SHAPING THE FUTURE LIVING PLACES

PROCEEDINGS

CITYSENZ | ACT1
3-4 JULY 2025
DEFINING AMBIANCES

CitySenZ
Cost ACTION CA23145
ARCHITECTURAL AND URBAN AMBIENCES
OF EUROPEAN CITIES AND BEYOND

UNIVERSIDADE
LUSÓFONA

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EUROPEAN COOPERATION
IN SCIENCE & TECHNOLOGY

Funded by
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Edited by
Mohammed Boubezari
Damien Masson

CITYSENZ | CONFERENCE SERIES
OF COST ACTION CA23145

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CONTENTS

5

WORKING GROUP 2

WORKING GROUP 3

WORKING GROUP 5

INDEX OF AUTHORS

10

11

FOREWORD

We are delighted to present this *Book of Proceedings*, a testament to the richness and diversity of the contributions gathered in Lisbon for the first act of the CitySenZ conference series, organised within the framework of COST Action CA23145. Under the theme "Shaping the Future Living Places | Act 1. Defining Architectural and Urban Ambiances", the event brought together researchers, practitioners, artists, and students to explore, in theory and practice, the many ways in which architectural and urban ambiances shape our living environments.

The contributions collected here reflect a wide range of approaches: conceptual investigations, experimental methods, case studies, artistic devices, and digital innovations. Together, they paint a vivid panorama of the sensitive questions currently traversing research and practice in the field of ambiance.
We warmly thank all authors for the quality of their contributions, the scientific and organising committees for their commitment, and our institutional and financial partners whose support made this international exchange possible.

As you turn these pages, may you find inspiration, new avenues for reflection, and opportunities for collaboration. May this publication feed the forthcoming debates we will hold within this Action, and carry forward the spirit of dialogue that animated our meeting in Lisbon.

Happy reading!
Mohammed Boubezari (Action Chair),

Damien Masson (Action Vice-Chair)

ACKNOWLEDGMENTS

We extend our warmest thanks to everyone who made this event and publication possible. First and foremost, our gratitude goes to the authors, whose intellectual generosity and scientific quality have given this volume its richness and diversity. We also thank the members of the scientific and organizing committees for their sustained commitment, from the call for papers to the final proofreading.

13

We salute our partner institutions, as well as the administrative and technical teams who ensured the logistics of the conference, editorial coordination, layout, participant reception, and venue management. Their professionalism brought together in Lisbon researchers, practitioners, artists, and students around a shared horizon: architectural and urban ambiances.

Finally, we thank the COST network - European Cooperation in Science and Technology - whose support made possible the multi-year scientific program of **CA23145 CitySenZ** - **Architectural and Urban Ambiences of European Cities.** The Action brings together transdisciplinary approaches, training, workshops, thematic schools, and publications to equip ambiance-oriented design and disseminate results to a broad audience.

May this publication foster reflection, spark new collaborations, and carry forward the spirit of dialogue and experimentation that animated our meetings.

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PRESENTATION OF THE COST ACTION CITYSENZ (CA23145)

Official Title

CitySenZ | *Architectural and Urban Ambiences of European Cities* - **COST Action CA23145** (internal ref.: OC-2023-1-26821).

Chair: Mohammed Boubezari.
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Grant Holfer Manager : Ghadir Hummeid.
Science Communication Manager: Katarina Andjelkovic.
Grants Awrding Coordinator: Maria Bostenaru Dan
Deliverables Scientific Supervisor: Pascal Amphoux

Project Summary

CitySenZ seeks to **consolidate and circulate** knowledge and methods on architectural and urban ambiances in order to enhance the quality of living environments across Europe. Acknowledging that top-down approaches often underestimate situated and sensitive dimensions, the Action promotes **ambiance-oriented design**, combining in-situ observations, studio-based know-how, feedback from practice, and theoretical frameworks. This vision unfolds through a four-year program of conferences, workshops, training schools, STSMs, and publications.

Key Objectives

- **Define a shared framework** for ambiances (terminology, variables, methods) and document it for all Action members.
- **Collect and archive data,** case studies, visual and sensory materials, interviews, and regulatory documents in a knowledge base accessible to the Action.
- **Align and harmonize** concepts and vocabularies while recognizing disciplinary plurality (phenomenology, environmental psychology, ambiance engineering, design).
- **Scout innovation** (exemplary projects, artistic devices, and situated methodologies) and document their contributions.
- **Disseminate and train** (schools, workshops, online resources, communication strategy) to maximize impact among designers, decision-makers, and the public.

15

Working Groups (WG)

- **WG1 – Defining:** state of the art, theoretical frameworks, conditions for multimodal observation.
  leadered by John Drever Leavack.
- **WG2 – Data Collection & Archiving:** knowledge base, protocols, metadata quality.
  Leadered by Inês Rodrigues Lima an Dalit Shack-Pinsly
- **WG3 – Balancing & Aligning:** terminological convergence and participatory validation.
  Leadered by Nicolas remy an Evangelia Paxinou
- **WG4 – Innovation Scouting:** selection of exemplary cases, criteria, and documentation.
  leadered by José-Luis carles, Cristina Palmerese and Ricardo Atienza
- **WG5 – Outreaching & Training:** dissemination strategy, partnerships, training.
  Leadered by Bartosz Marek Walczak, Anetta Kepczynska-Walczak

Major Deliverables

- **Conference Proceedings** (annual).
- **White Paper** (good practices, 10-point manifesto, recommendations for public commissioning and project cycles).
- **Multilingual Dictionary of Ambiances** for designers.
- **Web platform** and communication toolkit, linked to multimedia outputs from workshops and training schools.

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LAST UPDATE ON 25/06/2025 at 15:00

03th JULY 2025

Time	Auditório Agostinho da Silva	Room Y.0.3 — WORKING GROUP 1 — Methods and tools for designing the ambiances	Room Y.0.4 — WORKING GROUP 2 — Mapping & assessing the urban atmosphere
08:20	Registrations + Morning Coffee		
09:00	Opening Ceremony	**Opening framework 1**	
09:20		Cui Ziqi	Shach-Pinsly Dalit
09:40	Jean-Paul THIBAUD — Keynote	*Durmus Ozturk Serap*	Odobasic Lejla
10:00		Tânia Lopes	Neducin Dejana
10:20	Discussion	Thomas Adam	Segev Onna
10:40	Coffee Break		
11:00	**Opening framework 2** — Boubezari Mohammed (Chair)	**Aesthetic frameworks and critiques of atmospheres** — Bálint János Kiss	**Atmospheres & artistic devices** — Flampouri's Petros
11:20	Masson Damien (Vice-Chair)	*Ilke Hiçsönmezler*	Ball Sue
11:40	John Levack Drever (WG1 Leader)	Mersida Ndrevataj	*Ahmed Danyal*
12:00	**WG1 WORKSHOP REPORT AND DISCUSSION**	Round Table 1.1	Round Table 2.1
12:20			
12:40			
13:00	LUNCH		
14:00	**Conceptual and Theoretical Frameworks of Ambiances** — Thomas Rachel	**Case studies and situated devices** — Alizadeh Mahdi	**Sensitive design, heritage & storytelling** — Hejazi Mehrdad
14:20	Théa Manola	Barbas Isabel	Csizmady Adrienne
14:40	Paxinou Evangelia	Selberg Teres	Mile Diana
15:00	Cristina Palmese	Zeynep Aydin Polat	Mangaroska Viktorija
15:20	**Methodological approaches and practical applications of ambiances**	Round Table 1.2	Round Table 2.2
15:40	Inês Rodrigues Lima		
16:00	Katarina Andjelkovic		
16:20	Olivier Ocquidant		
16:40	*Talantikite Soundouss Ismahane*		
17:00	Round Table		
17:20			
17:40			
18:00	END		

Coffee Break

4th JULY 2025

Registrations + Morning Coffee

Room Y.1.1 — WORKING GROUP 3 — Mapping and diagnosing urban environments	Room Y.1.2 — WORKING GROUP 4 — Methods and devices for designing the atmosphere	Room Y.1.4 — WORKING GROUP 5 — Domestic and public ambiances
Bani Ainda	Alessandra Bruno	*Frescura Alessia*
Bayrak Deniz	Pekka Tuominen	Hejazi Seyedeh Saba
Shach-Pinsly Dalit	Cristian Suau Ibáñez	Alizadeh Mahdi
Büyük Öksüz Kübra	Matteo Clemente	Makhloufi Lilia
Listening to the ambiances : acoustic approaches — Théo Marchal	**Water heritage & sensitive memories** — Ayse Erek	**Ambiances climate & écologies** — Dervishi Sokol
Pedro Novo	Katarina Kristiánová	Aleksandrowicz Or
Yıldırım Ayşegül	Maria Bostenaru Dan	Granzotto Michele
Round Table 3.1	Round Table 4.1	Round Table 5.1
Digital, inclusive and political ambiances — D'Addario Nicola	**Inclusive city, care and social justice** — Mehmet Melih Cin	**Digital mediations and evaluation tools** — Kirdar Gülce
Price Alice	Susan Qu	Uzun Yüksel Kiymet
Dieker Bea	Carmen Rosas-Pérez	Živaljević-Luxor Nataša
Piselli Alberta	*Ella White*	
Round Table 3.2	Round Table 4.2	Round Table 5.2

Coffee Break

Synthesis of Round Tables and General Discussion — Room S.0.11

END

PS : Names in Italic will present on-line

OPENING FRAMEWORK

Jean-Paul Thibaud
Keynote Speaket

The Enigma of Ambiance

Ambiance is an enigma. It belongs to a lesser, spectral mode of existence that resists any fixed definition. Rather than seeking to define it once and for all, we prefer to approach it through its powers, effects and uses. In arguing for a strong version of ambiance, the aim is to show how it contributes to sensitize the world. Ambiance weaves the very fabric of sensitivity. It has the power to intensify and transform our relationship with the world. Various perspectives will be sketched out to question the modus operandi of ambiance and identify the contemporary issues it faces.

Jean-Paul Thibaud is a sociologist. He is currently an honorary researcher and associate member of the CRESSON laboratory in Grenoble, France.
Before retiring, he was senior researcher at the CNRS (National Center for Scientific Research).
He founded the International Ambiances Network (www.ambiances.net) and co-founded the journal Ambiances. His research focuses on the theory of urban ambiances, contemporary sensibilities to socio-ecological issues, the anthropology of sound, ordinary perception in urban environments, the sensitive ethnography of public spaces, and in situ methodologies.

Jean-Paul Thibaud has published numerous articles and books, particularly on ambiances. Among these: En quête d'ambiances. Éprouver la ville en passant, published in 2015 by MetisPresses.
His latest book, to be published in September 2025 by Routledge, is entitled Ambiances. A Sensitivity to Ordinary Situations, co-edited with Nicolas Tixier and David Zerbib.

Saying Ambiances May Already Be Doing Architecture: Toward a Generative Poetics of Design in the Age of Artificial Intelligence[1]

Mohammed BOUBEZARI[1]

1. Universidade Lusófona, Lisbon, Mohammed.Boubezari@ulusofona.pt

Abstract.

Ambience is not a leftover but the core of spatial experience: it springs from the co-presence of place, body, and lived time, even without prior intent. We argue it must be addressed from the very start of design - not through simulation, but through language: to name an ambience is already to project it. This generative power of speech dovetails with generative AI: the machine parses our natural, even poetic language, making sensorial vocabulary the new design instrument. Its effectiveness hinges on what we can articulate. Revisiting architectural languages - from Vitruvius to Hillier, via Ibn al-Haytham - and the contemporary insights of Pallasmaa, Thibaud, and Augoyard highlights the primacy of perception. Drawing on our research into acoustic comfort, we deploy the notions of modi essendi, signandi, and significandi to show how an embodied language anticipates form. AI thus becomes an amplifier of intent: learning how to speak is already to make architecture.

Keywords:

Ambience, Language, Artificial intelligence, Intention, Architectural design.

To say is already to do

Does architecture not unfold on two intertwined planes - the tangible register of built forms and the verbal register that precedes them? If ambience is so often dismissed as a mere "side effect," should we reconsider that stance? When Jean-Paul Thibaud links ambience to the co-presence of spatiality, corporeality, and lived temporality (2015, p. 21), could that triad become our true point of departure - and would articulating ambience from the outset change everything?

With generative artificial intelligence now in play, has the challenge not intensified? For the first time, a machine seems to respond - however roughly - to everyday language without demanding that we learn a new "code." If describing an ambience already sets the parameters an AI will recombine, does J. L. Austin's notion that "saying is doing" (1962, p. 148) acquire fresh relevance? Might the architectural project become explicitly performative - symbolically, because words conjure possible worlds, and operatively, because the AI turns those words into images, scenarios, and ultimately built form? And if that is the case, does our task shift from immediate drawing toward ever-more precise articulation?

Would such a shift erase questions of structure, programme, or construction, or would it instead weave them into a longer chain in which sensorial language once again serves as the matrix? If articulating ambiences anchors the project within a poetic horizon while equipping the machine to generate pertinent variants, is this not a hypothesis worth debating? The reflections that follow invite exactly that conversation.

Three Languages for a Human–Machine Dialogue

To make our argument clearer, we propose breaking down phenomena of ambience into three irreducible, interdependent languages, each necessary for an ambience to exist or for a living space to take shape and be built. The first two are already known and acknowledged by the profession; ambience introduces a third language - the missing link:

1. Mathematical Language – the Skeleton

Starting with Ibn al-Haytham, whose 11th-century optics fused algebra with geometry, we glimpse a lineage in which numbers and words steadily entwine; even Vitruvius, in De architectura, had already framed buildings as proportionate diagrams rather than mere constructions. From Mesopotamian counting tokens through the invention of zero and Robert Recorde's "=" sign, each milestone compressed more meaning into fewer symbols, letting calculation stand in for craft. By the modern era, that compressed code enabled algorithms to map whole cities, and Bill Hillier's space-syntax graphs (Hillier & Hanson, 1984) now treat streets and squares as equations that reveal social logic. Thus the mathematical language that once served to measure pillars now writes the very structure of collective space.

Beyond geometry, design must also draw on structural mechanics, building physics, acoustical models, daylight analysis and environmental simulation. AI can fuse these specialised codes—stress matrices, thermal equations, sound spectra, glare indices—only if the architect sets clear priorities; otherwise, it optimises numbers and neglects experience. Integrating these "other languages" back into the poetic brief ensures the skeleton not only stands and breathes but also sounds and glows as intended (Boubezari, 2001; Malnar & Vodvarka, 2004).

2. Poetic Language – the Field of Possibilities

Language is not only mathematical; it is also poetic, aesthetic, and hesitantly human. In architecture and urban design, a project unfolds through a polyphony of interwoven languages: mathematical-geometric reasoning orders form; structural analysis secures stability; building physics, CFD, and acoustics shape light, energy, airflow, and soundscapes; legal discourse translates local codes and constraints; sketches, diagrams, and visual renderings convey ideas; the poetic or conceptual register breathes meaning and atmosphere; parametric scripting, BIM, and GIS bind data to geometry; materiality and tectonics give tangible substance to construction details; space syntax and postoccupancy studies reveal social dynamics; and, finally, historical, cultural, and ecological references root the intervention in its setting. Mastering this palette means traversing the path from numbers to emotion, from calculation to lived experience.

Naming "a muffled library hush" As Augoyard and Torgue's lexicon of "sonic effects" shows, qualitative descriptors—"halo," "slap-back," "murmur"—capture nuances no decibel value can convey (Augoyard & Torgue, 2006, p. 23), or "the warmth of an August afternoon on stone" activates a register no equation can express. Far from vague, poetic language serves as a sensorial metric: the more precise it is, the more relevant the generation becomes. Demanding "lateral light that grazes the walls" immediately rules out overhead luminaires; it is already a design filter.

3. Corporeal Language – the In-Situ Test

The missing link between human language and mathematical language—a form of speech that stays discreet, tucked away in every creator's and designer's mind, acting as an unconscious touchstone and measure while never becoming universal—is what we wish to highlight here: the language of the body. Through postures, rhythms, and microgestures, it precedes any formal intent, orchestrates our perception of volumes, and, above all, weaves the ambience that neither numbers nor words alone can fully capture. To withdraw, to expose oneself, to open up to others, to seek contact with a landscape— these are all verbal cues that, through machine learning, can be transposed into architectural design. These gestures create a subtle topology that AI ignores until we verbalise it. As Tim Ingold reminds us: "we inhabit not a geometrical space, but a world woven from the textures of our engagement" (Ingold, 2011, p. 34). Stating "to move barefoot without thermal contrast" or "to rest one's elbows at 1.10 m while looking at the city" feeds the machine with embodied use indicators. The project thus becomes a script of micro-gestures.

