Marcel Proust to W.G. Sebald, some sensory trigger sets off a cascade of memories, producing a narrative shift: within the work, the narrator "recollects," seemingly presenting us with their experience, but in reality, concealing that experience behind the double bottom of convention. The question of convention is simple: how are we to know how trustworthy the narrator's recollection is? Such "untrustworthiness" is true not only for literature but for our own ways of remembering. For precisely at the moment when the recollection of a lived experience begins, the trap of its potential unreliability also arises. Unreliable memory can never be absolute, a memory of every moment lived; on the contrary, memory seems to be a dialectical play of remembering and forgetting. Only a machine can possess absolute memory — a dashcam, a data processing server, a surveillance camera — but here lies its key feature: absolute machine memory has nothing to do with experience. In fact, we can provocatively argue that without a reflective gaze, it is no memory at all. Thus, revealed in the play between remembering and forgetting, subjective and primordially unreliable, the memory of experience cannot be judged in terms of its "truthfulness" or "falsity," but only in categories of its authenticity, uniqueness, and historicity. Jacques Derrida notes this connection between the "historicity" of experience and its fictionality in one of his interviews, saying,

"What actually happened, in other words, the event whose trace the subject seeks to preserve, is identical to the very desire by which what did not happen should have happened, and in this way becomes "history," where the event already intersects with the archive of reality, as it does with the archive of fiction. It would be difficult for us... even to distinguish between historical narrative, artistic fiction, and philosophical reflection"

(Dutoit and Romanski, 2009:254)

Oftentimes, the relationships between experience and history are revealed precisely in autobiographical philosophical reflection, where the notion of experience is encompassed by artistic potentiality.

When describing the relationship between art and technology in the 19th and 20th centuries, Walter Benjamin uses the mystical-theological concept of "aura." The clearest definition of aura is simultaneously one of the most enigmatic:

"What is aura? A peculiar web of space and time: the unique manifestation of a distance, however near it may be. To follow, while reclining on a summer's noon, the outline of a mountain range on the horizon or a branch, which casts its shadow on the observer until the moment or the hour partakes of their presence — this is to breathe in the aura of these mountains, of this branch"

(Benjamin, 1972:20)

The unique manifestation of distance Benjamin writes about certainly has nothing to do with simple spatial distance but creates a special kind of perception, in which relationships between the subject and the object in which, through reflection, obtain a whole world discerned behind the object under consideration. That perception is metaphoric in its essence, it allows us to see the invisible threads that connect things in front of us. In another place, Walter Benjamin writes:

“Originally, the contextual integration of art in tradition found its expression in the cult. We know that the earliest artworks originated in the service of a ritual — first the magical, then the religious kind. It is significant that the existence of the work of art with reference to its aura is never entirely separated from its ritual function. In other words, the unique value of the “authentic” work of art has its basis in ritual, the location of its original use value. The oldest works of art, as is known, were created to serve rituals, first magical, then religious. What is decisive is the fact that this aura-inducing mode of existence of the work of art is never fully severed from the ritual function of the work”

(Benjamin, 1969:6)

The theology of the work of art that arises here may, at first glance, seem far removed from the issues we are discussing, but if we can manage to see behind Benjamin’s “contextual integration of art in tradition” the specifics of the historical, social, economic, and political circumstances in which an object appears, we can suggest that the authenticity of an object's aura lies not within it, but in the figure of its relationships with other objects. Such connectedness is revealed by the historical context in which an object is rooted. In his works, Walter Benjamin often writes about practices of collection, stressing the aforementioned fact (Benjamin, 1999: 204).

Through Benjamin’s writing, we have established two key features that are crucial for our analyses of memory and history. The first of them is that memory, while being essentially unreliable, has a modus of authenticity that connects it to the concept of aura, implying that the whole process of recollection is an interplay of metaphors. The second feature is memory’s rootedness in the historical context of its creation, which allows us to perceive recollection as a constellation of objects.

Precisely of these features, commodified memory is devoid. When turned into a commodity by techno-capitalism, memory is equated with other goods, primarily money, the universal commodity, and consequently falls into the whirlpool of economic exchange and exploitation. Deprived of authenticity and historical context, it becomes a fragment, a discrete piece of a mosaic, which is unlikely to find a place in the whole canvas, that canvas being the subject. But at this very point of rupture, we also see the possibility of reappropriating memory. Understood and reflected upon as the authenticity of experience, reconnected with other discrete fragments, memory becomes history. Just like with frames of a film on a montage table, we see a potentiality to edit together disparate fragments to create a third meaning. Engaged in this meaning-making process, we ourselves become the artists whose gaze is so crucial for translating memory into history. This is what Yampolsky speaks of when he writes on Mnemosyne: *“The memory of culture, the memory of Tiresias, must be connected to the text for the desired 'connection of beginning and end' to occur, for a history to arise”* (Yampolsky, 1993).

Practical Implementations, or How to Collect Memories

As we have mentioned before, in the context of modern-day rupture, memory is alienated and appropriated by

Figure 2 — Jean-Luc Godard, shot from A Whatever Film

technocapitalist platforms. The core principle of these media platforms, whether it be streaming services or social networks, is their verticality, which creates the illusion of endless content and an infinite world. These platforms use opaque algorithms to “curate” the content that users see. As it is profoundly investigated in Arcades Project