By combining these three languages we obtain not a hierarchy but a braid: mathematical for coherence, poetic for intention, corporeal for verification. AI, for its part, remains a syntactic interpreter; its power depends on that braid.

Artificial 'Intelligence' versus Human Intention

These three languages now confront a newcomer—the language of artificial intelligence, which can synthesise them, learn from them, and, above all, accelerate every process. Will AI strip them from us? Do the work in our place? Override our own judgment? These familiar questions all too often overlook the essential point: it lacks any intentionality.

An Intelligence Without Intention

"Generative AI has neither consciousness nor desire; it merely predicts" as Kate Crawford notes, it is "made of resources, human labour and infrastructures." (Crawford, 2021, p. 7) If that will-to-meaning is absent, the designer must supply it. Asking the AI "how to reduce reverberation in a Gothic nave" only makes sense when driven by a prior intention: to seek sonic intimacy, not just physical attenuation. Without such intent, the AI's output remains a formless mass of correlations.

The Disembodiment of Computational Systems

Space is apprehended through the body; as Pallasmaa reminds us, "the body is the locus of perception." (Pallasmaa, 2005, p. 40) AI lacks that body, yet it can model whatever we describe. In a previous work on sound comfort, It was shown how inhabitants respond through devices, procedures and strategies summarised by the modi essendi, modi signandi and modi significandi (Boubezari. 2001). AI can recognise these patterns once we name them—but it will never feel them. Hence a necessary complementarity: intensive computation versus situated experience.

Toward a Generative Poetics of Ambience

Yet, by virtue of its disembodied inertia, nothing emerges from AI without the spark of human dialogue: it is merely a lever arm, like the ruler, the compass, the steam engine, or the digital model—tools Homo faber devised to magnify ingenuity. Is this not, precisely, the chance to articulate, at last and with precision, the architect's intentions and design stance? And is it not also the opportunity to bring the third language—the language of the body and lived ambience—

before, or at least on a level with, the mathematical and poetic languages, so that we move from a represented ambience to possible, embodied ones? What matters, then, is not the fear of being dispossessed, but the skill of wielding AI as an accelerator: only the designer, through situated and critical intent, can turn the mass of correlations it produces into habitable space, sensorial experience, and a true act of design.

From Prompt to Prototype
Every conversation with AI operates as a form of "vernacular programming". A prompt such as :

"Reassuring space, subdued light, matte silence" triggers dozens of variants. The architect then acts as a curator of possibilities: selecting, combining, discarding. Through this poetic triage, the initial intention is strengthened; the machine merely opens the range.

Refinement Loops
The process is not linear. One shifts from words to images, then re-states: "greater acoustic porosity," "less chromatic contrast." Each iteration refines the relationship between verbal signifier and spatial signified. Gradually, the project "de-crystallises"; to borrow Gumbrecht's term, presence thickens (Gumbrecht, 2004, p. x).

Case Study: Hospital Reception Hall
Goal: reduce patient anxiety.
- **Prompt 1:** "bright hall, pastel tones, neutral scents."
     AI 1: zenithal skylight (too dazzling), white furniture.
- **Prompt 2:** "soft lateral light, light-wood furniture, fountain sound masking echoes."[2]
     AI 2: leafy patio, wooden slats, shallow basin.

Analysis: the second prompt better embodies the intention. The loop shows that the quality of the wording governs the quality of the output.

Ethical and Technical Limits
AI draws on biased datasets and can reproduce stereotypes (gender, culture). Human critical vigilance remains essential. Moreover, massive generation can become noise; without filtering, the designer drowns. Hence the importance of intentional framing from the outset.

Embodied Prototyping: AI and XR for User-First Architecture
Nor does AI arrive alone: virtual, augmented, and mixed-reality tools let us test proposals with our own bodies and senses, refine aesthetic preferences, and put drawings through full-scale experiential trials. Ambience - once discreet, intuitive, and often left to chance - can now be probed from the first sketch to final delivery. More than ever, the architect must engage with the user's future sensory reality, knowing that inhabitants themselves will invent and curate their own ambiences within the built frame. Is this not, at last, a convergence of two worlds, shifting the conversation from "end-user" to "userfirst"?

2. This acoustic masking corresponds to what Augoyard and Torgue call the "veil effect," where a continuous sound layer reduces anxiety by blurring discrete sonic events (Augoyard & Torgue, 2006, p. 112). A practical demonstration of this masking effect can also be found in the article (Boubezari, M., & Bento Coelho, J. L., 2003)

A Pedagogy of Sensitive Intention

As AI tools churn out plans and renderings on demand, architectural education must pivot from delivering technical facts to cultivating sensibility and articulation. Schools should focus less on what to draw and more on how to feel, speak, and situate intention in space - rehabilitating a pedagogy of imagination and nuanced expression.

The Failure of Cumulative Transmission

As AI tools now churn out plans and renderings on demand, shouldn't architectural education shift from transmitting technical data to awakening sensitivity and articulation? Shouldn't schools teach less what to draw and more how to feel, formulate, and situate an intention in space - thereby restoring a pedagogy of imagination and nuanced expression?

This is not a rejection of history or theory, but a recognition that their value lies not in piling up facts, but in how they nourish a present intention. Knowledge must not crush creation; it must inform it precisely, in a fragile balance between memory and invention.

Teaching How to Speak - Not How to Replicate

Is today's task not tool-work but word-work: teaching designers to turn raw perceptions - light, mood, anticipated use - into clear, evocative prompts? Does that shift, echoing Donald Schön's "reflective practice," anchor learning in a loop of sensing, naming, and refining? Because AI now answers only to what we ask, must students learn to (1) spot and label atmospheric cues, (2) express intentions in lived-experience terms, and (3) keep the machine in conversation without yielding initiative? In short, does mastering ambience as language become the heart of architectural education?

Conclusion – The Act of Saying as an Act of Design

In the era of artificial intelligence, architecture is no longer defined by the rarity of styles or references, but by the uniqueness of the gaze cast upon the world. That uniqueness lives in how we speak: to name an ambience is to state an intention, to open a project. Language - too long considered ancillary - now moves to the centre. AI does not eliminate the architect; it forces a return to essentials: sensation, intention, evocation. We are entering a new regime - not one of automated design, but one of transformed relations to language. For the machine can generate, vary, and simulate only from what we have told it - and, more crucially, from how we have told it.

One may hope - or perhaps it is an inevitability that will impose itself on us and on architectural practice - that language will precede the image, and the image will then orchestrate the physical, material, and geometric conditions of the project. The process is reversed. We are witnessing a genuine paradigm shift.

Thus, describing an ambience - or, more broadly, articulating a project - is not a peripheral operation; it is foundational. To name a perceptual quality, to evoke an atmosphere, to formulate a sensitive intention is already to engage spatiality - already to initiate a world.

Within this context, the architect's role shifts: no longer the one who imposes form, but the one who activates an operative utterance - a word that illuminates, orients, and suggests. And that utterance becomes all the more precious because AI itself does not speak; it only responds.

Artificial intelligence, then, does not replace the architect. On the contrary, it underscores the centrality of the sensible, the lived, the intentional within architectural design. It demands newfound precision in how we formulate, vigilance in how we feel, and clarity in how we conceive space.

In a world where every style, reference, and solution is a prompt away, the only truly singular thing is the way we perceive, interpret, and voice what we project. In this sense - perhaps now more than ever - to speak of ambiences is already to make architecture.

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Producing, Experiencing, Mobilizing Ambiances Insights from Ordinary Urban Mobilities

Damien Masson1

1. CY Cergy Paris Université - UFR Lettres et sciences humaines
   CY Cergy Paris Université – France

Abstract.

How do ambiances influence everyday urban life, and in what ways do they shape experience and social conduct? What uses are made of ambiances by stakeholders responsible for spatial planning and urban governance, and with what objectives? Rather than asking what ambiances are, this paper explores what ambiances do: how they affect places and individuals, how they are conceived and produced, and with what intentions. Framed within a pragmatic perspective, this approach to ambiances illuminates the dynamics at play in ordinary urban environments. It posits that ambiances are not merely passive by-products of material settings and social contexts-they are also actively shaped by institutional aspirations and technical expertise. Moreover, ambiances are not neutral; they intervene in the tacit and formal ordering of public space, exercising forms of power over those who inhabit and move through it. To examine this, we focus on the sensory experiences of urban mobility, particularly within public transportation systems. Transit spaces are sites of encounter and interaction, and they mobilize affective and emotional registers. An ambiance-based approach offers a productive lens for analysing these dimensions, as it attends to both the material and affective infrastructures within which social life unfolds. Ambiances enable us to characterize situations of social interaction in relation to place and situated activity. The paper proceeds in two main parts. First, we revisit key contributions from urban re- search on the sensory and highlight the specific contribution of an atmospheric approach. By defining ambiances (Thibaud 2003, Bohme 2013, Kazig and Masson 2015) and situating them within the context of urban mobility, we show how this perspective contributes to rethinking established paradigms in urban and mobility studies-particularly by foregrounding the sensory, social, and affective (Anderson 2009, McCormack 2008) dimensions of mobility experiences (Bissell 2010, Kazig, Masson, Thomas 2017). This orientation also calls for the development of innovative methodological approaches attentive to lived experience.

Second, we examine the ways ambiances are operationalized within urban transport spaces, through three complementary lenses, by using both examples from the scientific literature and situated investigations that we have conducted in Europe over the past years. First, we explore how transit users themselves contribute to the emergence and modulation of ambiances through their presence, gestures, and situated practices. Second, we analyze how transport authorities and spatial managers engage in the design and engineering of ambiances as part of broader strategies for facilitating movement and organizing flows. Third, we turn to the question of safety and security, showing how ambient interventions are increasingly mobilized as tools of soft governance-aimed at shaping conduct, modulating presence, and exercising subtle forms of control over bodies in space.

Keywords:

Ambiances, urban fabric, mobility, security, power

Fostering sensory divergences in ambiance theory: from aural diversity discourse towards multisensory experience(s)

John Drever*1
1. Otoloci (United Kingdom),
2. Heriot-Watt University [Edinburgh] (United Kingdom),
3. Goldsmiths University of London (United Kingdom),
4. architect and independent researcher (Italy)

Abstract.

For this COST Action on urban ambiance to be relevant to the whole of society, truly capturing the complexity and diversity of lived, embodied experience, it is fundamental from the outset to address and probe its extant epistemological foundations which in turn will shape future developments. This paper will focus on sensory divergency, that is, divergence from sensory normalcy. It will take its lead from work already done around hearing and seeing, and the salient concepts around what has been defined as aural diversity (Drever 2017; Drever & Hugill 2022; Drever, Cobianchi, Rosas-Pérez 2023) and more recently, visual diversity (Radicchi & Henckel 2023). Within acoustics and related disciplines, the tendency was to model hearing derived to a healthy young subset of society (e.g., equal loudness contours are enshrined in policy and guidance through the ubiquitous application of dBA). Because of the adherence to this model, a large proportion of auditory experiences remain excluded (e.g., neurodivergence, PTSD, hearing loss, specific hearing needs, infants, the elderly), and this exclusion is replicated in related fields. Studies on sound perception, noise annoyance, and soundscape research considered in the major reviews on the topics base their outcomes on the assessment made by participants with "normal hearing", being this a recruitment requirement. The diversity in other demographic aspects such as age or socioeconomic status tends also to be limited. These reviews inform policies on environmental sound, building acoustics, soundscape interventions, and epidemiological assessment on the effects of noise on health, and therefore have an impact on entire communities of humans and non-human species. In addition, most psychology and environmental psychology articles have an intrinsic bias in relation to researchers and participants: they are mostly from the Western, Educated, Industrialized, Rich, and Democratic societies. In 2010, in a review of comparative databases from across the behavioural sciences, Henrich concluded that "WEIRD subjects are particularly unusual compared with the rest of the species – frequent outliers" (Henrich et al. 2010). The limited representation of the sensory experiences in research is translated into a limited consideration of the diversity of experiences of sounds in actual, complex societies and the design of their spaces. This exclusion is also present in the visual sphere. The needs of people with non-normative vision or visual sensitivities have been the subject of recent works that also highlight the main barriers in common spaces, as well as measures that can help increase visual accessibility. Here, we will share and transpose some of the key concepts underpinning aural diversity and present some of the recent initiatives that are encouraging designers to develop a more inclusive perspective. Finally, we will propose a reflection on how the typical (and usually required) methodological approaches and data analysis in sensory research are rooted in pre- conceptions based on sensory normalcy, and on the implications of epistemic exclusion in an "evidence-based" society. We hope this paper acts as a prompt to ask how we embed sensory diversity at the heart of our emerging conception of ambience in theory and practice.

29

CONCEPTUAL AND THEORETICAL FRAMEWOKS OF AMBIANCES

The Political in Ambiances
States of Body and Public Presence

Rachel THOMAS1

1. CRESSON, UMR CNRS 1563 Ambiances, Architectures Urbanités, ENSAG-UGA,
   rachel.thomas@grenoble.archi.fr.

Abstract.

How do ambiances affect the "bodily states" of urban dwellers and inhabitants? What role do they play in shaping "corporeal tonalities" that condition how individuals take part - more or less - in shared sensory experiences of lived environments? In what ways do ambiances contribute to producing or reproducing forms of marginalization, readiness or unreadiness for action, for « being », for participating in « what is happening »? These questions are at the heart of a recent research program that aims to explore the political dimension of ambiances (Thomas, 2021). By "political", I mean the capacity of ambiances - that "background from which our experiences unfold" (Augoyard, 2011; Thibaud, 2012) - to activate affects and embodied modes of being in public that challenge ordinary forms of spatial presence and relationships between city dwellers.

Keywords:

Ambiances, States of Body, Presence, Political

Introduction

In France, research on architectural and urban ambiances has long explored how the sensory modalities of space affect human perception and action. From the perspective of a sensitive ecology, ambiances have been approached as dynamic and situated configurations that contribute to the shaping of everyday experience. This body of work demonstrates that ambiances are never neutral with respect to action and interaction. They shape both how individuals perceive the situations in which they find themselves and how they act and interact with others. For instance, the notion of *sonic effect* (Augoyard & Torgue, 2006) is one of the conceptual tools developed to analyze and describe how a particular acoustic situation can transform perception, cognition, and action. A case in point is the *cut-off effect*: the sudden rupture of sonic continuity and change in sound level - such as when moving from a quiet to a noisy space - structures our perception by marking thresholds, heightens alertness, and alters our walking rhythm.

But what about the effects of ambiances on urban ways of life, on the deployment of plural modes of existence that enable individuals to take place? In what ways do ambiances contribute to the production or reproduction of exclusion, of indispositions to participate in "what is happening"? These questions are at the heart of a research program that seeks to explore the political dimension of ambiances. It aligns with a recent orientation in ambiance studies that, grounded in concrete fieldwork and in the domains of urban design and planning, interrogates the emergence of "ambiance policies" driven by urban marketing concerns (Breviglieri, 2018), pacification (Thomas et al., 2014), or securitization (Fregonese, Simpson, Masson, Runkel et al., 2024). More specifically, this research program seeks to "grasp the political within ambiances" (Thomas, 2021). It aims to question the styles of ambiance currently promoted by planners and the types of "conditions of possibility" they produce for existence and cohabitation. It also examines how these styles of ambiance affect "bodily states" (Guisgand, 2004), that is, the qualities of corporeal presence in space.

Two examples, drawn from fieldwork conducted with research collectives in France and Brazil, help to develop this hypothesis.

The first illustrates how certain ambient configurations either enable or prevent the physical access of specific categories of users - here, people with disabilities - and contribute to their visibility or invisibility in public space. The second example aims to show how certain public management policies - by destabilizing the ordinary texture of ambiances and intensifying their level of conflict - disrupt bodily states and reshape the ways in which spatial experience is shared.

Sensory vulnerabilities, social vulnerabilities
Grenoble, Place Saint-André, a June evening in 2000:

"Now this is exactly the kind of place I really dislike. It's probably the one I try hardest to avoid. First, because of the crowd. You can hear them there, on the sides. People having drinks. You can hear their conversations at the tables. And we walk right through the middle. You're on full display. And then, it echoes too. You can hear our footsteps, the cane as well. It's as if people could see you even more clearly. I really hate that."

Madeleine is 46 years old. She is amblyopic. Her condition alters binocular vision and impairs her perception of distances, depth, and shapes. Walking through public space demands heightened vigilance, especially in environments that are cluttered or potentially crowded, as is the case here on Place Saint-André, where cafés and restaurants set out tables and chairs during summer evenings. The patrons sitting outside appear as visual blurs, and it is through the sound of voices and conversations that Madeleine locates them. She walks through the center of the square to avoid these potential obstacles and to distance herself from the masking effect produced by the diffuse mix of conversations. Her pace is slow and hesitant: identifying different sound sources and locating herself in space requires sustained attentiveness. On the natural stone paving, the sweeping and tapping of her cane resonates so strongly that several people at nearby tables turn to look at her. The reverberation effect - an acoustic phenomenon characterized by the persistence of sound after its source has ceased, due to reflection off surfaces - intensifies her presence and, with it, the visibility of her impairment. In this enclosed space, configured like an arena, Madeleine becomes both visually and acoustically overexposed. In this situation, the social rules of civil inattention and anonymity are suspended; her disability becomes a "stigma" (Goffman, 1963) that disqualifies her and undermines her social identity. Despite the formal physical accessibility of the square, this overexposure devalues her body and her way of moving, creating discomfort and, often, prompting her withdrawal from such spaces.

Alain has been living with Parkinson's disease for five years. The symptoms of his condition are still relatively discreet. He walks slowly and with a certain stiffness, and he also shows recurrent signs of anxiety. However, he retains the ability to engage in social interactions. His family relocated to an eco-district, leaving behind a house that had become inaccessible, in favour of a more suitable apartment. In this neighbourhood, priority is given to non-motorised modes of transport (mainly walking and cycling). The sidewalks are wide, unobstructed, and equipped with tactile guiding strips. Alain explains that he walks more frequently here than in his previous neighbourhood, precisely because of these spatial features. His main difficulty lies in controlling episodes of *"freezing"* - a temporary motor blockage affecting the legs, which occurs particularly at the initiation of and which can lead to falls. The approach of an obstacle, a passage that is too narrow, or the presence of a crowd (which requires avoidance manoeuvres) tends to trigger such episodes, as these situations interrupt the rhythm of walking.

Stress, especially in environments that are too noisy or where unexpected sound events occur, is an aggravating factor. In this context, however, the width of the sidewalk and the tactile strip on the ground delineate a secure path for Alain. In addition, the overall ambiance of the neighbourhood is perceived as soothing: ambient noise levels are low; tree-planted spaces create shaded and cool areas, and seating allows him to rest when fatigued. This ambient quality enables him to move around the neighbourhood with greater confidence, manage his anxiety more effectively, and thus maintain a degree of control over his gait.

These two examples[1] highlight how ambiances exert a significant influence on pedestrians' affective states, as well as on their very ability to inhabit and participate in public life. Most notably, they point to the role ambiances play in shaping experiences of vulnerability.

In both Madeleine's and Alain's cases, specific ambient configurations leave a lasting imprint on bodily perception and on the intersubjective experience of everyday environments. For Madeleine, the sensation of being an "object of the gaze" - as understood in feminist theory, meaning being reduced to a body viewed through its outward appearance and assigned a non-consensual identity - generates a form of perceptual vulnerability and situational discomfort. Beyond feelings of embarrassment, what emerges is a form of self-fragilization: within such ambient conditions, Madeleine does not feel she belongs. This diffuse sense of unease has two main consequences. It can destabilize walking by increasing self-surveillance and cognitive load. It also intensifies fatigue. Over time, such experiences may lead to the avoidance of certain spaces, or even to a more general withdrawal from public life. Conversely, in Alain's case, the calming ambiances of the eco-neighborhood produce sensations of bodily release and ease. These sensations foster a degree of walking fluidity that in turn enhances self-confidence - an essential condition for maintaining both the desire and the ability to walk, particularly for individuals living with Parkinson's disease. In Alain's situation, the tonal quality of the ambient environment enables his continued presence in public space and supports a form of situated autonomy.

Corporal Tonalities and Dispositions Toward Engagement

The second example further develops the hypothesis of a link between ambiance and presence by examining the capacity of ambiances to affect "states of the body." I borrow the notion of "state of the body" from the field of contemporary dance, where it refers to a specific corporeal disposition: it is a quality of bodily presence that shapes one's way of being in space, of moving, and of becoming available (Guisgand, 2004). This tone of bodily presence simultaneously engages affect, attention, posture, muscular tonicity, rhythm, and breathing. It is mutable and modulates according to situations and atmospheric nuances. In this second example, the question is no longer how ambiances contribute to marginalization, exclusion, or, conversely, inclusion. Rather, it concerns their capacity to test or affect the qualities and tonalities of this bodily presence.

To develop this hypothesis, I draw on a rereading of research focused on the implementation of pacification processes in Brazil (Thomas, Balez, Bérubé, Bonnet, 2014). This research initially proposed a theoretical articulation between ambiance, presence, and bodily state.

To the west of Salvador de Bahia, Porto da Barra is a seaside neighborhood that our Franco-Brazilian collective of researchers in architecture and dance has observed over six years, from 2008 to 2014,

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1. The first example is drawn from surveys conducted as part of a PhD thesis on the accessibility of urban public spaces (Thomas, 2000); the second example stems from an ongoing study involving the support of individuals living with Parkinson's disease, for which the analysis is in progress.

focusing on its changes in urban design and ambiance[2]. During this period, the neighborhood underwent transformations driven by aestheticization and pacification policies. These policies are part of a broader urban and sensory marketing strategy (Borsh, 2014; Böhme, 2017a) implemented at the territorial scale, within a specific context: the hosting of a series of international sporting and political events in most Brazilian metropolises[3]. Over the years, Barra was aestheticised, sanitized, and secured. Over a six-year period, the ambiance of Porto da Barra undergoes notable changes. Its dynamic intensity diminishes. The ambiance becomes perceived as calmer, more harmonious, and less conflict-ridden. Circulation flows are more regulated; stimuli are reduced due to the removal of street vendors and marginalized groups; auditory and olfactory stimuli are less overwhelming. Temporary road closures and cultural or sporting events foster moments of leisure and weekend promenades, contributing to a convivial and relaxed ambiance. However, a latent "tension in the air" persists. The police presence offers reassurance but also generates unease. There is a prevailing sense that "everything is under control" while simultaneously "anything could change abruptly." This atmospheric instability and volatility generate ambiguous experiential states. Apathy coexists with agitation; calmness with anxiety; relaxation with hypersensitivity and even hypervigilance. This constant oscillation between indolence and alertness is mentally and physically draining, impeding full engagement with the environment. Furthermore, this instability alters both the ability to discern "what is happening" and the quality of interpersonal encounters.

November 2010. Complexo da Maré.

The BOPE (Batalhão de Operações Policiais Especiais), an elite police unit, deployed forces in this vast favela complex located in the northern zone of Rio de Janeiro. Armored vehicles, armed troops, and helicopters operated to dislodge traffickers controlling the territory and to "cleanse" strategic points of illegal commerce. Sudden and violent, the intervention dramatically shifted the favela's ambiance within hours. These ambiances, both contrasting and ambivalent, typically coexist with tension - stemming from bodily control measures and a diffuse, unstable climate of insecurity - and the vibrant buzz resulting from the intense sensory and social activity of the neighborhood. Here, the implicit rules governing territorial control change frequently. The need to interpret subtle signals of insecurity demands continuous adaptation and vigilance, which simultaneously excite and exhaust residents. BOPE's intervention transforms this excitation into paralysis. The ordinary state of saturation and tension gives way to an extraordinary state of stupefaction. The sounds of the intervention are then replaced by a profound silence that freezes everything in place. All movement - gestures, breathing, blinking…- is suspended[4]. This state of stupefaction is shared here, as in every favela where such interventions occur. It is accompanied by withdrawal from the streets (avoiding going out), restricted spaces for action and sociability, and enforced silence.

These two examples reveal the role of ambiances in the development of sensory disturbances and "bodily tonalities": what is felt during the course of experience - embarrassment, discomfort, tension, or conversely, confidence, contentment, tranquility - becomes embodied in particular states of the body. However, depending on the situation and its intensity, the body's tonic adjustment (Böhme, 2017b) capacity to these ambiances can be impaired or even blocked. The extreme example here is the state

of stupor, in which the body's ability to move is obstructed. Such disruptions in bodily states carry significant public implications: because they may generate a loss of trust in one's living environment, they can also contribute to distancing or even disengagement from that living environment.

Grasping the Political in Ambiances

The aim of this paper was to define ambiances through their political dimension - or more precisely, to grasp the political in ambiances. Through the examples developed here, we have shown that the political emerges in a gradation of affective tonalities that shape our experience of living environments and the expressivity of social situations. The political is a form of life rooted as much in a material and social ecology as in ambiances. These ambiances are embodied in singular situations; they become visible through diverse bodily states and modulate forms of presence. In doing so, across varying degrees and temporalities, they render invisible or expose; they solidify or weaken; they provoke engagement or disengagement, withdrawal or participation, concern or indifference.

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From Theory to Practice: Defining the Sensible in Contemporary Urban Projects

Théa Manola*[1]

1 Centre de recherche sur l'espace sonore et l'environnement urbain – Ambiances, Architectures, Urbanités – France

Abstract

This presentation proposes to analyze the ways in which the notion of the sensible is defined by practitioners involved in the design processes of contemporary urban projects([1]). Research in architecture and urbanism has long been engaged in defining terms such as ambiance, sensible, affects, and landscape, as well as their relationships and distinctions (cf. Amphoux, 1994; Augoyard, 1995; Roger, 1994). The scientific production on these concepts is well-established and continues to gain relevance today. This renewed interest is undoubtedly linked to the emergence of new frameworks of sensitivity and even profound disruptions in our daily lives (cf. Thibaud, 2018). According to numerous studies, ambiance, affects, and the sensible have multiple, often political, effects and relations (cf. Thomas, 2021) within the lived experience of everyday environments and in the evolving ways in which people inhabit and relate to their territories. These studies often focus on the experiences of inhabitants and users. However, it is equally important to note that operational and project-based urban actors engage with these notions on a daily basis-perhaps even more so than the people who live in these spaces-yet without necessarily articulating or even consciously acknowledging how they define them.

Both for scientific and applied issues, il appears necessary to interrogate the ways in which these terms are defined (explicitly or not, consciously or not) by practitioners involved in urban production. The ways in which operational actors define the sensible reveal several points of porosity between academic definitions and those emerging from practice, with their respective complementarities and divergences.

Part of the investigation carried out within the PROSECO project aimed to address this lack of definition. Accordingly, this presentation draws from data collected in the context of the PROSECO research project (Sensitive Production of Contemporary Urban Projects. From Design to Experience: Environmental and Political Stakes of the Sensible – ANR-20- CE22- 0002-01 – Manola, ongoing). This communication focuses on discussions during three workshops conducted with practitioners involved in urban projects. Based on these discussions, the aim is to clarify how these actors define the term sensible. Findings indicate that the sensible is understood as a bodily experience involving the senses, but also, within project processes, as a professional posture-relating to contextual responsiveness, citizen involvement, and the transgression of normative frameworks. Furthermore, it is perceived as a "translator" that mediates the project, and as a form of care, both for the space itself and for the processes it undergoes.

Keywords:

Sensible, urban project, practitioners

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1. The choice to focus here on the term sensible rather than ambiance stems from the fact that the former is considered a fundamental component of the latter (cf. Thibaud, 2014)

The Polyphony of Ambiances
Designing with Multiple Agencies

Evangelia PAXINOU[1], Nicolas REMY[2]
1. Municipality of Volos, Greece – AAU CRESSON Grenoble Alpes University,
   evangelia.paxinou@gmail.com
2. Sd+be Lab, Dpt of Architecture, University of Thessaly, Greece – AAU CRESSON Grenoble Alpes
   University, nremy@uth.gr

Abstract.

This paper proposes a shift in architectural and urban design from dialectical models to a polyphonic framework, where ambiance is co-created by human and non-human agencies. Drawing on Latour's Actor-Network Theory (2007), Souriau's (2009) modes of existence, and the notion of sympathy as attunement across difference, ambiance is reconceived as a dynamic field shaped by environments, technologies, and living beings. Through the KARLIAMENT project, an evolving architectural laboratory on Lake Karla, participatory installations such as Sympathy Radio, and embodied sound practices, like Resounding Ruins, enact a performative mode of engagement that challenges conventional ideas of immersion, authorship, and control. This approach fosters attuned, improvisational encounters. Polyphony here serves as both a design principle and a mode of environmental engagement—one that maintains difference without erasure, and invites emotional and ethical attentiveness without seeking resolution. Architecture becomes performative, responsive, and participatory, emerging as an open composition of ambient forces. KARLIAMENT is exploring how spatial practices can cultivate collective sensibility and ecological awareness through resonance, improvisation, and shared presence.

Keywords:

Architecture, Affective Space, Participatory Design, Sympathy, Polyphony From the Dialectical

Perspective to Polyphony

In a time when architecture and urban design are rethinking their relationships with space, society, and the environment, the concept of architectural and urban ambiance is developed both theoretically and practically to address the pressing issue of planetary habitability. Moving beyond decorative background or atmospheric effect, ambiance is increasingly understood as a relational and evolving process — a co-creation of space shaped by matters, environments, technologies, and living beings.

Building on this foundation, we can extend the discussion from a dialectical understanding — where ambiance arises from the interplay between the back plan, representing the ordinary, often unnoticed conditions of space, and the events, the unpredictable moments that capture attention and make ambiance perceptible (Thibaud, 2015) — to a more polyphonic perspective. While the dialectical model focuses on binary dynamics, the polyphonic approach broadens the field, shifting from a primarily anthropocentric view to one where space, humans and non-humans coexist and interact in a living, interdependent web. In this expanded framework, ambiance is not simply a product of human perception but rather the affective, social and environmental medium where human and non-human participate and resonate together.

This paper proposes a shift from fixed and pre-designed environments toward an approach grounded in polyphony — the coexistence of multiple voices, agencies, and perspectives. Rather

than seeking a unified or harmonious whole, polyphony embraces difference and coexistence. Ambiance becomes a field of negotiated interactions where diverse elements maintain their autonomy yet resonate together.

Figure 1. Pelicans on the shallow waters of Lake Karla, E. Paxinou, 2025

Drawing inspiration from Bruno Latour's (Latour, 2007) Actor-Network Theory, we recognize that non-human elements are not passive backdrops but active participants in shaping spatial experience. This perspective invites us to move beyond the dominance of human design intention and to embrace a world where actants — both human and non-human — form networks of translation and negotiation. Here, ambiance is not a product of aesthetic control but an emergent, collective performance woven from diverse threads.

To deepen this understanding, we draw upon Étienne Souriau's (Souriau, 2009) concept of *modes of existences* — the subtle, often overlooked presences that quietly shape the mood and character of a space. These delicate presences — the murmur of water, the creak of wood, the glimmer of light — may seem fragile, yet they play a crucial role in composing ambiance (Thibaud, 2018). Recognizing these *"faibles modes d' existences"* invites us to attune ourselves to the almost imperceptible agents that inhabit and transform space.

A key concept in this approach is sympathy (Paxinou, 2017)— not as a static emotional identification, but as a responsive, ontological openness to the diverse forces that co-compose space. It involves cultivating sensitivity to the subtle dynamics of space and embracing these presences with care and attention. Sympathy invites designers and participants alike to move beyond control and embrace a listening practice, where space is co-created through resonant interactions.

KARLIAMENT: A Living Laboratory

KARLIAMENT embodies these ideas through an evolving project set along the shores of Lake Karla in Thessaly — a site layered with ecological, historical, and acoustic complexity. Lake Karla was completely drained in the 1960s to create farmland. In the early 2000s, efforts to restore the lake were initiated, resulting in a gradual return of water. In 2023, the region was struck by severe flooding, restoring the lake to its original form and causing extensive damage to agricultural land and nearby villages. Positioned at the intersection of environmental fragility and architectural imagination, KARLIAMENT reclaims this transformed and dynamic landscape as fertile ground for spatial experimentation, sonic articulation, and political activation.

Figure 2. Listening at the edge of Lake Karla, E. Paxinou, 2025

KARLIAMENT stands where ecological fragility meets architectural imagination. It is not merely a project, but a method — a call to listen, to map, and to act. Through the creation of a sonic atlas, it uncovers the faint and forgotten modes of existence that shape the site's present ambient sensibilities. But it does not stop at observation. KARLIAMENT builds ephemeral architectures that resonate with place, giving voice to all ambiance sensitivities — human and more-than-human, audible and beyond hearing. It becomes the sonic parliament itself: a living assembly where space, sound, and beings converge in shared expression and political presence.

This approach draws on Tim Ingold's (2007) critique of conventional notions of listening, presence, and spatial experience presented in *Against Soundscape*. It suggests stepping away from controlling or composing the sound environment. Rather than dominating the listening experience, it encourages openness to the existing sounds of the place—letting the environment's subtle rhythms guide attention. This creates an ambiance that is not pre-designed or fully immersive, but rather emerges through ongoing interactions where dominant and marginal sonic elements coexist.