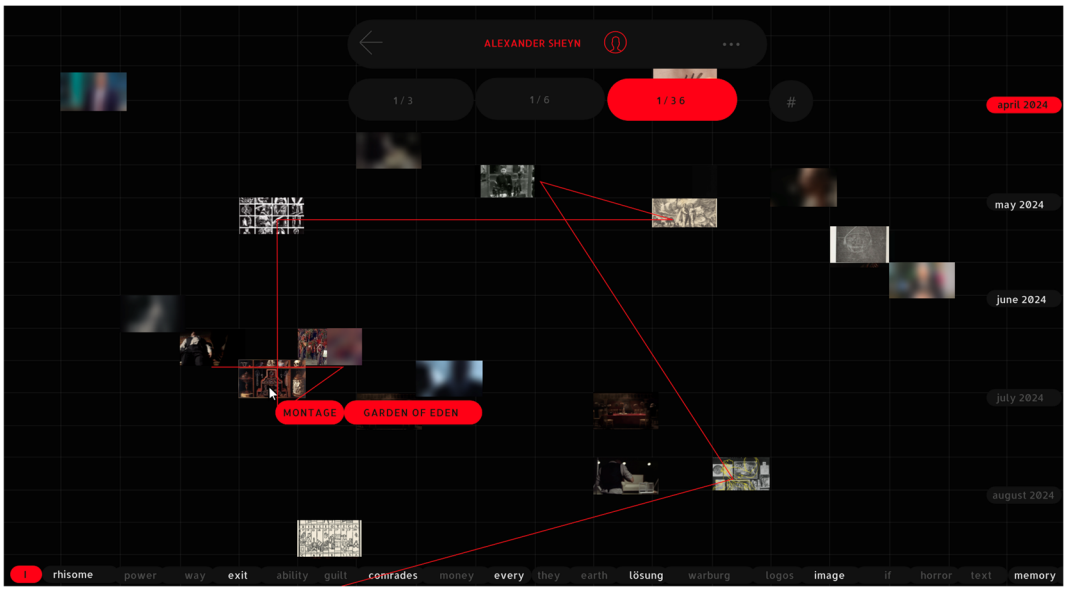
by Walter Benjamin, the shopping arcade exists similarly: it is an illusion of the world in miniature, where an African lion coexists with an Irish pony, and an Australian native is displayed alongside a German burgher (Benjamin, 1999). There is no longer any need to travel anywhere because everything is already presented to us behind the shop window — or its modern equivalent, the smartphone screen. It's impossible to perceive the whole behind the fragments and shards of the media stream, and concepts like "network" or "labyrinth," once used to define the internet, have become perverse metaphors. Ultimately, alienated memory transformed into a commodity and displayed in the social media storefront becomes the opposite of the reflective author's position due to the semantic appropriation performed by these platforms.

We believe that the horizontality of digital space — the unfulfilled dream of net artists from the 1990s — is the only possible answer in the struggle for the reappropriation of memory by the subject. To this end, we developed a digital media platform whose two main tools are the infinite canvas and the connecting thread.

In developing our project, we were inspired by Aby Warburg's Atlas Mnemosyne and came to understand that contextual integration of memory into history is only possible by way of the canvas — within a space devoid of hierarchy. The canvas is "omnivore," it makes no distinction between the "types" of media the user uploads into it, since transmediality and multi-format characteristics are precisely how our memory and perception work today. Another important aspect of the canvas relates to its potentiality, the artist's awe before the blank surface, where anything — an entire authentic world — can be realized.

The second tool, the thread, is designed to tie fragments of memory together on the canvas, attributing them. By attributing their elements, the user engages in the process of signification, reflecting on each particular shard of memory. As we previously mentioned, an element can gain an aura only through its relationships with other elements, and this is the purpose of the process of signification, which invariably creates connections between discrete fragments. Using signifying tools, the user constructs narrative chains, continually encountering new ones: once two elements are linked, a third element always emerges to complete the sequence. By engaging in such an assembly of memories, the user creates a new image, a metaphor. Here, the montage image is not simply the sum of one frame and another but their relationship —

Figure 3. Prototype



a third meaning. In this reflective work, the user becomes an author, formulating a subjective position towards the world and their life.

Considering the relationship between the canvas and the meaning generated by the montage, we notice that any given element, always being part of a narrative structure, changes depending on the narrative line the user builds. The content within the frame is recontextualised and can perform various functions within the grammar of the work. For example, imagine a frame depicting an altar in a church with the image of Jesus Christ. Next, a montage cut shows portraits of Kim Jong-il and Kim Il-sung on a building in Pyongyang.

This produces a “portrait” montage series. The portrait image — the subject of this grammatical construction — has a metonymic relationship: Kim Il-sung literally replaces Christ, allowing us to equate the cult of power with religious worship. But because our element is placed within a non-hierarchical canvas, where it is just another structural element, we can also imagine the reverse situation, where the altar scene is a verb. If, within the narrative, the altar signifies salvation, then the predicative, or verbal, chain would be composed of other “salvational” actions: our frame might be paired with Malevich's Black Square and Delacroix's Liberty Leading the People. In such a sequence of images, the connection occurs through metaphor, through indirect signification, whose meaning is not reducible to what is depicted. Instead, we find the metaphor’s meaning in the space between the frames, in the caesura. As the author’s reflection is expressed on the canvas through signification, these relationships between elements multiply into narrative sequences, producing new and new montage links, and memory work becomes meaning-making. It is in this reflective work with metaphor that the author’s position lies, and here it directly contradicts the illusion of the social media feed — the feed cannot produce a montage link; it is creatively barren in its very form.

Figure 4 — Pyongyang

Figure 5 — Mayakovsky’s Portrait

Thus, the user's position in our project becomes that of ancient humanity, encountering the starry sky for the first time, carefully assembling mythological figures of their life from the as-yet-unconnected stars — constellations. The canvas becomes a mirror of the individual, woven from the threads of their media elements into their image. In the relationship with this image, the unique sensation of reflexive distance emerges with ourselves: life becomes a work of art, memory is translated into history, and biography is turned into the fate of the subject, freed from the amnesia of the lotus-eaters.

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Sabrina Durling-Jones

Neuralpoiesis: A Posthuman Feminist Framework for Embodied Memory Production Through Algorithmic Technologies

Abstract

This paper introduces neuralpoiesis, a posthuman feminist framework that reimagines memory production as a dynamic, embodied process mediated by algorithmic technologies, specifically through machine learning models such as Neural Radiance Fields (NeRFs). Drawing on Edith Stein's concept of non-actuality and Rosi Braidotti's theory of nomadic subjectivity, this text examines how memory is created and experienced through embodied interaction with the present environment. Displaced individuals, particularly women, can use NeRF visualizations to create personal memory artifacts from scanned images of objects in their current surroundings that spark memories of home. By juxtaposing Fourth Wave Feminism with the Fourth Industrial Revolution, the framework critiques the conventional, efficiency-driven uses of machine learning, offering instead a feminist reapplication that emphasizes coping and empowerment for marginalized groups. The framework addresses some of the emotional and psychological needs of those experiencing displacement by situating algorithmic technologies as active participants in memory production.