This perspective highlights the importance of cultivating heightened sensitivity to the quieter, often unnoticed sounds, and invites a form of listening that acknowledges the agency of non-human actors. Instead of immersing oneself in a soundscape, the practice involves attuning to the multiple presences that make up a space, generating a dynamic ambiance shaped through resonance and openness. Within KARLIAMENT, this method fosters a more participatory and shared approach that goes beyond the traditional notion of soundscape, engaging all senses and encouraging a collective improvisation that co-creates the sonic and spatial atmosphere.

Figure 3.4. Attuning to Lake Karla's dam, E. Paxinou, 2025

WG 1

The transition from theory to practice in KARLIAMENT unfolds through participatory, performative in situ experiments that activate the site's polyphonic and dynamic potential. A central expression of this shift is the practice of "resonant gestures," developed through the *Resounding Ruins* project—an embodied approach to ambiance as an active and participatory process. By engaging in simple yet profound actions—such as pressing record on a tape recorder and withdrawing to let the environment speak, or positioning microphones in improbable, non-human places— participants foreground subtle, often overlooked sounds and material presences that contribute to ambiance. These gestures challenge the notion of immersion as a passive state, instead proposing an active, perceptive withdrawal that heightens sensitivity to the acoustic and material conditions of a site.

Figure 5.6. Resonant gestures in post-infrastructural landscapes, E. Paxinou, 2025

Through experiments with diverse technologies—wired and wireless microphones, binaural setups, and portable speakers—the practice transforms sites of abandonment into living laboratories where natural and artificial sounds coalesce, revealing the intricate interplay between space, body, technology, and environment.

This approach extends the dialectical relation between backplan and event—already understood as a space of negotiation and conflict—by experimenting with sympathy through direct participation and embodied listening. Here, sympathy is no longer a theoretical construct but a practice enacted through resonant gestures and attentive withdrawal from immersion, generating a shared sonic and spatial field where natural, lived streamed and transducted sources produce a "sense of effortless presence". Architecture becomes not a static backdrop but a perceptual and performative medium, where ambiance emerges from lived, collective experiences rather than from pre-designed forms.

Another expression of this participatory framework within KARLIAMENT is Sympathy Radio, an interactive installation that further deepens the passage from theory to practice. Sympathy Radio is an interactive installation where participants both listen to and transmit sounds—natural (like rustling leaves) or artificial (like radio waves)—in real time, via radio receivers and bone conduction headphones. Rather than passively consuming soundscapes, they co-create them, broadcasting chosen sonic elements to others, shaping a collective sound composition. The added sounds—

natural and technological—co-create a sonic counterpoint that never dissolves into homogeneity. Sympathy Radio invites a shift from consumption to co-creation, where listening becomes an active, participatory gesture of attunement to the world's polyphony. This active engagement with Sympathy Radio bridges the conceptual emphasis on sympathy and improvisation with lived practice, turning the KARLIAMENT site into a vibrant, participatory sound platform where human and non-human voices interact and resonate.

The strength of this approach lies in its ability to translate complex theoretical concepts into lived, participatory experiences. Polyphony and counterpoint are not mere metaphors, but practical strategies for creating spaces where multiple agencies — human and non-human — interact dynamically. Counterpoint takes polyphony beyond simultaneity, to a structured interplay. The voices don't simply coexist — they are in relation, in tension, echo or resistance. Sympathy adds a layer of sensitization and attunement to *faibles existences* — those often-overlooked, subtle forces that make spaces feel alive. This is a form of dynamic attunement, where difference becomes affectively charged—perceived through resonance, dissonance, and drift. It moves beyond empathy as projection, toward what Jean-Paul Thibaud (2022) calls ambient sensitivity: a heightened awareness of subtle, situated tonalities shaping experiential atmospheres. Through participatory soundwalks, workshops, and embodied experiments, KARLIAMENT develops tools and methods to sharpen this ambient sensitivity, encouraging participants to co-create, rather than merely inhabit, atmospheres.

Toward a Responsive and Participatory Architecture

Rather than a top-down imposition of form or atmosphere, architecture today unfolds as a relational and responsive practice—one that listens, adapts, and co-composes with the world. It moves beyond control, toward collaboration, beyond static environments, toward fields of possibility shaped by interaction. In this shift, a reflexive loop emerges between practice and theory: lived experience, sensory engagement, and spatial experimentation become fertile ground for new ways of thinking and designing.

Within this framework, the (sonic) long table (Tixier and al, 2016) —historically a space of gathering—can be reimagined as a resonant interface for co-creation. When equipped with responsive technologies and acoustic elements, the table is no longer inert and it becomes attuned to presence and gesture, inviting participation through sound and movement. Each interaction generates a thread in a collective composition: the pulse of pipes, the breath of mechanical infrastructure, distant church bells, tractor hums, bees droning, birds murmuring, cowbells, droplets echoing from a water tower, and the soft rush of irrigation canals. These subtle existences, in constant interplay with the wind and the cycles of day and season, create an atmospheric weave—a dynamic, living soundscape. Architecture, in this mode, is not a finished form but a tuning process, allowing multiple voices—human and non-human, material and environmental—to resonate and coexist. The long table thus becomes a polyphonic structure, where theory emerges from practice, and ambiance is continuously renegotiated through presence, rhythm, and relation.

Embracing polyphony allows us to imagine architecture not as finished form but as open composition, where humans, environments, and technologies co-create the ambiance of the present and the future. Through these practices, design moves beyond control and composition toward a relational

and participatory field, where ambiance emerges from shared presence and improvisation. They exemplify a shift toward architectures that are not static but performative, not imposed but co-created, reinforcing design practice as a process of attentive engagement and collective improvisation with the world's diverse agencies.

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Defining Ambiances from the field
Critical urban dimensions for a collective discussion

Cristina PALMESE[1*], Ricardo ATIENZA[2*], José Luis CARLES[3*]
1. Universidad Europea de Madrid, Spain, cristina.palmese@universidadeuropea.es
2. Aalto University, Department of Art and Media, Finland - CRESSON, Laboratory Ambiances, Architectures & Urbanities, France, ricardo.atienzabadel@aalto.fi
3. Universidad Autónoma de Madrid, Spain, joseluis.carles@uam.es **(*)** All the authors contributed equally to this paper.

Abstract.
Within COST Action CitySenZ, "Architectural and Urban Ambiences of European Cities", this communication aims at setting the basis for the exploratory work of its Working Group 4 (WG4), "Innovation Scouting", specifically in connection with the topic of CitySenZ opening congress, "Defining Architectural and Urban Ambiances". The main objective of WG4 is to identify relevant urban projects, artistic interventions and situated research methodologies that have successfully integrated or been able to reveal sensorial and ambiance dimensions, whether the concept itself (ambiance) has been considered or not. To select such relevant cases, we propose to focus on six critical contemporary urban questions and dimensions: accessibility, ecology, technology, situated artistic practices, interdisciplinarity and the sensorial, aesthetic and emotional dimensions. We finally provide as case-studies two research projects that focus on situated methodological approaches to urban ambiances. Their results are revisited in light of how to define ambiances from the situated experience of place.

Keywords:
Urban ambiances, Situated experience of place, Defining ambiance/s

42

Introduction

The concept of "Ambiance" is intimately linked to the one of situated experience. To provide a relevant description of a specific ambience requires first to experience it in situ, to engage with our senses, body and mind in a given space and time, and somehow find relevant and accessible ways to describe such experience. Therefore, the possibility of defining what an ambiance is, should involve as well a situated perspective, rooted in the specific and concrete nature of the ambiance phenomenon.

We can thus attempt a bottom-up definition of the concept of ambiance departing from a series of representative cases and practices, and with a specific focus on exemplary environments, interventions and situated methodologies. Their exemplary character would be given by their use, by the welcoming nature of these sites, promoting lively inhabiting practices and local appropriation and transformation. These remarkable cases should represent both spontaneous as well as induced processes i.e., emerging from local initiatives and inhabiting practices, or being the result of a more designed and controlled intervention, including different hybrid forms in between. To locate and describe such representative cases should obviously be a collective effort, requiring multiple perspectives and skills, and this will be the task of Working Group 4, "Innovation Scouting".

Working Group 4, Innovation Scouting

This communication aims thus at setting the basis for the exploratory work of WG4, specifically in connection with the topic of this congress, "Defining Architectural and Urban Ambiances". The main objective of WG4 is to identify relevant urban projects, designs, in situ research methodologies and artistic interventions that have successfully integrated or been able to reveal specific sensorial and ambiance dimensions, whether the concept itself (ambiance) has been considered or not. A core question will feed this contribution: in which way can we contribute to the definition of ambiances with a more bottom-up strategy, one emerging from the physical field, from relevant cases and places, and building up a theoretical body? Would we define the concept of ambiances differently when departing from specific situated experiences and practices that can be considered as exemplary? This approach poses a question mark on the very concept of definition, its meaning, implications and associated methods. To define is first to delimit an observation area and phenomenon, the production and experience of urban space in this case. But several questions arise when trying to determine basic aspects such as who is entitled to define, what should be included or left out, or which are the lens to be employed to this end. Furthermore, the exercise of defining seems to be particularly complex when approaching such an elusive concept as the one of ambiances, which tries to depict a series of phenomena unstable by definition. However, if we believe that ambiances are to be experienced and characterised as a site-specific phenomenon, then its definition should include this immersive and situated dimension. Beyond our theoretical framework, a situated approach to the challenge of how to define ambiances will contribute with a critical view on the task, together with some potential elements of response. Observing and trying to characterise an ambiance in situ, experiencing it with our body and senses, or even disrupting it to better understand its underlying principles and mechanisms, provides an essential concrete and physical dimension, one that can only be gained and understood from the inside, from the place.

43

Defining Ambiances, six critical dimensions

For this task of defining ambiances from the field, we would like to put forward a number of contemporary critical questions or dimensions to be considered. Urban contexts and ambiances are facing today fast transformations that cannot be ignored, linked to contemporary societal, political and relational issues that affect the way we understand and define public spaces for instance. We list here below some of these key questions and components that will hopefully vertebrate our work in WG4. However, the following points are not intended to be an exclusive set of questions, but rather a starting point for the collective discussions in WG4.

1. Who is the ambiance designed/thought for and/or experienced by? How accessible and flexible is it in terms of welcoming a variety of user profiles, functions and situations, already present or potential? (the migrant, the tourist, the local, etc.) Can it host a broad range of cultural, physiological and neurological diversities? What is actually the relationship established between the researcher and the studied ambiance?

2. How do we embed a complex, holistic ecological approach in our definition of ambiances? Including of course today's environmental challenges underway and corresponding energy transition processes, but also other fundamental and often disregarded aspects such as social sustainability. Furthermore, how can we explore and incorporate other inclusive ecologies that arise outside our modern paradigm? How would they influence the concept of ambience?

3. How to take into account the question of a technologically mediated presence? How does this new reality affect our understanding and definition of ambiance? Our relationship with the environment has become increasingly artificial and mediated by a range of technological devices and tools. A situated experience is often today simultaneously local and remote, multiple and fragmented. Our bodies can be physically present while our senses and minds are increasingly requested by extended or competing alternative realities, places and situations, virtual or existing.

4. The potential of situated artistic practices as a transformative force able to help us to re-establish a link to our daily environments and ambiences, as well as to our bodies and imagination. This is linked to an invitation to approach the concept of aesthetics in its original sense, related to a situated sensorial and corporeal experience of our environment. In the words of Solomos (2023, p.8) "there is a transformation of the idea of 'aesthetics', which would allow it to return to its etymological roots: sensation, perception, aesthesis. The sphere of aesthetics often still refers to that which relates to art in the narrow sense of the term, and which is intertwined with a 'culture', in the sense of a body of knowledge shared by a limited social group, especially when it comes to so-called 'academic' art. If we leave this conception behind, we can think of aesthetics in a broader sense, as a discernible link with the surroundings and with the world, and as an experience".

5. The need of an interdisciplinary, broad and open approach to the concept of ambiance: how to identify, include and enter in dialogue with research, analysis and projects that do not focus specifically on the concept of ambiance, while still addressing relevant issues and notions that are closely related to it. For example the concepts of comfort or placemaking, among other political, social and cultural aspects and components that will certainly help to decode and define how do we relate to and experience our daily environments and public spaces.

6. The central role of the senses and of an intersensorial approach: recognizing the relevance of the senses as a core component of the cognitive processes has marked a significant shift in understanding how we relate to our environment. It is thus essential to support the development and application of explorative and research methods that incorporate aesthetic, emotional and sensory values. Additionally, we should be aware of the neuroscientific developments that bring light on the relation between our senses and the structuring of knowledge (Castellanos 2022).

Defining Ambiances, two case studies

We would like to introduce here below two examples of situated research methodologies by the authors of this paper, two case-studies that have specifically approached some of the critical dimensions proposed previously:

Example 1. A Multisensorial Approach to Urban Space: Placemaking through Sensory Insights – Palmese, Kırdar, Carles, 2025

An ongoing research project whose aim is to develop, test and evaluate in situ a hybrid aural and visual methodology able to reveal the events, practices, and processes that turn an urban space into an urban place. This project focuses on collaborative design and place-making strategies.

Traditional urban analysis methods are often neither comprehensive nor cross-disciplinary, failing to capture the complex essence of urban spaces. This comprehensive perspective is vital to fully understand the dynamics giving life to a place; and to develop design strategies able to integrate the citizens' (and researchers') creativity, affects and experience of place.

Therefore, our starting considerations were that understanding and designing shared public spaces required a complex approach taking into account both, the sensory interactions - the experience of sound, light, smell, touch, proprioception, etc. –, together with the spatial, cultural and social components of place, not to forget its biodiversity. Only such a multiple approach can help us to unveil the specific dynamics that transform a space into a place.

Figure 1. Puerta del Sol Square - Eminönü Square, Cristina Palmese, 2023

The first phase of this project has involved a theoretical exploration as well as an exchange of methodologies, representation tools and disciplinary languages. The second phase, conceived as a pilot study, is focused on the comparative application of a common method in two different sites: Eminönü Square in Istanbul and Puerta del Sol in Madrid.

Example 2. Atelier Art et re-action (Area), Performing Urban Routines and Rituals – Atienza, Mcginley, Sand, 2020

Atelier Area aimed at responding to today's deep physical, sensorial and social transformation of public spaces and daily urban ambiances. Its artistic research methodology was based on the exploration and re-enactment of contemporary urban routines and rituals through public improvisations and interventions. Two key components characterise its research methods, the site- and case-specificity of its actions and the collective nature of its methods.

This research project was inspired by the pioneering work of the French avant-garde group Art et Action (AEA, 1919-1939). AEA approached the urban phenomena and transformations of their time through their innovative 'theatre laboratory', an experimental artistic research environment in which actors and audience were invited to investigate together, through both on- and off-site collective actions, the rhythmic order of urban atmospheres.

In line with AEA, we understand routines and rituals as the embodied, rhythmic and spatial expression of the social structure and creation of meaning taking place. Within this frame, this research project connects two key spatial and embodied experiences. The first, in-situ, relating to the use of public space – the complex but common experience of place. The second, in the Atelier, relating to the re-activation and re-presentation of urban ambiances complexity.

Figure 2. Early Music Soundscapes, public improvisation, Gamla Stan, Stockholm, 2022

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47

METHODOLOGICAL APPROACHES AND PRATICAL APPLICATIONS OF AMBIANCES

Multisensory urban landscapes.
Exploring the connection between nature, ambiance, and well-being

Ines CABRAL[1], Ines Lima RODRIGUES[2], Sandra COSTA[3]
1. Sunroots, Portugal, minescabral@gmail.com
2. Iscte-IUL, Urbanism and Architecture Department, Portugal
3. Birmingham City University, UK

Abstract.
In increasingly urbanised societies, the disconnection from natural environments has contributed to rising stress levels, reduced well-being, and a narrowing sensory experience. This research explores how nature-based urban landscapes can be designed to enhance urban ambience through multisensory engagement, and reconnects people with natural rhythms, textures, and cues. By analysing case studies across Europe and beyond, this work identifies innovative and replicable practice within the urban landscape scene that offer activation and stimulation of the senses and demonstrate how sensory rich designed nature-based interventions can contribute to improve everyday sensory experiences and wellbeing.

Keywords:

Lightscapes, Smellscapes, Soundscapes, Thermal comfort, Sensory landscapes, Sensory gardens, Haptic experiences, Multi-sensory architecture, Urban Green Spaces, Nature base interventions, Sensory trajectories.

1.Introduction

In an era of climate instability and social fragmentation, the challenge of building more liveable cities goes beyond infrastructure. It demands a rethinking of how urban space is sensed, perceived, and experienced. Urban ambiances, the shared atmospheric qualities that emerge from sensory and spatial interactions, are increasingly central to the quality of public life. Therefore, it positions ambience as a key lens for an understanding of place, perception, and everyday urbanism.

Most urban dwellers work indoors, spending little time in contact with nature and thus becoming more vulnerable to stress. Research indicates that limited interaction with nature can negatively impact health and well-being, yet adequate contact has been shown to enhance both physical and mental health (Bowler et al., 2010; Frumkin, 2001), slow heart rate and improve health patterns (Daily 1997). The Attention Restoration Theory (Kaplan & Kaplan, 1989) proposes that the mentally fatiguing demands of modern, technology-driven environments, requiring sustained and effortful attention, can be alleviated through exposure to nature's multisensory qualities, such as visual complexity, soft sounds, and tactile richness, which together provide a restorative experience that helps renew cognitive function. For example, an exploratory study in Edinburgh (Qu & Ma, 2024) showed that adding tactile and olfactory elements, not only visual or sound stimuli, can significantly reduce stress, boost vitality and overall well-being.

Environments which are perceived as satisfying provide a high degree of immersion via sophisticated sensory engagement and in meeting expectations (Coles & Costa 2023):

People observe natural processes and landscape changes…; they appreciate the variety of rhythmical events, they respond emotionally and physically to the aesthetic qualities and attributes and it is the diversity of these processes that has the ability to evoke positive states... They are drawn by the diversity in vegetation and associated features, the sculptures and installations, water, benches, the topography, the sky, how views are framed and others revealed, … Different sensory cues are experienced, the scent of the roses, the sounds of the city, cars and buses, the sounds of nature, the sounds of water, of a fountain, the 'birds twitting', close or far off, textures of the leaves and the 'crunch' of the gravel. (Coles & Costa 2023, page 77)

Nature-based spaces and solutions that provide enhanced sensory experiences have been tested in many cities within and outside Europe. This paper focuses on how these can be designed and implemented with sensory awareness to promote comfort, health, and a renewed sense of place, highlighting research and case studies engaging multisensory perception, including sound, vision, light, smell, and thermal comfort and touch.

2. Methodology: Mapping and Categorizing Nature-Based Sensory Interventions

This study draws on a multi-pronged methodological approach combining qualitative case analysis, literature review, and typological categorisation. Drawing from fieldwork, photographic documentation, and secondary sources, we identify and analyse sensory interventions across various urban contexts. These are grouped according to dominant perceptual dimensions: Soundscapes (auditory perception), Lightscapes (visual and thermal perception), Smellscapes (olfactory perception), Tactile and embodied perception (haptics and thermal comfort). We adopt a comparative lens to understand how nature-based interventions engage different senses and how these sensory layers intersect to form cohesive urban ambiances. In parallel, we propose the **emerging concept of "sensory trajectories"** pathways through which people emotionally and physically engage with nature-enhanced urban space.

3. Case Studies looking for CitySenZ: Sound, Light, Smell, Thermal and Haptic Experiences Soundscapes

Cities are increasingly noisy due to traffic and other mechanical noises which lead to stress, impact on mental health and cognition (Van Hedger *et al,* 2019; Stobbe, et al, 2022), and reduced wellbeing. The sensory dimensions of sound and smell and the interplay between them are often underestimated in the design of urban spaces, yet they play a central role in how people respond to them emotionally, psychologically and memory wise. Studies by Alleta *et al* (2016) and Costa & Coles (2023) highlight how natural soundscapes, such as bird calls or flowing water, promote restorative experiences and community interaction by providing a shared sensory backdrop that encourages engagement, relaxation and reflection, as well as triggering memories, facilitating a deep reconnection with environments and others. More recently, Stobbe *et al.* (2024) showed that bird songs can increase cognitive performance supporting other findings on the restorative effects of natural sounds. These findings point to the value of integrating acoustic biodiversity into urban spaces, not only as ecological interventions but as tools for enhancing sensory experiences and interactions and, in turn, mental health. Cities like Brighton and Hove in the UK have made mandatory the installation of swift boxes and bee bricks in all buildings above 5 meters in new developments, supporting both birdsong and pollination through hosting solitary bees. Other interventions explore the interplay between art installations and natural elements in

order to evoke stronger sensory experiences involving water movement, wind breeze and biodiversity. Examples of these include the *Sea Organ* in Zadar (designed by Nikola Bašić, 2005) which creates an immersive atmospheric environment by actively engaging users through **sound, breeze, and visual motion underpinned by the dynamics of the waves and natural forces** Similarly, the Doug Aitken's "Sonic Mountain" installation in Sonoma, demonstrates how art installations can be activated and woven by nature. See more on Usue Ruiz, 2024.

Figures 1 and 2. Swifts in urban habitats in Alcochete, PT

Smellscapes

The integration of natural scents, particularly those generated by flowers, herbs, and soil, not only enhance sensory experience but also stimulate memory, and foster emotional regulation and evoke place attachment, (Herz, 2024). Spaces such as urban community gardens that grow aromatic and edible plants such as lavender, rosemary, and citrus, enrich olfactory environments while supporting biodiversity (Cabral et al, 2017) and embedding places with seasonal memories and emotional cues. The distinct scent of Petrichor, a wet soil scent after Spring rain, consisting of a compound called geosmin which is produced by a *Streptomycete* bacteria in the soil (Byamanda, 2020) is a notable example that is often difficult to experience in urban contexts due to most of the areas being impermeable. Some theories point out that our sensitivity to this scent is partly due to our primal instinct to find fertile soils and that our stronger connection as adults stems from being closed to the ground as a child. Urban gardening provides an opportunity to enjoy *Petrichor,* and many other sensory/haptic experiences (Figures 3 and 4). Beyond the significant impact on the community through the revitalisation of urban gardens in the city of Barcelona, the rooftop terraces were also explored to promote other sensory experiences in other cities as New York (Rodrigues & Clement, 2013). For more see Victoria Henshaw (2014) Urban Smellscapes.
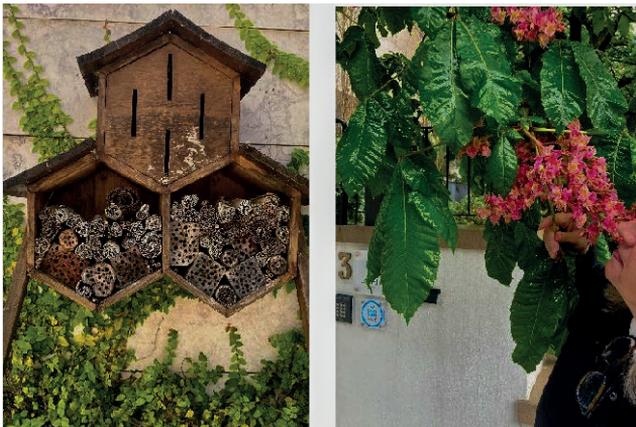
Figures 3 and 4 - flower scent and insect hotels at PN, Lisbon

Lightscapes

Lightscapes describe how the visual and experiential qualities of light and shade are shaped by, and interact with, natural elements and built structures to enhance how the space feels, sensory responses and individual well-being (Beute & de Kort, 2014). Examples of these include natural shading provided by trees, and vegetated pergolas but also the experience of rhythms, texture and patterns created by the trajectories of light through the canopy and the leaves, the water reflection and landform effect on light and shade (Coles & Costa, 2023).

A number of cities have used strategies inspired by biophilic defined structures and art installation as a way to connect with nature. This includes examples such as the use of artificial flowers in urban spaces like Largo Santo Antonio, Lisbon or downtown *Tomar* (figure 5) which cast shifting shadows and diffused sunlight that transforms the sensory experience of the street. The Bordalo II 's *Endangered Species* series, featuring pollinators, amphibians, and mammals made from coloured plastic waste (Figure 6), brings derelict urban spaces into places of visual intrigue and dynamic light interaction, served with layers of ecological, cultural and ambience narratives. The reflective, textured surfaces of these sculptures disseminate light in unexpected ways, adding layers of ambience that change with time of day and weather. Similar art installations have the power to activate public space, create immersive lightscapes, offer visual stimulus and promote sensory and ecological awareness. Like biophilic design integrates nature into our cities, biophilic art is a process that helps us to presence a connection with our natural selves. By summoning up the senses and sense experience, and becoming present in and with nature, a pause moment is created, which develops into a more discerning emotional awareness of our wellbeing and that of the ecological world we impact (https://www.biophiliccities.org/biophilic-art).

Figures 5 and 6. Mural at Museum of Santo Antonio, Tomar flower street, and Bordalo bee at Lx factory)

Tactile and Embodied perception

The skin is our biggest organ and one that regulates our body temperature. It is well known that our thermal comfort is important for the brain's proper functioning and sound reasoning. In warmer climates, traditional architectural features such as latticed screens, internal patios, and green corridors help regulate airflow and reduce radiant heat. Looking at southern European historical city centres we can identify traditional strategies for cooling down street like shading (canyon streets, vine ramadas, window screens) or evaporative cooling like jaalis, fountains, ponds in courtyards and cooling towers (Figures 7 and 8). Such features are not only functional but spatially expressive, shaping how bodies move and linger in space. Contemporary urban design can draw from these precedents to produce thermally comfortable and socially vibrant environments.

The 'Eco-Haptic' (Dunn, 2017; Gladwin, 2013) is associated with ideas concerning the sense of touch in relation to ecological associations and involves a "broad collection of sensory stimuli, reflecting on and how the body moves through the landscape, including being more consciously aware of the process of engagement, how the physical and emotional senses are responding" (Coles & Costa 2023, page 106). Many authors have made mention of haptic sensations as ways for perceiving the landscape (e.g. Lund, 2005), creating affinity and intimacy, a higher level of engagement associated with more positive states

Figures 7 and 8. Alfama green pergola and water fountain at PN, Lisbon.

and therapeutic feelings. Whilst conducting research at the Birmingham Botanical Gardens and at the Serralves Park, Costa & Coles (2023) examined how those environments were deeply explored and engaged through the gestures and the sense of touch: touching and picking leaves, running leaves on the water, feeling the branches skimming against the body, stepping on the leaves and listening to the crunchy sounds, hugging trees and feeling the textured bark, touching water and feeling the temperature, touching the gravel, getting closer... (Figure 9) These eco-haptic experiences represent purposeful and profound embodied interactions that are characterized by exploration and responsive contact with nature. Natural materials such as wood, soil, foliage, and water have the power to engage the skin, muscles, and sensory nerves, and we can draw on their attributes to design spaces that deepen emotional and sensory encounters with our urban landscapes.

Figure 9. Serralves Park, Porto & Birmingham BG

4. Conclusions

Rather than isolated interventions, the most effective nature-based sensory spaces contribute to a choreography of perception across time and space. We propose the idea of "sensory trajectories": movement paths that unfold multisensory experiences and emotional resonances. These can be mapped through ethnographic methods, geolocation tools, and sensory diaries to

gain a deeper understanding of how citizens navigate and experience the city. By charting these trajectories, designers and planners can move beyond functional or aesthetic goals to consider how urban nature produces meaning, memory, and connection. This paper argues for a shift in urban design practice from vision-dominated master plans to multisensory ecologies of care. By designing for ambiance, cities can become more inclusive, resilient, and inspiring. The concept of sensory trajectories aligns with CitySenZ's ambition to explore the sensory foundations of urban ambiance and expand the vocabulary of spatial justice and nature-based spaces as catalysts for sensorial, emotional, and cultural transformation. Accordingly, CitySenZ offers a unique platform to explore how ecological interventions can be documented, analysed, and prototyped as sensory experiences.

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Augmented Reality as a Mediator of Architectural Ambiances

Katarina Andjelkovic[1]

1. Atelier AG Andjelkovic

Abstract.

The emergence of immersive Augmented Reality (AR) environments marks a transformative moment for architectural practice, enabling the simulation of architectural ambiances through real-time, multi-sensory spatial experiences. The presentation explores Augmented Reality as a mediator of architectural ambiance, focusing on an analytical framework where real-time image representation is actively deployed within real architectural prototypes of heritage architecture. By integrating advanced digital technologies, Augmented Reality supplements traditional visualization and enables new forms of sensory engagement, fostering deeper user experience and critical reflection. This said, the presentation provides insight into the potential and challenges of Augmented Reality in simulating ambiance. The aim is to establish the relevance of Augmented Reality for simulating architectural ambiance and to ethically inform future practices by envisioning innovative formats for communicating architectural ideas.

Keywords:

Augmented Reality, Heritage architecture, Ambiance simulation.

Introduction

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Architecture has always been a discipline deeply intertwined with the technologies of representation. From the earliest hand-drawn plans to the mathematical rigor of Renaissance perspective, the act of envisioning space has been mediated through evolving visual languages. The late twentieth and early twenty-first century have witnessed a radical shift, as described by Jonathan Crary, in the very nature of visuality: "Computational media have not only replaced traditional drawing but have fundamentally altered the way architectural ideas are conceived, communicated, and experienced."[1] With the arrival of Augmented Reality environments, representational experimentation has extended the set of techniques to integrate advanced virtual production infrastructure (from the movie render and photo editing applications), but also implemented specific Augmented Reality techniques to supplement the user view with images of virtual objects in a real-time mode.[2] I argue the possibility of using immersive Augmented Reality environments for simulation to facilitate experiences of architectural ambiances. Unlike Virtual Reality (VR), which immerses users in entirely synthetic worlds, Augmented Reality overlays digital content onto the physical environment, creating a hybrid space where the real and the virtual coexist and interact. This unique affordance positions Augmented Reality as a powerful tool for simulating architectural ambiances—those elusive, multi-sensory qualities that define the experiential character of a space.

1. Crary, J. *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century*. Cambridge, MA: MIT Press, 1990.

2. The author of this paper widely discussed representational experimentation and how it extended the set of techniques to integrate Augmented Reality in practicing heritage architecture. Read more in: Andjelkovic, K. "EXPLORING ARCHITECTURE WITH IMAGE TECHNOLOGIES: FROM NARRATIVE FILM TO VR, AR AND MR NARRATIVE STRUCTURES." In *Yearbook of Moving Image Studies (2022)*

»Mixed Reality Images: Trilogy of Synthetic Realities III«, edited by Lars C. Grabbe, Patrick Robert-Kruse, Norberg M. Schmitz, 163-178. Marburg: Büchner-Verlag, 2023.

Definition of ambiance and the promise of AR
for ambiance-oriented design

Ambiance, as theorized by scholars such as Jean-Paul Thibaud[3] and Juhani Pallasmaa[4], refers to the atmospheric, affective, and sensory qualities of a space—qualities that are often difficult to capture through conventional visual representation alone. AR offers a paradigm shift by enabling designers and users to experience architectural ambiances in situ, before construction or after the architectural building or site have been demolished or ruined. Through real-time overlays of visual, auditory, and potentially other sensory data, AR can simulate the dynamic interplay of light, sound, texture, and movement that constitutes ambiance.[5] This opens up new possibilities for participatory design, user testing, and iterative refinement of spatial experiences.

This said, I will explore how AR can be leveraged as a mediator of architectural ambiances by focusing on its capacity to simulate multi-sensory spatial experiences. I will start from past examples of similar explorations whose authors claim that virtual layer can contain multisensory content, that is, content that stimulates each of our senses.[6] As Tanya Leighton claims, "Today it is quite clear that "architecture of the media age has finally set the observer in the central position of the analysis."[7] Consequently, my research will divert from the past explorations by taking Leighton's premise and setting the observer in the central position of the analysis to examine the context of real-life applications in heritage architecture. More precisely, I will open a new line of research asking how AR can open new avenues for spatial experience by actively engaging the user's body and senses in a dynamic relationship with augmented images and real space. The purpose of the presentation is to: 1) theorize the impact of AR on architectural representation and user experience; 2) analyze the technological underpinnings that enable multi-sensory simulation; 3) propose an analytical framework for integrating AR into ambiance-oriented design.

Reframing architectural representation: from visualization
to ambiance simulation

The history of architectural representation is marked by a pursuit of realism—first through perspective drawing, then through photorealistic rendering. These methods, while visually compelling, often fail to capture the full spectrum of sensory experience that constitutes ambiance. AR technologies offer a new paradigm, wherein the user's perception of space is mediated not only visually but through an orchestrated interplay of sensorial inputs. Unlike Virtual Reality, which immerses users in fully synthetic worlds, AR overlays digital information onto the physical environment, enabling a continuous negotiation between reality and augmentation. This hybridization allows for the

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3. Read more in: Thibaud, J.-P. "The backstage of urban ambiances: When atmospheres pervade everyday experience." *Emotion, Space and Society* 15 (2015): 39-46.