Keywords

Neuralpoiesis, displacement, non-actuality, nomadic subjectivity, posthuman feminism, neural radiance fields (NeRFs)

1. Introduction: Memory and Algorithmic Technologies in the Age of AI

As advancements in artificial intelligence (AI) and machine learning have become increasingly prominent during the Fourth Industrial Revolution, new opportunities for rethinking the nature of memory production have emerged. Memory, which is traditionally understood as the static recall of past events, is now being reconsidered in response to new technologies that allow for the production of dynamic, embodied experiences. Feminist theorists have long challenged the Cartesian conception of memory as an internal, isolated process, arguing instead that memory is relational, fluid, and shaped by one's sociocultural environment. (Braedotti, 2022)

This paper introduces the concept of neuralpoiesis, a framework that positions memory as an ongoing interaction between the body, the environment, and algorithmic technologies. Neuralpoiesis embraces the idea that memory is not merely an internal cognitive process but that it is co-constructed through engagement with the world and the tools that mediate our experiences. The framework builds on feminist critiques of technology, particularly those associated with Fourth Wave Feminism, which advocates for inclusive, intersectional, and transformative applications of digital tools. By focusing on how displaced women can engage with memory through machine learning models such as NeRFs, neuralpoiesis offers a feminist reimagining of memory production that focuses on emotional healing and empowerment.

In the age of AI, technologies such as NeRFs (neural radiance fields) have been primarily used for photorealistic scene reconstruction and immersive visualization. These technologies learn how light interacts with objects in a scene and generate 3D visualizations based on 2D images (Müller et.al, 2022). However, in neuralpoiesis, NeRFs are repurposed to create visual representations of memory sensations—emotional, embodied experiences triggered by encounters with the present environment. These algorithmic artifacts, produced by displaced individuals through embodied acts of walking and filming/scanning, reflect both the physical characteristics of the objects that evoke memory, as well as the emotional and sensory significance of these objects. Through this process, neuralpoiesis reframes memory as a fluid, relational experience produced in collaboration with algorithmic technologies.

The development of accessible machine learning tools in the Fourth Industrial Revolution supports new forms of interaction between human memory and technological mediation. While machine learning models such as NeRFs have traditionally been used for technical purposes, neuralpoiesis suggests that these tools can be used to create visual memory artifacts that assist displaced individuals in reorienting themselves emotionally and psychologically. The framework aligns with Fourth Wave Feminism's call for the ethical and humanistic use of digital tools, positioning AI and machine learning as co-creators of memory, rather than being purely technical agents.

2. Embodied Memory and Non-Actuality in Edith Stein's Phenomenology

Edith Stein's phenomenology provides a theoretical foundation for understanding memory as an embodied, sensory experience. In Stein's framework, memory is not merely a mental recollection of past events but an emotional and physical re-living of experiences through the body. Stein's non-actuality challenges the Cartesian separation between mind and body, suggesting instead that memory is always shaped by an individual's interaction with her environment (Stein, 1917).

For displaced individuals, acts of remembering are often fraught with challenges. Memories of home, identity, and belonging are frequently fragmented and difficult to access due to the trauma and dislocation that accompany displacement.

In such contexts, memory is not a simple retrieval of past images but a process of navigating between the present and the past, mediated through the body's interaction with its surroundings.

Neuralpoiesis builds on Stein's theory of non-actuality by exploring how displaced women can engage in embodied memory practices that help them reconnect with their past through their present environment. For this article, nine displaced women took intentional walks through their current surroundings, scanning or filming objects that sparked memories of home. These objects—whether a tree, a building, or a familiar texture—elicited emotional and sensory responses that connect the present moment with a remembered past. The memory experiences created while scanning and walking are not exact reproductions of past events; they are non-actual experiences, shaped by the individual's current emotional state and physical interaction with the present environment.

Stein's phenomenological approach to memory highlights the importance of the body in acts of remembering. Rather than viewing memory as something that exists solely in the mind, Stein suggests that memory is a lived experience that emerges through physical movement and sensory engagement with the external world (Stein, 1917). This embodied nature of memory is particularly relevant to understanding how digital technologies can extend and amplify memory production in neuralpoiesis.

In neuralpoiesis, scanned images and videos captured during participants' walks are processed using NeRF models to generate 3D visualizations of the objects that evoked memory. These visualizations become digital memory artifacts that reflect the participants' emotional landscapes. By integrating Stein's concept of *non-actuality* with algorithmic technologies, *Neuralpoiesis* offers a new way of understanding how memory is produced, experienced, and shared in the context of displacement.

In this context, memory is not treated as a static repository of past experiences but as a dynamic engaging of the senses constantly being shaped by the present. Stein's focus on the embodied, relational nature of memory is crucial for understanding how machine learning technologies can be used to create visual representations of memory that reflect the emotional and sensory dimensions of experience. By emphasizing the role of the body in memory production, Stein's phenomenology provides a theoretical foundation for using NeRFs to create memory artifacts that are not simply technical outputs but deeply personal, embodied sensory experiences.

3. Neuralpoiesis: Memory as an Algorithmic Process

The concept of neuralpoiesis marks a significant shift in how memory is understood and produced. While traditional models of memory have often been rooted in a static, linear view of recall (Kumar, 2021), neuralpoiesis proposes that memory is an ongoing, dynamic process mediated by both the body and technology and refers to the creative production of memory artifacts using machine learning technologies such as NeRFs. These artifacts are not simply representations of past experiences but are dynamic, relational renderings that reflect the individual's ongoing engagement with her environment and her memories.

Neural radiance fields (NeRFs) are a type of machine learning model that generates 3D scenes from 2D images by learning how light interacts with objects in the scene (Müller et.al., 2022). In neuralpoiesis, NeRFs are used to create three-dimensional visualizations of memory sensations based on the videos and images captured by those living in displacement while they take intentional walks in their present environments (see Fig. 1 below).
The visualizations created capture not only the physical characteristics of the objects participants encounter that evoke memory but also emotional and sensory elements associated with these objects.

For example, a participant might film a tree in her current environment that reminds her of her childhood home. The NeRF model processes this video to create a three-dimensional visualization that encapsulates both the tree's physical appearance and a representation of the emotional resonance it holds for the participant. These memory artifacts are not static representations of the past but are dynamic, interactive tools that allow participants to engage with their memories in new ways. By transforming memories into visual, embodied experiences, Neuralpoiesis offers a new approach to memory production that emphasizes the relational, fluid nature of memory described in Braedotti's *Posthuman Feminism* (2022).

Using NeRFs for neuralpoiesis also challenges traditional boundaries between humans and machines, as well as between past and present. Memory is no longer seen as something that can be passively retrieved or represented but is actively produced through the interaction of the individual, their environment, and the machine learning model. In this way, neuralpoiesis represents a distinct way approach memory as an algorithmic/machine learning process that is relational, dynamic, and deeply tied to the body and the environment.