4. Read more in: Pallasmaa, J. *The Eyes of the Skin: Architecture and the Senses*. Chichester: Wiley, 2005.

5. This study discusses how AR systems integrate ambient visual and auditory elements in real time to enhance immersion and simulate complex environments, demonstrating how multi-sensory augmentation contributes to the perception of ambiance in mixed reality settings. Read more in: Cheng, M. T., She, H. C., & Annetta, L. A. "Game immersion experience: its hierarchical structure and impact on game-based science learning." *Journal of Computer Assisted Learning* 31(3), (2105): 232-253.

6. Nijholt, A. "Augmented Reality Humans: Towards Multisensorial Awareness," in Digital Economy. Emerging Technologies and Business Innovation." In ICDEc 2021. Lecture Notes in Business Information Processing, Vol. 431, 237-250. Cham: Springer, 2021. https://ris.utwente.nl/ws/portalfiles/portal/276565410/Nijholt2021augmented.pdf

7. Leighton, T. "Introduction." In *Art and a Moving Image: A Critical Reader,* edited by Tanya Leighton, 7-48. London: TATE Pub., 2008.

simulation of material qualities, lighting, acoustics, and spatial dynamics in real time, providing a more holistic sense of ambiance. As Carmigniani et al. note, AR enhances perception by providing computer-generated information within real-life contexts, thus offering a more complete sense of the objects and spaces around us. In architecture, this means not only visualizing structures but experiencing their atmospheres, their moods, and their affective impact.[8] The integration of AR into architectural practice has shifted the focus from static visualization to dynamic simulation, where ambiance is experienced as an evolving, interactive phenomenon. This development indicates a need for new analytical frameworks that prioritize real-time image representation as a means of prototyping and evaluating ambiance in situ.

Toward an analytical framework: real-time image representation in ambiance prototyping

Central to the simulation of architectural ambiance is the capacity for real-time image representation. The process involves the active deployment of digital content—visual, auditory, and potentially tactile or olfactory—within a physical context, enabling users to experience and assess ambiance as it unfolds. The analytical framework for AR-based ambiance simulation can be structured around the following components: 1) Spatial mapping and environmental scanning: utilizing LiDAR, photogrammetry, or depth sensors to capture the geometry and materiality of the site, forming the basis for digital augmentation. 2) Dynamic content integration: designing and overlaying virtual elements—such as lighting scenarios, material textures, and soundscapes—onto the physical environment, synchronized with user movement and environmental conditions. 3) User interaction and kinesthetic feedback: employing motion tracking and real-time feedback to ensure that the user's movement and bodily presence actively shape the ambiance experience. 4) Iterative prototyping and evaluation: engaging users in immersive walkthroughs, collecting feedback, and refining the ambiance simulation to align with design intentions and user needs. This framework positions real-time image representation not merely as a visualization tool, but as an active mediator of spatial experience, enabling architects to prototype, communicate, and iterate on ambiance-oriented designs with greater precision and sensitivity.

Immersive experience and kinesthetic engagement

The immersive potential of AR lies in its ability to engage the user's body as an instrument of perception. Building on the philosophical insights of Bergson, Massumi, and Hanson, the kinesthetic approach recognizes that spatial experience is fundamentally embodied. AR environments, by tracking and responding to user movement, allow for the simulation of a body's kinesthetic relationship with space—walking through a space, perceiving shifts in light and sound, interacting with virtual objects—that are essential to the experience of ambiance. Recent educational experiments, such as those at ETH Zurich, demonstrate that users in mixed reality environments describe space less in terms of static features and more in terms of movement and interaction.

As Beatrix Emo observes in her paper, "when describing the project in Mixed Reality students referred more to the movement through the building than about space.[9] This suggests that the experience and presentation of space in Mixed Reality appears to be based more on the movement in space, than by a fixed observer."[10]

Recent studies support the argument by claiming that users interacting with 3D real-size AR materials exhibit enhanced spatial perception, as evidenced by longer and more varied gaze movements and richer spatial descriptions related to depth, height, and width. Kim, Xiang, and Ryu's findings highlight how AR facilitates an embodied spatial experience where the user's movement and visual engagement dynamically shape their perception of space, thus emphasizing the interplay between physical space, digital imagery, and bodily interaction.[11] These studies collectively support the assertion that AR-based simulations open new avenues for spatial experience by actively engaging the user's body and senses in a dynamic relationship with augmented images and real space.

By extending the kinesthetic approach into the digital realm, AR enables the development of analytical frameworks where real-time image representation is not passive but actively shaped by the user's presence and actions. This participatory model of ambiance simulation aligns with contemporary shifts toward user-centered and experiential design.

Technological infrastructure: hardware, software, and creative toolsets

The realization of AR-based ambiance simulation depends on an evolving ecosystem of hardware and software. Modern AR devices—ranging from smartphones and tablets to head-mounted displays—are equipped with sensors for motion tracking, depth perception, and environmental mapping. These capabilities support the seamless integration of digital content with physical space, enabling real-time, context-sensitive augmentation. Software platforms such as Unity[12] and Unreal Engine provide robust toolsets for creating interactive, multi-sensory experiences. These platforms facilitate the design and deployment of virtual elements, from photorealistic lighting and materials to spatial audio and haptic feedback. The convergence of AR with virtual production techniques from film and gaming further expands the creative possibilities, allowing for the simulation of complex ambiance scenarios. The technical infrastructure thus supports not only the visualization of heritage architecture but their simulation as lived, multi-sensory experiences. This shift from representation to simulation is foundational to the development of ambiance-oriented design methodologies.

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9. As Beatrix Emo concluded in her paper, "when describing the project in Mixed Reality students referred more to the movement through the building than about space. This suggests that the experience and presentation of space in Mixed Reality appears to be based more on the movement in space, than by a fixed observer" (Emo, Gerber and Hoelscher 2021, 115-122). Read more in: Emo, B., Gerber, A., and Hoelscher, C. "User centered spatial thinking in architectural design with mixed reality." In *Towards a new, configurable architecture. Proceedings of the 39th eCAADe Conference* Vol. 2, edited by V. Stojakovic and B. Tepavcevic, 115-122. Novi Sad: University of Novi Sad, 2021.

10. Ibid.

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Conclusion

As architecture continues to integrate computational media, AR stands at the forefront of a new era in which ambiance is not merely represented but actively experienced, negotiated, and co-created. The challenge and promise of this shift lie in harnessing AR's potential to foster more vibrant, inclusive, and ethically grounded architectural environments.

In conclusion, immersive AR environments represent a transformative opportunity for simulating and facilitating experiences of architectural ambiance. By foregrounding real-time image representation within real prototypes, AR enables architects to communicate, prototype, and iterate on ambiance-oriented designs in ways that were previously unimaginable. The analytical frameworks developed for AR-based ambiance simulation position digital technologies as essential tools for creating, evaluating, and ethically stewarding the sensory qualities of space. While challenges remain, particularly in balancing technology with authenticity and ethics, AR's capacity to prototype, evaluate, and communicate ambiance establishes it as a critical tool for contemporary practice. Ultimately, integrating AR into architecture has the potential to redefine how we perceive, design, and experience spaces for future generations.

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Short Biography

Katarina Andjelkovic, Ph.D., M.Arch.Eng., M. Applied Arts, is a theorist, practicing architect, researcher, and painter. She specializes in translating ideas across architecture, visual arts, and film. She has held teaching positions at Coburg University, Columbia University, Morgan State University, and the University of Oklahoma, Institute of Form Theory and History (Oslo), Institute of Urbanism and Landscape (Oslo), the University of Belgrade; and guest lectured at TU Delft, AHO Oslo, FAUP Porto, DIA Anhalt Dessau, SMT New York and ITU Istanbul. Andjelkovic lectured in over 45 countries and published her research widely in international journals (Web of Science), including book chapters and monographs with Intellect United Kingdom, Routledge, the University of Chicago Press and Büchner Verlag Germany. Katarina is an award-winning researcher and artist, exhibited in 90+ international shows and received numerous honors, including the EDRA 2022 Ambassador Fund Award (United States) and several European research grants.

Documenting local affordances' repertoires by inquiring engagements and attachments.
Methodology of user experience inquiry to produce data for Ambiental design

Olivier OCQUIDANT[1]
1. Telecom Paris – Institut Interdisciplinaire de l'Innovation (I3), SES, Interact.
   olivier.ocquidant@telecom-paris.fr

Abstract.
This paper synthetizes the theoretical and methodological frameworks of an inquiry of attachment and engagement – or ethnography of experience. It is based on an interdisciplinary approach relying on pragmatist micro sociology, ecology of perception, urban ambiances studies and photography. It aims to grasp the yarn of walker experience's composition. Some experience-scapes or lines of experience's composition are shortly presented as empirical outcomes. Finally, the article discusses the need of records and paths that could help to consider these experiential and ambiental entities.

A basic observation gave rise to this paper. It is the astounding lack of landscape and ambiental care, actions or even culture most of the urban, suburban or even rural environments where I pass through in France let me experience. An urgent necessity arises to deal with this issue. The approach is based on several researches conducted since 2016 that question experience and environment shaping through walking, especially in a four years ethnographic study of urban experience that I conducted during my thesis.

Theoretical framework

The way I grasp environments by walking, is inspired by Thibaud (2015) and Joseph (1998), but it purposes a different framework. By seizing the making of experience, it inquires situations of attachment and detachment (Hennion, 2009), engagement or dis-engagement (Goffman, 1971). It is a frame analysis (Goffman, 1986) of the ordinary experience (Dewey, 2005) that any mobile animal involves with its entourage (Gibson, 1979). Those experiential, attachment and engagement processes are caused by motives. The inquiry has to seize these assemblages in order to consider, care or even monitor them. As Gibson (1979) showed, every mobile animal constructs his engagement being attentive to the signs of the micro boundaries of the changing environment (entry and exit). As my inquiry showed in a city, walkers are aware of these "milieux" and their boundaries. Dewey (2005) showed that experience is a process, an "esthetic" achievement characterized by constant micro adjustments in order to be reached. Experience and engagement are constantly modulated but are still following the yarn of a "mobile wave of relevance" (Goffman, 2010) – that can be inquired. The entities that support the "qualcul" (Callon, Law, 2005) that permit to "float" (Joseph, 1998), should be public matters of concern as well-being motives.

Methodological framework

Grasping this material can be reached by unthematized "commented walks" (Thibaud, 2015) or experiential accounts, in a cooperative ethnography and modest investigator posture (Joseph, 1998) that translate people's experience. I also used auto analysis insights that account the weaving and unweaving of my own experience, relying on Laplantine's (2003) work. I expanded this methods toolkit with a photographic inquiry methodology serving this auto analysis (Occuidant, forthcoming). I used photography as an inscription tool of the inquiry of attachment while walking (Renoux, Petiteau, 2018), seizing configurations of a set of elements that afford ease, attachments. Correlated with in situ vocal or written notes, photography is a way to inquire visual compositions that make up ease or attachment or sites where something happens perceptively and affectively, notably by a reflection on the framing process that question the relation between the elements through the image. If photograph come after experienced moment and try to translates it, its features allow a reconstruction that relaunch the inquiry process afterwards. These allows to question the lines of experiential intrigue, seizing the various entities involved in it, acknowledging and tracking them. This is a way to inquire landscape and the entities that build (or undo) its propagation (Corajoud, 2010). At last, studying gazes in movement with eye-tracker permit to locate and interrogate the continuity and the loss of engagements, by examining patterns of eye's movement (Spanjar, Suurebroek, 2020; Cerclet, Kapoula, 2020; Hollander et al, 2019). When walkers lose the yarn of their engagement, a phenomenon of speed and seeking gaze can be observed. At the opposite, the stability of engagement is observable by a quite regular gaze movement and long enough pauses (Cerclet, Occuidant, 2023; Fotios et al, 2015; Simpson et al, 2019). What do people look at, which entities are considered as signs of boundaries of others "milieux" and trouble engagement, appear in eye-tracker data. The (in)stability of both gaze conduct and engagement are correlated. These data also permit to conduct auto confrontation interviews about what have been perceived and how, seizing the intrigue of experience that took place (Duchowski, 2017).

Empirical outcomes

During four years, I studied the experience of a post-industrial city – Saint-Etienne – seizing processes of valuation involved in ordinary experience (Bidet et al, 2011; Dewey, 2005; Yaneva, 2020) and their affordances. The "mobile wave of relevance" (Goffman, 1971) that shapes experience walking in the city, is a modulated assemblage. These attachments and experiential engagements rely on all types of elements – sensitive, dimensional (width and continuity), pragmatical, socio-historical or interactional – as long as they have the function to support the continuation of the experiential intrigue. I grasped attaching "substances" (Gibson, 1979): light, perspective view, chromatic fields – specially the grey one (fig. 1) –, heat perception. They are "substances" because people dive in them, and navigation is reconfigured (Psathas, 1976). I seized other kind of entities that constitute local "experience-scape" synthetizing the form of the city: crossing passages, vegetal fabric and lines, but also history, architecture, memory. The important outcome was that dwellers I walked with, knew which "lines of interest" were able to achieve their ease, their experience: passage, vegetal paths, water lines, pieces of minor architecture (Giovannoni, 2024). These environmental forms were shaped through the common knowledge of their daily experiences. By contrast, the unsuitable city was appearing. These elements show that paying attention to ordinary experience do lead to acknowledge affordable assemblages, all characterized by their quality to support engagement, expand ease, and enhance attachment. With photographic short inquiries leaded in

Lyon and Grenoble afterwards, the lived and used aspect of material (road, pavement, walls) made up lines of interest conducting navigation in some districts. The expansion of these phenomena was variable some at place scale, other at district scale. The outcome is that nodes or composed networks (fig. 2) are graspable in some places (and uncomposed in others) and can be tracked and inquired through their expansion, variation and their loss. Sometimes, the relevance is about the relative quantity of sky and ground in the urban fabric. Sometimes it concerns the proliferent quality of vegetation responding to lived traces of the wall, rests of earth and herb appearing between building (fig. 3). Those networks of congruent elements that shape experience, ease and pleasure, can be tracked by walking, by shooting. All of these elements have in common a high connective and propagating function in the entourage (fig. 4). The end of their expansions was also triggered by similar motives of disdain for these interstitial entities and sentient gauges that I was sensitive to (Occquidant, forthcoming).

Figure 1. Grey Inquiry Serie. St Etienne. O. Occquidant. 06-07-18.

Figure 2. Tracking earth and used material Serie. Grenoble. O. Occquidant. 03-04-23.

Figure 3. Vegetation Expansion Serie. Grenoble. O. Occquidant. 21-03-24

Figure 4. Tracking Multi-colored Signs Serie. Edinburgh. O. Occquidant. 24-06-25.

Discussion

This framework permits to collect attaching entities and local affordances by walking, and to comprehend their regime of existence, the situations and causes of their live, expansion and disappearance. These entities need to be recorded and collected in order to be scripted in the parliament of things. How to enhance a public concern for such ambiental or landscape lines? We should rely on naturalist amateurs' practices of records through patches and squares (Manceron, 2025). We also need to build paths, especially around the cities and suburbs (Pichon, Serra, forthcoming), these paths being the corridors that assemble landscape as matrix of heterogeneous and interdependent elements (Dajoz, 2019). We can have in mind the intricated types of actions purposed by Latour and Hermant (1998):

- *Traversing,* to collect ambiental relevant entities.
- *Proportioning* them as networks of dependent elements.
- *Distributing* them in lines and paths. - *Allowing* their processing.

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66

Empathic Narrative Inquiry as a Tool for Exploring Lived Hospital Ambiances, case study: Algerian healthcare facilities.

SOUNDOUSS ISMAHANE TALANTIKITE [1], OUASSILA BENDJABALLAH [2], AHMED OUARET [3]

1. Department of Architecture, Faculty of Technology, University of Bejaia, 06000 Bejaia, Algeria, soundoussismahane.talantikite@univ-bejaia.dz
2. Department of Architecture, Faculty of Architecture, University of Constantine 3 Salah Boubnider, Algeria, oussila.bendjaballah@univ-constantine. dz
3. Laboratory of Industrial and Information Technology, Faculty of Technology, University of Bejaia, 06000 Bejaia, Algeria. ahmed.ouaret@univ-bejaia.dz

Abstract.

This research, drawn from doctoral thesis work, develops and validates an empathetic narrative inquiry methodology for exploring patients' lived spatial experiences in psychiatric and neurological hospital environments, addressing limitations of traditional post-occupancy evaluation methods with vulnerable populations. The methodology integrates oral, visual, and written narrative techniques within an empathetic framework centered on researcher-participant emotional resonance, visual cues, situated speech, and compassionate active listening. Applied over four years across three Algerian healthcare establishments (Ibn Sina and Benbadis University Hospitals' neurology services, and El Razi psychiatric hospital), the approach generated 322 semi-structured interviews in psychiatric units and 53 questionnaires in neurology services. Rigorous qualitative analysis revealed significant perceptual invariants across patient populations, clearly defined comfort and discomfort zones, and specific sensory friction points related to architectural elements. Results demonstrate that empathetic narrative inquiry effectively captures rich qualitative data anchored in lived spatial experiences, transcending conventional evaluation limitations. This methodology opens promising perspectives for more sensitive and inclusive healthcare architectural design approaches, establishing a robust tool for accessing user experiences in healthcare establishments serving vulnerable populations.