By incorporating machine learning technologies in the process of memory-making, neuralpoiesis repositions AI and machine learning as tools for emotional healing and empowerment. Rather than using AI to optimize data-driven processes or create photorealistic scenes, neuralpoiesis suggests that these technologies can be repurposed to produce algorithmic memory artifacts that assist displaced individuals in reorienting themselves emotionally and psychologically. This approach aligns with Fourth Wave Feminism's emphasis on using digital tools for social change and empowerment, particularly for marginalized groups such as displaced women.

4. Nomadic Subjectivity and Memory Fluidity in Rosi Braidotti

Rosi Braidotti's theory of nomadic subjectivity provides another critical lens for understanding how memory and identity are produced in Neuralpoiesis. For Braidotti, the nomadic subject resists fixed notions of identity and embraces fluidity, multiplicity, and transformation (Braedotti, 2022). This concept is particularly relevant for displaced individuals, whose identities are constantly reshaped by their experiences of migration, loss, and dislocation.
Displaced women practicing Neuralpoiesis engage in what can be described as a nomadic practice of walking through their current environments, encountering objects and spaces that evoke memories of home. These walks are not just physical journeys but emotional and psychological ones as well, as the participants navigate the complex interplay between their past and present identities. The act of scanning or filming objects that trigger memory

Fig. 1 Still of participant video capture (left) and NeRF generated visualization (right)

sensations can be seen as a form of nomadic subjectivity, where the individual is shaped by their interactions with their surroundings and their memories.

Braidotti's theory of nomadic subjectivity emphasizes the importance of relationality in identity production. For Braidotti, identity does not exist in isolation but is always produced through interactions with others, the environment, and non-human agents such as technology (Braedotti, 2022). In the case of neuralpoiesis, memory artifacts produced through NeRF visualizations are not static representations of the participant's past but are relational, dynamic renderings that reflect the her ongoing engagement with her environment and her memories.

The fluidity of these visualizations mirrors the fluidity of identity itself. Just as the nomadic subject is always in limbo, the memory visualizations produced through Neuralpoiesis are not fixed or static. Instead, they are open-ended, evolving representations of memory sensations that shift in response to the participant's ongoing relationship with her environment. This dynamic process of memory-making reflects the complexity of identity in the context of displacement, where individuals must constantly navigate between multiple identities, places, and experiences.

Braidotti's nomadic subjectivity also challenges traditional notions of identity often rooted in fixed geographies or cultural markers. Displaced women experience a fragmented and fluid sense of self as they move between different places and experiences. The act of scanning or filming objects in their present environment, and then seeing these objects transformed into dynamic memory visualizations, allows one to engage with their sense of self in a way that acknowledges the complexity and multiplicity of their identity. Through neuralpoiesis, memories—and, by extension, identity—are not static but are instead continually evolving and becoming.

The fluid, relational nature of memory production in neuralpoiesis speaks directly to Braidotti's concept of becoming, which suggests that identity is never fully formed but is always in the process of being reconstituted through interactions with others, the environment, and technological agents. By integrating Braidotti's theory of nomadic subjectivity with Stein's concept of non-actuality, neuralpoiesis provides a feminist framework for understanding how memory, identity, and technology intersect in the production of dynamic, relational memory artifacts.

5. Reorienting Displaced Women Through NeRF Visualizations

Neuralpoiesis represents the potential to use technology as a coping mechanism for those living in displacement. Whether due to migration, forced relocation, or other factors, displacement often results in a profound disconnection from one's sense of place and identity. In such situations, memory becomes an essential tool for reorientation, helping individuals make sense of their present circumstances by connecting the past with the present. Neuralpoiesis offers a new way of engaging with memory by allowing the displaced to actively participate in the creation of visual memory artifacts. Through the process of walking, scanning, and generating NeRF visualizations, participants engage with their memories in a way that reconnects them to their past through their present environment. This process allows them to reorient themselves emotionally and psychologically, providing a sense of continuity and grounding in their current context.

The practice of walking and scanning, which forms the core of the neuralpoiesis framework, serves as both a physical and emotional journey. As participants walk through their present surroundings, they encounter objects and spaces that evoke memories of home. Once filmed or scanned, these objects and places are processed as NeRFs to create three-dimensional visualizations that capture both

physical appearance and emotional resonance. The resulting visualizations are deeply personal, serving as tools for coping and reorientation.

The feedback loop incorporated in the neuralpoiesis process ensures that the participants remain at the center of the memory-making process. After the NeRF visualizations are generated, the participants are invited to review and critique the visualizations to ensure that they align with their lived experiences of memory. This iterative process of reviewing and refining the visualizations not only ensures that the final outputs are meaningful to the participants but also reinforces their agency in the memory-making process (see Fig. 2 below). In this way, neuralpoiesis offers more than a technological solution for displaced individuals; it provides a framework for emotional and psychological reorientation. The visual memory artifacts produced through this process serve as tools for re-establishing a sense of continuity and connection, helping displaced women navigate the complex emotional terrain of their past and present identities.

6. Feminist Technology in the Fourth Industrial Revolution

By positioning Neuralpoiesis within the broader context of Fourth Wave Feminism and the Fourth Industrial Revolution, this study critiques the traditional uses of AI and machine learning technologies, proposing a feminist reimagining of the tools. The Fourth Industrial Revolution, characterized by the convergence of digital, physical, and biological technologies, has brought with it a wave of new possibilities to engage with memory, identity, and place. However, many of these technologies have been developed with a focus on efficiency, optimization, and profit, often overlooking their emotional and cultural implications.

In contrast, Fourth Wave Feminism, which emphasizes inclusivity, intersectionality, and the use of technology for social change, offers a powerful lens for reimagining how technologies like NeRFs can be repurposed for inclusive pursuits. In the context of neuralpoiesis, NeRFs are not simply employed to generate photorealistic visualizations of environments; they are reimagined as tools for emotional healing and empowerment. By using machine learning algorithms to create personalized visual representations of memory sensations, this research highlights how emerging technologies can be redirected from commercial to social application.

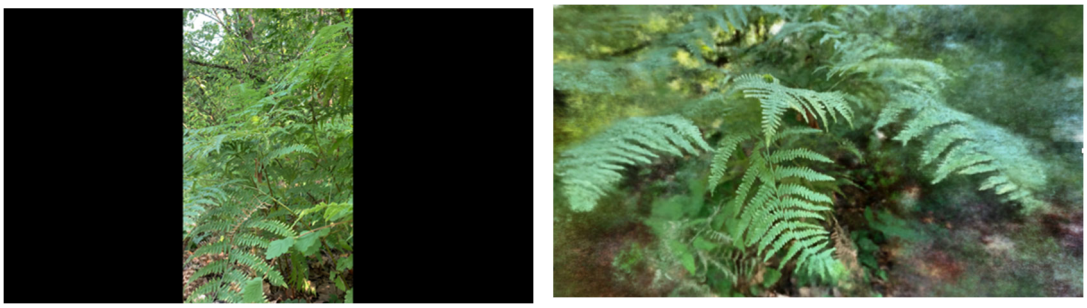

Fig. 1 Still of participant video capture (left) and NeRF generated visualization (right)

The use of NeRFs in this study demonstrates the potential of algorithmic technologies to contribute to memory production, not just as passive tools but as active agents that co-create with human participants. This approach aligns with feminist critiques of technology, which call for a more nuanced understanding of how digital tools might be used to address the emotional and psychological needs of marginalized communities. In the case of neuralpoiesis, NeRF models are used to generate memory visualizations that are deeply personal, reflecting a displacemed person's emotional and sensory experiences of memory.

Furthermore, incorporating user feedback in the NeRF creation process ensures that these technologies do not simply reproduce existing biases or inequalities but are instead shaped by the lived experiences of the displaced. The process of co-creation eployed in neuralpoiesis aligns with the feminist principle of inclusivity, ensuring that the voices of the displaced are central to visualization processes. By allowing users to actively shape the visualizations through personal data, neuralpoiesis offers a new way of engaging with AI and machine learning technologies that prioritizes personal context over technical optimization.

Ultimately, neuralpoiesis critiques traditional uses of AI and machine learning while offering a unique application of emerging algorithmic technologies for memory production and empowerment. The interdisciplinary framework invites further exploration of how algorithmic technologies can be harnessed for inclusive aims, particularly in the context of displacement and migration. By centering the experiences of displaced women and ensuring that their memories are represented in a meaningful and personal way, neuralpoiesis offers a new approach to coping and agency in the digital age.

7. Posthuman Feminism and Expanding Relationality

Rosi Braidotti's posthuman feminist theory further expands the possibilities of neuralpoiesis by challenging traditional boundaries of identity, subjectivity, and empathy. Posthuman feminism, which decouples human experience from the anthropocentric lens that has dominated much of Western thought, proposes that human experience is relational and interconnected with non-human agents like technology, animals, and the environment. This shift from a human-centered to a posthuman understanding of subjectivity allows us to reimagine memory, embodiment, and empathy, particularly in the context of algorithmic technologies like NeRFs.

Through neuralpoiesis, posthuman feminist theory allows us to reconceptualize memory-making as a process that involves both human and non-human agents. The NeRF algorithms used to generate visualizations are not neutral tools; they participate in the production of memory and identity, reshaping how displaced women engage with their pasts. This aligns with Braidotti's theory of nomadic subjectivity, which emphasizes that identity and experience are always in flux, shaped by the relational interaction between humans, technology, and environment.

By integrating Stein's phenomenology of non-actuality, which focuses on the embodied experience of memory, with Braidotti's posthuman feminist theory, neuralpoiesis presents a new approach to exploring how memory can be mediated in the age of AI. Stein's concept of empathy highlights the importance of bodily sensations in the process of memory-making, while Braidotti's posthumanism extends this relational understanding of experience to include non-human actors, such as the NeRF algorithms themselves. Neuralpoiesis represents a framework for the practical application of these concepts.

8. Conclusion: Toward a New Feminist Framework for Algorithmic Memory

This text has introduced neuralpoiesis as a feminist framework that reimagines how memory is produced and experienced through the interaction of embodied experience and algorithmic technologies. Through Edith Stein's non-actuality and Rosi Braidotti's nomadic subjectivity, neuralpoiesis positions memory as a dynamic and relational process. The NeRF visualizations created using this framework offer new ways of engaging with memory and provide the displaced with tools for emotional healing and reorientation. Through the creation of visual memory artifacts, neuralpoiesis offers a means to reorient and engage both past and present.

This approach disrupts traditional notions of memory as static or fixed, proposing instead a model where memory is fluid, relational, and embodied. As a result, neuralpoiesis extends feminist critiques of technology, demonstrating that algorithmic tools like AI can be harnessed for emotional healing. The neuralpoiesis framework aligns with Fourth Wave Feminism by emphasizing the importance of inclusivity and intersectionality, while empowering marginalized voices through technology. By placing displaced women at the center of the algorithmic memory visualization process and allowing them to shape their own memory sensations, neuralpoiesis ensures that representations of an individual's lived experiences are constructed from a personal perspective and prioritizing human agency.

This interdisciplinary framework also engages with the broader discourse on the Fourth Industrial Revolution, which has transformed how we think about identity, memory, and subjectivity in the digital age. As technologies like AI and machine learning become more pervasive, it is critical to examine how these tools can be reimagined to serve humanistic and feminist aims. Neuralpoiesis provides a compelling case for how these technologies can be redirected from their commercial or technical applications toward more meaningful, emotionally resonant uses, particularly in the context of displacement and trauma. Furthermore, neuralpoiesis highlights the potential for posthuman feminist theory to reshape our understanding of memory and identity. By challenging the anthropocentric bias of traditional memory studies, neuralpoiesis opens new possibilities for understanding how memory is produced through the interaction between human and non-human agents.

Neuralpoiesis also presents a new phenomenology of memory that integrates feminist theory, embodied experience, and algorithmic technologies. By drawing on the work of Edith Stein and Rosi Braidotti, this framework reimagines memory as a dynamic, relational process that is produced through both human and non-human interactions. The NeRF visualizations created using neuralpoiesis present new possibilities for engaging with and experiencing memory, ultimately providing those living in displacement with tools for emotional and psychological resilience. Through the lens of Fourth Wave Feminism and the Fourth Industrial Revolution, neuralpoiesis critiques traditional uses of AI and machine learning, offering instead a feminist application of these technologies for memory production and empowerment. This interdisciplinary framework invites further exploration of how algorithmic technologies can be harnessed for inclusive projects, particularly in the context of coping in displacement.