Keywords:

Ambiances, Narrative Inquiry, Empathy, Healthcare facilities, Algeria.

Introduction

Hospital environments profoundly influence patient well-being through complex interactions between architectural design, spatial organization, and human perception.

Traditional post-occupancy evaluation (POE) methodologies in healthcare establishments often privilege quantitative measures and objective evaluations, potentially obscuring the nuanced subjective experiences of patients who inhabit these spaces daily. This limitation becomes particularly pronounced when working with vulnerable populations in psychiatric and neurological environments, where cognitive alterations can fundamentally affect spatial perception and environmental interaction.

This research builds upon a theoretical convergence between architectural atmosphere, environmental docility, and empathetic design to conceptualize hospital space through the lens of vulnerable users' experiences. Atmosphere, according to Adolphe (1998), constitutes the interface between physical

properties of space and individuals' perceptual subjectivity, providing an essential framework for understanding spatial configurations' impact on patients' emotional and sensory experiences. This approach is reinforced by environmental docility theory (Lawton & Nahemow, 1973), which demonstrates that as individuals' functional capacities decrease, their dependence on environmental support increases. In healthcare settings, this vulnerability creates heightened responsibility for designers to anticipate the cognitive and affective effects of space on patients with neurological or psychiatric disorders.

Empathetic design (Norman, 2004; Mattelmäki, 2006) responds to these challenges by proposing approaches attentive to subtle signals of human experience, valuing active listening and co-creation with users. This methodology complements traditional evaluation methods by integrating experiential dimensions often inaccessible through quantitative tools alone.

Emerging from four-year doctoral fieldwork conducted across several Algerian healthcare establishments, specifically targeting patients suffering from depression in psychiatric and neurological environments, this study develops and validates an empathetic narrative inquiry methodology capable of accessing the lived experiences of patients whose cognitive and perceptual capacities may be altered by their medical conditions. This qualitative, embodied approach represents an indispensable condition for meaningful improvement in the architectural quality of care environments.

Research Methodology

Site Selection and Justification

The selection of healthcare establishments followed specific criteria designed to ensure representative sampling across different institutional contexts and patient populations, taking into account regional demographic data (O.N.S., 2019):

- Ibn Sina University Hospital, Annaba (Neurology Service)
- Benbadis University Hospital, Constantine (Neurology Service)
- El Razi Specialized Psychiatric Hospital, Annaba

These institutions represent major healthcare establishments in eastern Algeria, serving significant populations from surrounding regions.

Fundamental Components of the Empathetic Approach

The empathetic narrative inquiry rests on four essential methodological pillars:

- Researcher-Participant Emotional Resonance: Establishment of an authentic empathetic connection allowing the emergence of sincere emotional expressions concerning spatial experience.
- Visual Cues and Multimodal Supports: Integration of visual elements facilitating expression for participants with verbalization difficulties, particularly relevant for populations with cognitive alterations.
- Situated and Contextual Speech: Conducting interviews in secure and calm environments, allowing participants to refer directly to their immediate spatial experience.
- Compassionate Active Listening: An attitude of deep and benevolent listening, creating a space of trust conducive to the expression of vulnerabilities and subjective experiences.

Progressive Implementation of Empathetic Narrative Inquiry and adaptation to the context

The implementation of the empathetic narrative inquiry methodology followed a structured chronology and respected Ethical Considerations and Consent. Ethical approval was obtained through a two-step process involving research committees of participating hospitals. Oral consent was obtained for each interview conducted, preserving respondent anonymity throughout the research process.

Phase 1 (October 2018): 19 questionnaires distributed in the neurology service of Ibn Sina University Hospital in Annaba, using more conventional techniques, namely a self-administered questionnaire and a semi-directive interview. Investigations revealed scattered and potentially inconsistent responses due to several factors: hospital infrastructure conditions, patients' socio-economic and intellectual levels, religion, and the "white coat effect."

Phase 2 (February 2019): 34 responses collected at Benbadis University Hospital in Constantine, implementing a new protocol applying narrative techniques of active listening and emotional resonance.

According to the patient's general condition, good willing and mental capacity, two modalities of empathetic narrative inquiry were employed: Questionnaires completed by the patient and questionnaires that I complete myself with the patient's presence. I remain present to listen and accompany the patient throughout the entire procedure.

In some cases, patients wanted to change their response after a few days of reflection on the space of their room.

Phase 3 (June 2019 - February 2020): developing the protocol over 322 semi-structured interviews combining visual and oral techniques refining Empathetic Narrative Inquiry techniques, combining active listening and emotional resonance in various psychiatric units of El Razi Hospital in Annaba.

Adaptation to Psychiatric Context

In the psychiatric establishment, security specificities required particular methodological adaptations. Patients housed in units without doors (box configuration) for medical surveillance required a particularly sensitive empathetic narrative approach. Surveys were conducted during daily outings in gardens, targeting the most stable patients with access to these outdoor spaces. This approach allowed for creating a less institutional environment conducive to narrative expression. According to the patient's general condition and mental capacity, three modalities of empathetic narrative inquiry were employed:
  - Oral Empathetic Narration: Interviews conducted in outdoor spaces with medical agreement and patient consent, using compassionate active listening (building a relations based on trust).
  - Mediated Empathetic Narration: Interviews with medical teams (nurses, psychologists, psychiatrists) or family members, exploiting existing trust relationships.
  - Visual Empathetic Narration: Integration of visual cues and spatial sketching to facilitate expression for patients with verbalization difficulties.

69

Methodological Validation and Psychometric Considerations

This work was developed within the framework of a thesis conducted over 7 years (Talantikite Soundouss Ismahane, 2021). The results of the second phase were published in 2021 (Talantikite SI, Bencherif M., 2021). In this research paper, data analysis employed a mixed approach combining thematic qualitative analyses and descriptive quantitative analyses. Pearson bivariate correlations were calculated to examine relationships between environmental and perceptual variables.

Qualitative analysis used a thematic coding framework to identify recurring patterns in patient narratives, allowing the emergence of conceptual categories related to lived spatial experiences. The internal validity of developed instruments was evaluated using Cronbach's alpha coefficient to measure the internal consistency of scales. Exploratory factor analysis, using Kaiser's criterion and Cattell's scree test, identified underlying dimensions of reported spatial experiences. Normality tests were applied according to techniques described by Rakotomalala to validate statistical approaches used in quantitative data analysis. The psychometric validity of instruments was established according to Nunnally and Bernstein standards.

Results and Discussion

This research makes a significant methodological contribution to architectural analysis in hospital settings, mobilizing empathetic narrative inquiry as a vector for accessing the spatial lived experience of vulnerable patients. This qualitative, human-centered approach allows overcoming the limitations of conventional evaluative methods by articulating sensory data, life narratives, and emotional expression. In this sense, it constitutes a bridge between objective measures of space and the intelligibility of subjective experiences, as suggested by Visser et al. (2005) on the value of empathetic methods in user-centered design.

The iterative and longitudinal character of the approach -- conducted over four years in various Algerian establishments -- allowed progressive adaptation of tools to local sociocultural, institutional, and clinical realities. This contextualization process aligns with the principles of design research applied to health (Sanders & Stappers, 2008), where method development is constructed in contact with the field and the people concerned.

The major innovation lies in expanding the classical narrative framework through the integration of multimodal supports -- visual, oral, written -- facilitating the participation of patients with altered cognitive and linguistic capacities. This methodological hybridization aligns with perspectives developed by Mattelmäki (2006) and Stickdorn et al. (2011) on sensitive devices for experience collection, particularly relevant in psychiatric or neurological care contexts.

Thus, empathetic narrative inquiry, as experimented here, presents itself as a rigorous, adaptable, and deeply ethical tool, capable of accounting for the impact of architectural space on publics often silent or under-represented in classical architectural evaluations.

This methodology created secure spaces for patient expression, allowing participants to articulate complex spatial and emotional experiences that traditional questionnaire approaches might not capture. Indeed, during the survey work carried out during phase 2, the change of opinion of certain

patients (although they represent a minority and we did not take this factor into consideration during this research work) demonstrates an awareness regarding spatial ambiance, or the trust relationship built with the respondent has made it possible to reach and express it.

Study Limitations

The study acknowledges several limitations influencing the interpretation and generalizability of results. The relatively small number of participants, constrained by service capacity and study design, limits statistical power for quantitative analyses.

Questionnaires were specifically adapted for this study context, as existing literary prototypes did not align with local conditions and specificities of Algerian hospital structure. However, preliminary investigations including patient interviews and staff workshops reinforced questionnaire validity.

Conclusion

This research establishes empathetic narrative inquiry as a robust and humansensitivitycentered methodology for exploring lived spatial experiences in healthcare establishments. The developed approach transcends the limitations of traditional evaluation methods by creating authentic methodological spaces for patient experience expression, particularly relevant for vulnerable populations. Results demonstrate that the integration of emotional resonance, compassionate active listening, and multimodal narrative techniques can reveal deep spatial insights inaccessible through quantitative approaches alone. This methodology opens promising perspectives for more sensitive and inclusive approaches to healthcare establishment design, positioning research at the productive intersection of architectural theory, environmental psychology, medical sociology, and cognitive sciences. Broader adoption of empathetic narrative inquiry could transform evaluation and architectural design practices in healthcare, creating environments truly centered on human experience and patient well-being.

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73

METHODS AND TOOLS
FOR DESIGNING THE AMBIANCES

In-motion Urban Ambiances: Assessing Walkability and Safety Perception Through Immersive Virtual Reality Simulation

Barbara Ester Adele PIGA[1], Ziqi CUI[2], Carlotta COLONNA[3], Andrea PICARDI[4], Chiara MANINETTI[5], Simone PIERSIGILLI[6], Gabriele STANCATO[7], Riccardo BARBIERI[8], Luca MAINARDI[9], Lorenzo MUSSONE[10], Giandomenico CARUSO[11], Nicola RAINISIO[12], Marco BOFFI[13]

1. Politecnico di Milano – Department of Architecture and Urban Studies (DAStU), Italy, barbara.piga@polimi.it
2. Politecnico di Milano – Department of Architecture and Urban Studies (DAStU), Italy, ziqi.cui@polimi.it
3. University of Milan – Department of Cultural and Environmental Heritage, Italy, carlotta.colonna@unimi.it
4. Politecnico di Milano – Department of Mechanical Engineering, Italy, andrea.picardi@polimi.it
5. Politecnico di Milano – Department of Electronics, Information and Bioengineering (DEIB), Italy, chiara.maninetti@polimi.it
6. Politecnico di Milano – Department of Mechanical Engineering, Italy, simone.piersigilli@polimi.it
7. Politecnico di Milano – Department of Architecture and Urban Studies (DAStU), Italy, gabriele.stancato@polimi.it
8. Politecnico di Milano – Department of Electronics, Information and Bioengineering (DEIB), Italy, riccardo.barbieri@polimi.it
9. Politecnico di Milano – Department of Electronics, Information and Bioengineering (DEIB), Italy, luca.mainardi@polimi.it
10. Politecnico di Milano – Department of Architecture, Built Environment, and Construction Engineering, Italy, lorenzo.mussone@polimi.it
11. Politecnico di Milano – Department of Mechanical Engineering, Italy, giandomenico.caruso@polimi.it
12. University of Milan – Department of Cultural and Environmental Heritage, Italy, nicola.rainisio@unimi.it
13. University of Milan – Department of Cultural and Environmental Heritage, Italy, marco.boffi@unimi.it

Abstract.

This study proposes a protocol for evaluating walkability and perceived safety through Immersive Virtual Reality (IVR), combined with the experiential Environmental Impact Assessment (exp-EIA©) method. The protocol consists of two main phases: the first focuses on the creation of a high-fidelity IVR scenario simulating an urban walking environment; the second involves participant engagement and data collection procedures. Participants navigate the virtual scenarios using a guided locomotion system while their psychological and physiological responses are recorded. Data collection includes IVR-based questionnaires, wearable sensors (e.g., heart rate, skin conductance, eyetracking), and contextual urban data (e.g., traffic flows, crosswalk dimensions). This multi-dimensional framework allows for in-motion assessment of pedestrian experience and provides a repeatable method for generating highquality datasets. The structured protocol developed in this study is designed to ensure the collection of reliable, multimodal data, enabling the analysis of correlations between environmental features and pedestrian responses. Ultimately, the aim is to support evidence-based planning and promote peoplecentered urban design.

Keywords:

Urban Walkability, Immersive Virtual Reality, Protocol Development

Introduction

Urban environments play a crucial role in shaping pedestrian behavior and well-being. However, contemporary urban planning often prioritizes vehicular traffic and infrastructure efficiency over pedestrian comfort and safety, leading to compromised walkability and perceived safety (Southworth 2005).

Walkability is influenced by factors such as connectivity, accessibility, comfort, aesthetics and safety (Ewing and Handy 2009). Traditional methods of assessing walkability - such as GIS-based indices or on-site audits - often fail to capture the dynamic and subjective nature of walking experiences (Zacharias 2001). Perceived safety is shaped by both physical (e.g., lighting, visibility) and social factors (e.g., perceived crime risk) (De Vos et al. 2022). Assessing walkability from an in-motion perspective remains challenging, as human experience varies across short distances and lacks standardized measurement approaches (Piga et al. 2023). This necessitates a framework that can effectively simulate real-world environments while collecting multisensory and multimodal data (Shi et al. 2022).

Recent advancements in Immersive Virtual Reality (IVR) technology offer a promising solution, enabling high-fidelity urban simulations and controlled manipulation of environmental variables while eliciting natural user responses (Boffi et al. 2022). Previous studies have used IVR to explore architectural preferences (Thomas, Piekarski, and Gunther 2001), perceived crowding (Yuan et al. 2025), and restorative qualities of green spaces (Browning et al. 2020), yet few have addressed walking experiences in complex scenarios such as intersections or crossings. In addition, the experiential Environmental Impact Assessment (*exp-EIA©*) framework (Piga et al. 2023) is a qualitative-quantitative method developed to assess the experiential impact of environmental design. It involves collecting data on users' cognitive, emotional, and physiological responses to build environments. Integrating *exp-EIA©* with IVR allows for a rich, multi-layered analysis of pedestrian experiences in simulated conditions.

In response to these considerations, this study develops a protocol which introduces an innovative approach to evaluating walkability and safety perception through IVR. The proposed method combines IVR with the *exp-EIA©* method to capture and analyze pedestrian experiences in simulated urban environments. The primary goal is to generate data-driven insights that can guide people-centered urban design and planning.

Protocol development methodology
High-fidelity virtual environment development

The protocol employs 3D modeling software to construct a high-fidelity virtual environment, aiming to closely replicate real-world urban environments to enhance immersive experiences. An example of the result is shown in Figure 1, which illustrates a real-world urban intersection and its closely modeled virtual replica. The modeling process involved several key components: Reconstructing building volumes and street layouts from GIS footprints and 3D data; Reproducing surface details, such as pavement textures, materials, cracks and obstacles; Incorporating urban furniture (e.g., streetlights, traffic lines, bins); Carefully selecting vegetation types, including tree species, height, and the diversity of ground cover such as soil and fallen leaves; Simulating ambient sounds like traffic

and human conversation; Modeling dynamic elements such as moving vehicles and pedestrians; Integrating realistic lighting, including natural sunlight, shadows, and weather conditions.

Both the current street condition and alternative intervention design scenarios are to be fully modeled and optimized for use in Head Mounted Display (HMD) systems, navigated via handheld controllers.

Figure 1. Example of comparison between digital model and real word settings, The authors, 10/06/2025

Locomotion system design and testing

To ensure a smooth IVR walking experience, reduce motion sickness, and enhance immersion, the authors designed and tested the locomotion and interaction system in a previous study. Among the tested options, the pointer-based navigation method was selected as the preferred solution and envisioned for the protocol (Colonna et al., 2025). In addition, the authors developed a user-friendly interaction User Interface (UI) for filling the exp-EIA© questionnaires directly in IVR, allowing participants to report their experiences seamlessly.

Data collection method

This protocol employs a multi-dimensional data collection strategy to study a 10-minute walk along an urban street segment that includes four street crossings, integrating urban features with subjective responses across four main domains:

Psychological Measures: Psychological responses are assessed using the exp-EIA© questionnaire (Piga et al. 2023) to evaluate emotional reactions (Russell and Pratt 1980; Betella and Verschure 2016) both at crossings and pedestrian spots, environmental preference at pedestrian spots (Kaplan, Kaplan, and Brown 1989), anxiety-related state (State Anxiety Inventory) (Stefana et al. 2023; Valente et al. 2025) and perceived safety at crossings. The points for evaluations were selected by the authors based on their environmental relevance during the path.