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RISEBA University
Masters in Architecture
Student Articles

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Urban Branding as Strategic Planning Tool for Adaptive Spatial Developments in Shrinking Riga. Element of Temporality

Current neoliberal practices in urban developments in former Soviet Riga, where architecture represents private values more than public ones, demonstrate a misguided and blurry vision for development as Riga city has admitted that its urban planning and development documentation has been too vague and liberal (RDPAD 2014, Kušķis 2015).

The city management has not successfully formulated an explicit development strategy and provided controlled and supervised steps for strategy implementation. Riga dropped considerably behind its Baltic neighbors in terms of real estate development and has lost more than a decade if compared (Colliers, 2021; Vanags, 2022; Balgalis, 2022; Krasnopjorovs, 2023; Vilciņa, 2023), which has contributed significantly to urban fragmentation and seclusion of Riga. The same statement has been recently repeated and strengthened by the State Audit Office, where the Authority concludes that Riga city real estate management and planning policy is without any strategic management and results (LR VK, 2021). As follows, Mārtiņš Vanags, head of the NIAA, claims that the city's inability to communicate its goals and negotiations with investors is one of the main reasons for the lag in real estate development (Vanags, 2022; Krasnopjorovs, 2023).

The importance of a robust urban development strategy and the necessity for its control becomes even more evident when a comparison is made on the amount of property owned by the city, where Riga has comparatively small ownership of urban areas, which is around 22 – 25% of cities area (Delna, 2007). In contrast, Helsinki, the capital of Finland, owns 70% of the city's municipal area (UN, 2021). Simply put, Riga needs more supervision of the real estate market for its long-term development as the liberal laissez-faire approach has not worked so far.
Moreover, another critically critical situation is that Riga is a shrinking city—one of the fastest-shrinking areas worldwide—with a decreasing population (DevelopmentAid, 2023). Therefore, the continuous prospect of growth as the only way for further development and evolution of the urban environment should be reviewed and considered. The idea of zero growth or even decline has yet to be considered thoroughly by communities' planning staff, and our planning response should be firmly adjusted to actual realities. However, the current paradigm is that the real estate developers that invest in Riga develop areas and functional programs that are seemingly beneficial from their point of view, neglecting the city's acute needs. Developments within the city are blinded by their strive for speed and acquiring any superficial result. Multiple and comprehensive urban layers that affect the spatial and social image (in its broadest sense) are either ignored or skillfully played with by those few who care to pay attention.

From a global capitalist perspective, one can observe that cities and regions worldwide are competing and, therefore, trying to strengthen their public image by integrating nonphysical factors such as culture, atmosphere, social aspects, and even feelings. They highlight the unique qualities by drafting a solid branding strategy and a clear set of steps for its implementation. When the issues of urban branding and shrinkage are put together, they point out the urgent need to adapt and transform the city development documentation into a roadmap with flexible targets to respond to emerging challenges.

Changing a place's brand and promoting it through temporality is a complicated and challenging field of discussion. As put by the scholar Adriana Campelo, who is mainly working on place branding, consumer behavior, and the use of urban branding for economic development and urban regeneration, many aspects of urban branding are still underexplored, while the practitioners and administrators are still striving to find the right fit for its successful implementation in cities (Campelo, 2017). However, it is essential to understand that cities and spatial environments each have

their unique brand, and as Papadopoulos (2002) mentioned, these brands already exist in consumer minds.

Additionally, urban shrinkage should be a growing concern in Riga's case, as shrinking cities are particularly vulnerable to growing territorial disparities. Most population projections and scenarios indicate that Europe's total population will decline (Pallagst et al., 2022). If we consider that several city development documentations could be more specific, urban management becomes a pressing global and especially local issue. For Riga, a city with a shrinking population since 1991 (CSP, 2022), it is necessary to adapt its urban environment flexibly and experiment with spaces and programs to test actual needs. Strategic urban branding can contribute to the economic value of cities and places, where temporality provides experimental character.

A system is necessary to manage limited resources and control spatial and programmatic emergences on an urban scale. Urban branding, therefore, holds immense significance for shrinking cities. Shrinking cities such as Riga face unique challenges, including population decline, economic disinvestment, vacant properties, and declining infrastructure. Urban branding emerges as a crucial strategy to counter these challenges.

F. Kaefer, the founder of The Place Brand Observer – an international project that researches urban brands, connects this issue with the practice to transform the project into the largest source of data and theory about urban branding. When summarizing interviews with leading experts in his publication, An Insider's Guide to Place Branding (2021), he makes the following remarks on the meaning of urban branding: Firstly, urban branding is about the community and spatial expressions, and it can define spatial values, identity, and strategic spatial vision of the future. Furthermore, urban branding can attract the talent and capital needed to nurture and develop a place's identity and merge it with future spatial ambitions. Thirdly -and this is only recently getting attention in urban branding theory– it can maintain the legacy of the space. All other aspects, such as communication campaigns, advertisements, and short videos in the public space, have nothing to do with urban branding and are best referred to as urban marketing.

Urban branding is a holistic approach that engages civic society and other relevant actors who can contribute to a prosperous and shared future to attract investment, foster civic pride, strengthen sustainable tourism, intrigue talent, and inspire community engagement. By taking temporality into account, or in other words, acknowledging that social and natural forces constantly transform the built environment and that nothing is timeless, urban branding paves the way for step-by-step, realistic, and democratic progress. By crafting a compelling identity, fostering a sense of ownership and commitment, and managing socio-spatial resources, it is possible to foster growth and development. Urban branding offers a path forward in the face of shrinking populations and economic challenges. Rather than being a not a one–size–fits–all solution, urban branding can produce a versatile strategy that can be tailored to each city's unique characteristics and aspirations. By harnessing the power of branding, shrinking cities can redefine their narrative, reinvigorate their economies, and once again become vibrant, resilient, and attractive places to live, work, and invest.

Elīne Rudene, Linda Leitāne

Renovation of the General Education Institution and New Construction of the Science Activity Center, Referring to the Principles of Contemporary Education and "Waste" Architecture Methods

Abstract

The study focuses on waste pollution in Latvia, resulting from limited waste sorting capabilities and a lack of public education and awareness. The research aims to examine the role of waste architecture in promoting waste reduction and societal responsibility, particularly among primary and high school children. By integrating sustainable design principles and waste reduction strategies, the study aims to increase environmental responsibility in Latvian society and contribute to reducing waste pollution. The author's practical project explores the concept of futuristic educational institutions with science and recycling, emphasizing the fusion of knowledge, competence, and aesthetics in creating environmentally friendly surroundings. The project includes a science center, workshops for material processing, a botanical garden, laboratories, and an intensive green roof, all designed to enhance knowledge acquisition in an appealing and intelligent manner. During the analysis, the author tries to find answers to the following research questions:

1. Does architecture influence environmentally responsible waste usage in architectural design and increase environmental responsibility in the society of Latvia?

2. Does waste architecture have the potential to be practical, economical, and psychologically applicable in terms of educational institutions?

3. How is it possible to implement waste architecture in an educational building environment in an unobtrusive, economical, and architectonic way? Is it necessary?

Answers to the questions are sought using the analysis of various case studies as well as the focus group methodology, which envisages the expansion of knowledge by conducting surveys and performing a creative task together with a group of nine students studying in a high school institution. *The majority of society, including students, appears to recognize the significance and accountability of architecture, according to a wide range of responses. Additionally, it is critical to mention that "waste" architecture has initiated its "conquest march," and the upcoming generation of Latvian citizens is not only knowledgeable about the techniques but also prepared to implement them practically.*

Keywords

waste sorting capabilities, public education, educational program “Skola 2030”, sustainable design principles, principles of circular economy, New European Bauhaus.

Introduction

Waste pollution in Latvia is a significant problem caused by limited waste sorting capabilities and a lack of public education and awareness. This research focuses on the potential of waste architecture to promote waste reduction and societal responsibility, particularly among school children. The integration of sustainable design principles and waste reduction strategies in architecture aims to increase environmental responsibility and reduce waste pollution. The research investigates the impact of architecture on waste reduction, the practicality of waste architecture in educational institutions, and the implementation of waste architecture in a cost-effective manner. The ultimate goal is to enhance environmental awareness and responsibility among younger generations in Latvia. The research involves a literature review, exploration of global educational principles, analysis of Latvian educational initiatives, case studies, and a focus group discussion. The hypothesis posits that sustainable design principles and waste reduction strategies in architecture will lead to increased environmentally responsible waste usage and greater environmental awareness among younger generations in Latvia.

The master's thesis comprises multiple chapters, one of which provides a comprehensive examination of current educational principles in Europe and the obstacles that educational institutions encounter. In the second chapter, an overview of the circular economy is presented, whereas the New European Bauhaus is expounded upon in the third chapter. A case study in Madona City and an examination of educational institutions in Europe and Latvia are among the three studies comprised in the fourth chapter. Additionally, the outcomes of the focus group discussion and assignments performed as a component of the research endeavor are detailed in the concluding chapter.

Literature review

In Europe, modern education principles are aimed at modernizing educational institutions, promoting inclusion and equal education for all, as well as eliminating gender inequality (European Commission, 2003). Architects play a vital role in creating safe and stimulating learning environments that span both physical and digital spaces. The goal is to provide high-quality education that promotes holistic development and includes innovative and sustainable approaches to learning. This includes incorporating digital technologies and creating flexible learning environments that encourage self-directed learning. Initiatives like the "Skola 2030" program highlight the importance of immersive and adaptable learning environments (Skola 2030.lv, 2019). In addition, there is a focus on inclusive education to ensure equal opportunities for all students and address barriers faced by marginalized groups. Lastly, integrating environmental awareness and sustainability into academic curricula and practices through green education projects is crucial. Overall, education needs to transform to meet changing societal norms, technological advancements, and environmental challenges, equipping students with the necessary skills and knowledge to thrive in a global landscape (European Commission, 2002).

The current linear economic model has led to significant environmental degradation and the generation of billions of tons of waste in the European Union. Implementing a circular economy framework, such as the Butterfly Model and the Cradle to Cradle approach, is necessary to address these issues. This involves sharing, reusing, repairing, refurbishing, and recycling products and materials to reduce waste generation and resource exploitation, while extending their lifecycles. Despite challenges, the urgency of the situation calls for immediate action towards a more sustainable and accountable economy (European Union, 2022).

The New European Bauhaus initiative is an integral part of the European Green Deal,

aiming to incorporate sustainable practices into the daily lives of Europeans through inclusive co-creation, ecological and digital transformations, and innovative design. By considering economic, sociocultural, and environmental factors, it seeks to establish a more sustainable society. Education and interdisciplinary learning, exemplified by the Latvian case of pluriversity, play a crucial role in driving the transition to a sustainable future. Overall, the New European Bauhaus initiative is essential for societal development and shaping the trajectory of Europe's future (The New European Bauhaus, n.d.).

The author believed that the examination of the cross-example method in case study research would enable the comparison of circumstances beyond Latvia and into other European countries, as well as provide insights into the planned and implemented architectural styles in those regions. After analyzing a total of seven instances, it is abundantly clear that all instances exhibit the same contemporary social characteristics that are reflected in architecture: the provision of diverse groups of spaces, the integration of nature into the urban environment, and the creation of an inviting, creative atmosphere in general. When conducting a case study analysis for an additional set of educational examples in Latvia, a comparable methodology was applied. It was gratifying to discover that the architectural examples exhibit the same level of brilliance as their foreign counterparts.Alongside this, an examination of the city of Madona was conducted in relation to Part B of the master's project. In addition to these activities, data pertaining to Madona State High School were gathered and an analysis of the city's general structure was conducted as part of Part B of the master's project. However, for the purpose of collecting personal insight and experience, the author exclusively utilized focus groups, whose constructive dialogues and imaginative assignments bolstered the author's conviction that the younger generation is not only mindful of the potential of "waste" architecture but also possesses knowledge regarding the implementation of eco-friendly practices. Therefore, the author must conclude that the results were positively surprising and give hope for growing as a society in a shorter period of time.

Conclusion

In conclusion, the integration of waste architecture in educational institutions holds significant potential for practical, economic, and psychological implications. Adopting sustainable design principles, promoting a circular economy, and considering the aesthetics of the building can create functional and visually appealing spaces while reducing environmental impact. The profound understanding of environmental responsibility among youth in Latvia, as observed through the focus group analysis, indicates that this approach can effectively raise awareness and encourage responsible behavior. By incorporating refuse architecture, we can contribute to the achievement of the Latvian and European environmental targets and foster a more sustainable built environment.

Within the framework of the study, the author puts forth the subsequent suggestions:

1. Architects must consider various factors when designing educational spaces, such as open and interconnected areas as well as separate rooms for specific lessons and support services. A feasibility study should be conducted to understand the specific needs of each institution.

2. Educational institutions should be integrated into the wider community and foster connections with local groups and organizations. This inclusive approach promotes collaborative partnerships and expands the concept of education beyond the institution itself.

3. Environmental sustainability should be a priority in education, construction, and design. A holistic approach that considers environmental, social, and economic

sustainability is necessary for a sustainable future.

4. Education and awareness initiatives are important for promoting responsible consumption and the principles of the circular economy. Teaching individuals about recycling, repairing, and extending product lifespans can help drive sustainable behaviors and reduce waste. This knowledge should be imparted to the younger generation to create lasting change in society.

Additionally, the author emphasizes that while our nation and society perform numerous accomplishments correctly and superiorly to those of our neighboring countries, according to research and theory, this is a team sport. The realization of the potential of research and civilizations is dependent upon the active participation of nations and individuals worldwide in this endeavor to transform the current structure. It is a global aspiration, not an individual's responsibility; the young generation exemplifies this in the best manner possible by recycling, reusing water bottles, and requesting that Christmas gift wrapping paper be replaced with textil. By no means making it a joke, but the quote of John C. Maxwell says it precisely: "Teamwork makes a dream work." Especially when it comes to the global level of interest.

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About

RISEBA University

RISEBA University of Business, Arts and Technology in Riga, Latvia, is a private university with almost 30 years of experience, offering its students contemporary and high-quality education. RISEBA is an interdisciplinary and multicultural private higher education institution fully accredited by the Ministry of Education and Science of the Republic of Latvia.

As one of the first private higher education institutions in Latvia, RISEBA is now among the 10 largest higher education institutions in Latvia (both public and private) with almost 3000 students, including 200 international students, who attend more than 20 study programmes of different levels and directions, and more than 9000 alumni. Since its foundation in 1992, the mission of RISEBA has been "to be a gateway to international careers".

The university facilitates the development of creative personalities, preparing students and graduates for entrepreneurial careers at the international level, offering a wide range of undergraduate and postgraduate business and creative programmes as well as doctoral studies. In the last decade RISEBA has opened studies in communication, audiovisual media arts and architecture, thus transforming the institution into a place where "business meets art".

RISEBA stands out with its clear international focus and is distinguished by the exclusivity of the study programmes offered and variety of languages of instruction. The programmes are taught in Latvian and English, with both full and part-time tracks.

RISEBA Faculty of Architecture and Design

RISEBA University's Faculty of Architecture and Design was established in 2011 and offers architecture studies in international settings in Latvia in two successive cycles – the Bachelor's Programme in Architecture (3.5 years, 210 ECTS) and the Professional Master's Programme in Architecture (2 years, 120 ECTS). Since its foundation the faculty has combined the best architecture education standards and teaching experience in Europe in pursuit of academic excellence and international recognition. Both programmes are fully accredited by the Ministry of Education and Science of the Republic of Latvia.

The Bachelor's Degree of Engineering Sciences in Architecture is the first step in preparing students for further studies in the fields of architecture and urban planning and professional architectural practice. In 2017 RISEBA University established the 2-year Professional Master's Programme in Architecture; thus, the total length of architecture studies at RISEBA comprises 330 ECTS or 5.5 full-time study years, meeting the general requirements of EU standards for practicing the architectural profession.

The aim of the programs is to provide students with the theoretical knowledge, practical skills and necessary competences to work in the field of architecture, design and urban planning. During studies students advance their abilities in analytical thinking and problem solving and acquire the research skills to approach design tasks in a variety of contexts and to work out concepts while being socially responsible young professionals.

RISEBA Faculty of Media and Communications

The Faculty of Media and Communications offers bachelor's and master's programmes designed to produce highly qualified, competent and competitive audiovisual specialists and develop a new type of entrepreneur who can achieve a symbiosis of business and creative thinking.

The Bachelor's Programme in Audiovisual Media Arts is targeted at young people with comprehensive secondary education and those who want to attain a professional qualification in the field of audiovisual media arts related to television, Internet media, cinema and new media. The Bachelor's Programme offers a well-balanced mix of theory, methods and practice in the audiovisual field and is supported by the latest technology and advanced equipment. Study courses are taught in Latvian, Russian and English.

The Master's Programme offers in-depth training in new media and audiovisual arts. Alongside the traditional practices of directing and cinematography, students apply more innovative forms, such as arts research, interactive 2D and 3D production, sound design, experimental fine arts, performance studies, extended and virtual reality, 360o video production, culture analytics, and data visualization. The programme is implemented in collaboration with Liepaja University. The Master's Programme offers four majors: Audiovisual Media Arts, Multimedia Performance Art, Digital Art and Sound Art and Electronic Music.

ADAMarts

ADAMarts is a double-blind peer-reviewed academic journal dedicated to architecture, design and audiovisual media arts from the Baltic Sea region, published once a year by RISEBA University, both in print and online. ADAMarts aims to bring together leading academic scientists, researchers, scholars and practitioners from around the world.

ADAMarts encourages a variety of approaches to the urban phenomenon – from urban planning to architecture, design and digital media. We are interested in papers reviewing the connections between various countries and cultures of the Baltic region. We invite submission of articles based on theoretical investigations, design research and alternative exploration on the following topics:

1. Architecture and interior design – design theory research, education and practice, exhibition architecture, crowd management planning, design of the interior environment, design innovations for aging, coloured exterior and interior lighting, environmental psychology and other related topics;
2. Planning – urban planning and development, urban affairs, planning education & research, innovative planning programmes and techniques, preserving large landscapes, planning & environmental law, public budgeting and finance and other related topics;
3. Audiovisual media arts – digital media design, art practices in global digital culture, immersive experiences in virtual space, film, television, and new media in the post-digital era, audiovisual strategies on portable platforms and social media, 360o cinematography and production, 3D stereoscopic film production in community-mediated environments, producing in local

and international markets, audiovisual media branding and niche marketing, animation and CG integration in audiovisual settings, multimedia performing arts, video installation and net art, game design and ludology theories, narratology in film and media and other related topics;

4. Any topics from the related fields of design, production and consumption.

The first edition of ADAMarts was published in 2018. This is the fifth edition of ADAMarts, in which articles and events dated 2023/2024 are published. Further contributions and papers will be welcome from academicians, post-graduate students, architects, designers, planners, media artists, anthropologists, historians, psychologists, sociologists or others interested in the fields named above.

ADAMarts Volume 5

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