Behavioral Data: Participants' behavior is recorded through a combination of sensors integrated into the virtual reality headset (e.g., head and eye-tracking) and system logs generated by a real-time immersive simulation platform, namely an interactive 3D development engine that enables the continuous recording of user interactions, spatial trajectories, and event-based behaviors within the virtual environment.

Physiological Measures: Real-time physiological responses are captured using wearable devices that collect physiological measures such as gaze tracking and pupillometry, electrodermal activity (EDA), blood volume pulse (BVP), and electrocardiogram (ECG). These physiological indicators provide objective metrics related to arousal, attention, stress, and emotional states.

Urban Metadata: Contextual environmental data are to be recorded, from macro (e.g., building height, street width) to micro-scale elements (e.g., signage, benches), and dynamic conditions (e.g., traffic flow, people flow).

Volunteer recruitment and walking experiment

The protocol envisions a participant recruitment process that aims to involve at least 100 individuals to enable meaningful analysis of their reactions along a ten-minute walk. The sample has to be balanced by gender and age, stratified into four groups, e.g. 18– 33, 34–49, 50–65, and 66–80 years. The protocol includes a virtual walk through two immersive urban scenarios, for instance the current street condition and a proposed redesign, that has to be presented in random order to participants.

The experimental procedure lasted approximately one hour and consisted of four main phases: 1) *Reception and Administrative Setup*: Welcome, verification of consent forms (privacy and audio-visual recordings, ideally pre-signed at registration), and confirmation of socio-demographic data. 2) *Device Setup and Acclimatization*: Fitting physiological sensors and the HMD headset, followed by time for participants to familiarize themselves with navigation and the questionnaire interface. 3) *IVR Navigation and Data Collection*: participants complete the first virtual walk (randomly assigned), during which physiological, behavioral, and psychological data are recorded. After a short break without the headset, they continue with the second scenario. Data is collected continuously throughout both sessions. Data is collected continuously during both sessions. 4) *Device Removal and Sanitation*: Wearable equipment is cleaned and prepared for the next participant. During IVR walking, participants remain stationary and simulate walking using handheld controllers. They are free to look around and navigate at their own pace, guided by an audio track that provides orientation cues. The controllers enable movement, stopping, and interaction with environmental stimulus, replicating naturalistic walking behavior within a fixed physical space.

By varying urban design conditions while controlling for other environmental factors (e.g., traffic flow, pedestrian density, weather, and ambient sound) the protocol enables us to investigate variations in participants' subjective perceptions and experiences across scenarios. The collected subjective data supports the analysis of personal responses, revealing how individual characteristics shape the walking experience and perceived safety during a ten-minute urban journey.

Conclusion and future work

The protocol guides the experimental phase enabling the collection of physiological, behavioral, and psychological data along an urban walk. In the next phase, correlation analyses can support the identification of relevant patterns of reactions and the relationships between environmental variables and pedestrian responses.

77

This research presents a novel methodology for assessing walkability and safety perception from the pedestrian's point of view using IVR. By simulating realistic urban scenarios and capturing multimodal data, the protocol assures accurate and reliable evidence for understanding how environmental factors influence people response, which enables the generation of actionable insights to support more inclusive and responsive urban design. Moreover, the system offers a risk-free, immersive platform for designers to test and iterate spatial interventions and can serve as a decision-support tool for evaluating proposed urban strategies. Future study will focus on expanding the sample size, refining the simulation fidelity, and integrating machine learning techniques for advanced analysis. Ultimately, the goal is to contribute to the people-centered urban design.

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Narrating Architectural and Urban Ambiances: An Interdisciplinary Investigation of the Living Urban Image through the UNARCODE Project[11]

Serap DURMUS OZTURK
Karadeniz Technical University, Department of Architecture, Trabzon, Turkey, serapdurmus@ktu.edu.tr

Abstract.

This paper proposes narrative as both a method and a medium for understanding urban ambiances, demonstrating how narrative can enrich ambiance theory and in-situ research practices. Drawing on the interdisciplinary insights and fieldwork of the UNARCODE project, it aims to collect and analyze data - through qualitative and quantitative methods - on urban spaces that are routinely visible or experienced yet frequently overlooked. By doing so, it contributes to the formation of the living urban image, a concept that captures how ambiances are sensed, remembered, narrated, and visualized. The study argues that ambiances are multi-sensory, ephemeral, and narratively encoded, shaping the emotional tone of urban life through shared meaning-making. Rather than treating ambiance as a measurable aesthetic effect, UNARCODE views it as a dynamic, culturally embedded phenomenon emerging through perception, imagination, and social discourse. Ultimately, it calls for a design approach that values urban stories as essential in understanding and shaping place.

Keywords:

Architecture, Living urban image, Ambiance, Narrative-sensory approach.

80

Introduction

Urban environments are integral to the design act. In recent decades, sensory and affective dimensions of urban life have gained importance in architectural theory, challenging form-centered approaches to the built environment. Phenomenological thinkers such as Husserl, Heidegger, and Merleau-Ponty conceptualize experience as direct perception through the senses. In architecture, phenomenology becomes a methodological lens for exploring the meaning of form and the human-environment relationship (Bognar, 1985). Spaces derive significance through the presence and perception of inhabitants. The subject, central to this process, does not merely observe but becomes immersed - at times becoming the experience itself. Accordingly, space is relational, shaped by sensory awareness and embodied interaction (Durmuş Öztürk, 2021).

Within this framework, ambiance serves as a theoretical bridge linking body, experience, sense, emotion, perception, and spatial context. It constructs a narrative between architectural theory and practice. Narratives, as open texts, enable users to intellectually and emotionally engage with space. In narrative inquiry, the focus is the narrator and their interaction with inner and outer worlds. The experiential narratives produced by participants externalize lived experience (Liamputtong, 2009).

Ambiance has emerged as a central concept in architectural and urban discourse for understanding how environments are experienced through sensory and spatial engagement. As Thibaud (2015) notes, ambiance reflects the felt presence of place, constituted through bodily perception and social interaction. Yet ambiances are also mediated by memory, language, and culture. Cities, therefore, are not only sensed, but also interpreted and narrated. These stories shape the atmospheric identity of urban environments (Böhme, 2017).

This paper is structured on the assumption that architectural experience acquires meaning through the senses and emotions, playing a significant role in making the living urban image visible and revealing the architectural-urban ambiance. Within this framework, the study positions itself around the problem of offering a conceptual and practical extension of the notion of ambiance through the **UNARCODE (Urban Narrative Codes) Project.** The UNARCODE project engages with this concept through an interdisciplinary view, investigating how ambiances are not only perceived bodily and spatially, but also encoded narratively. The project poses the central **research question:** *How can narrative-based methods help reveal and communicate the architectural and urban ambiances?*

Drawing from architecture, narratology, linguistics, sociology, and data engineering, the project investigates the stories and sensory codes that shape contemporary urban atmospheres. This aligns with Lefebvre's (1991) theory of the social production of space, highlighting how meaning emerges through lived experience and constant re-negotiation. Using methods like situated fieldwork, visual analysis, and socio-spatial observation, UNARCODE aims to map how ambiances are constructed and transmitted across cultural and sensory dimensions.

81

Urban ambiances, then, are not confined to physical space - they are sustained and communicated through narratives. Documenting them not only aids in shaping future living places but also builds a collective narrative legacy. Rather than imitating architecture, narrative reveals the sensory and emotional layers of ambiance, enabling new ways of seeing - and feeling - the city.

Ambiance and Living Urban Image

The concept of ambiance, particularly in architecture, urban studies, and literature, can be deconstructed into measurable and experiential components, making it a constructible phenomenon for both data collection and narrative articulation. Emerging as a critical lens in architectural and urban theory, ambiance offers insight into how environments are felt - not merely seen or used. Its interdisciplinary and dynamic nature functions as a conceptual infrastructure that supports the integration of practice, research, and design.

According to Böhme (2017), atmosphere refers to the sensory and emotional impact a perceivable environment has on an individual. It is not simply the sum of physical features but results from how those features are perceived emotionally and sensorily. Rather than being an objective spatial attribute, ambiance is a relational field arising from the encounter between subject and environment, emphasizing temporality, affect, and embodied presence - key factors in how urban images are formed and remembered. In this light, architectural and urban ambiance can be defined as a field of force shaped by individuals' sensory-emotional experiences and the interplay between material

and immaterial dimensions.

Urban places - the perceptible face of lived space - are shaped by human perception and lose meaning without human engagement (Havik et al., 2018). Spaces gain significance through experience and, in turn, are transformed into places. These places become narratives, carried by the stories that unfold within them (Havik et al., 2018, p. 5). The concept of the Living Urban Image refers to the evolving perception of the city shaped by visual stimuli and narrative memory. Building on Kevin Lynch's (1960) seminal work *The Image of the City*, which emphasized legibility and spatial cognition, the concept has been expanded to include symbolic and affective dimensions. The "living" aspect underscores the image's temporal fluidity - its ability to shift across time, context, and experience. In this regard, analyzing spatial presence has become essential in architectural discourse. Ambiances, albeit ephemeral, contribute to the city's image through memory and storytelling. The city becomes a palimpsest of overlapping narratives, continuously narrated and re-narrated (Ricoeur, 1984). The living image, therefore, transcends mental mapping or aesthetic impression to emerge as a narrative atmosphere.

While ambiance captures the atmospheric conditions mediating sensory experience, the living urban image embodies how these experiences are remembered and represented. As Pallasmaa (2012, 12) notes, architecture is "an extension of the body and the senses"; hence, ambiance mediates how urban images are felt into being.

This synergy offers critical insights for spatial disciplines. Accordingly, a responsive design approach considers not only how spaces look or function, but how they feel, are remembered, and reimagined. Funded by TÜBİTAK and based in Trabzon, UNARCODE investigates how the living image of the city is shaped through sensory and affective practices. Rather than viewing ambiance as passive background, the project sees it as an active, narrative force - expanding ambiance theory by positioning narrative as both method and phenomenon.

Aim and Methodology

The aim of this study is to propose narrative as a method and medium for understanding urban ambiances and exemplifies how narrative can enrich ambiance theory and in-situ research practices. In this context, this paper contributes to the formation of the Living Urban Image of ambiences by utilizing the interdisciplinary insights and fieldwork of the UNARCODE project. In this context, the aim is to collect and analyze data - using both qualitative and quantitative methods - on urban spaces that are visible or experienced daily, yet often go unnoticed, and to reveal them through the production of new knowledge.

Studies of spatial narrative or narrative space center on unique experiences aimed at making sense of and exploring the city (Durmuş Öztürk & Çıraklı, 2023). Narrative is also a mode of thinking about generating design ideas, and for this reason, it is defined as part of architectural practice (Durmuş Öztürk, 2021). In the identification of urban identity and the acquisition of knowledge about urban places, alternative methods that promote interdisciplinary collaboration and activate diverse socio-spatial practices and experiences are of vital importance. At this point, narratology and narrative inquiry techniques can provide guidance in urban and spatial research.

UNARCODE project contributes to the development of ambiance theory by proposing a **narrative-sensory approach** to studying urban environments. The project's **methodology** is rooted in multi-modal, in-situ observation combining spatial theory, sketching and narrative inquiry (Figure 1). The first step of the methodology, Encounter, involves the participants' (architecture students) physical, experience-based engagement with the living space. The second step, Response, focuses on revealing narratives that emerge through the participants' engagement with the space, prompted by questions concerning their sensory and emotional responses. The third step, Spatial Imagination, aims to uncover conceptual and visual interactions that enable the representation of an authentic and real urban image. All collected data is transformed into big data through narrative inquiry, followed by the coding of sensory-emotional categories into quantifiable values. Narrative-sensory approach emphasizes the importance of embodied and situated experience for ambiance research, responding to the limitations of purely visual or quantitative approaches. It also facilitates cross-disciplinary dialogue, with contributions from architecture, narratology, linguistics, sociology, and computer-data engineering. UNARCODE thus serves as a model of transdisciplinary collaboration, where methodological diversity is not only tolerated but essential to capturing the complexity of lived ambiances.
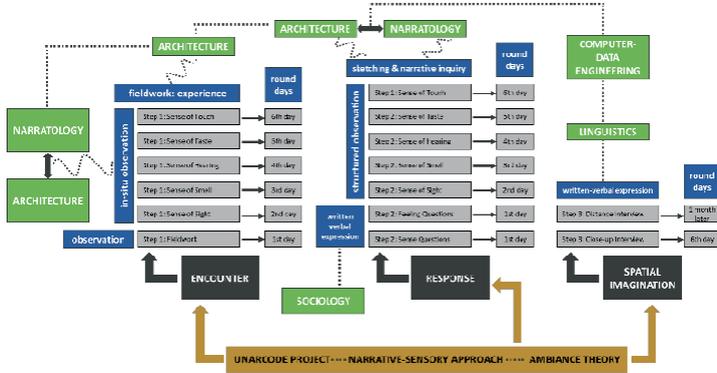
Figure 1. Methodology and Interdisciplinary Relations, by author, 2025

Five rounds of fieldwork have been carried out since the fall of 2024 at 20 stopping points along the selected experience route in Trabzon city center, each chosen for its layered urban fabric and unique atmospheric qualities. The sample area where data will be collected refers to locations where participants and spatial points intersect, and where experiential data is produced. Within the scope of the project, the sample area includes the route known as Kervan Yolu, located in the city center of Trabzon, along with the places situated on this route. Public or semi-public spaces have been selected. These places are notable as living spaces where urban user interactions are most frequently encountered.

Preliminary findings

The relationship between **ambiance** and the **living urban image** lies in their shared grounding in experiential knowledge. While ambiance captures the sensory and atmospheric dimensions of space, the living image refers to how these experiences are remembered and narrated, shaping the emotional tone of urban memory.

WG 1

As part of the UNARCODE project, five rounds of fieldwork produced nearly 3,000 sketches and thousands of narratives based on the experiences of 60 architecture students. Narrative analysis centered on four key stopping points, resulting in the identification of sensory-emotional categories that now serve as conceptual tools for other sites. These findings inform the development of sensory and emotional maps, offering insight into the ambiances of Trabzon's urban core.

Urban ambiances are hybrid formations, consisting of sensory stimuli, material textures, spatial rhythms, and deeply embedded narratives. Some aspects - such as sketches and architectural concepts - can be measured and analyzed. Others, including mood, memory, or affective resonance, are more effectively captured through narrative inquiry. Rather than imposing rigid definitions, UNARCODE advocates for a plural, layered understanding of ambiance: one that values subjective perception and lived experience as vital components of spatial analysis.

Over the 18-month study, the ambiance of place itself influenced the refinement of methodological tools. Custom data collection templates and experience charts were developed to reveal both focalized and distant sensory themes. The ongoing process of uploading data and designing an application aims to ensure the transferability and sustainability of the method. UNARCODE advocates for a pluralistic and multilayered understanding of the environment - eschewing rigid definitions in favor of an approach that embraces subjective perception and lived experience as essential dimensions of spatial analysis.

Conclusion

In conclusion, urban ambiances are not only multi-sensory but also narratively coded - emerging through individual and collective acts of meaning-making. UNARCODE contributes to the development of ambiance theory by proposing a **narrative-sensory approach** to studying urban environments. It argues that ambiances are not only experienced but also told - and that these stories shape our understanding of place as much as architecture or infrastructure. The project offers tools and insights for spatial designers, urban planners, and scholars seeking to engage more deeply with the experiential and narrative dimensions of space. Ultimately, it calls for an ambiance-sensitive design culture and methodology that listens to the stories cities tell - and helps tell new ones in return.

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The Relevance of the Biophilic Approach in the Retrofit of Portuguese Public School Buildings. A Systematic Literature Review

Tânia Lopes[1]
1. Faculdade de Arquitectura da Universidade do Porto (Portugal)

Abstract.

The rehabilitation of existing public schools, within the current context of climate urgency and resource scarcity, has become an essential strategy for the qualification of learning spaces. Within this framework, the biophilic approach – which promotes the integration of natural elements into the built environment – offers a relevant contribution to the architectural retrofit of school buildings, by potentially enhancing benefits in terms of thermal comfort, psychosocial well-being, and cognitive performance of users.

The research was structured through a Systematic Mapping (SM) and a Systematic Literature Review (SLR) of the last five years, with the aim of gathering and classifying research methods related to the assessment of the impact of these disciplines in school environments, sample selection criteria, and result presentation. The SCOPUS, EBSCO, and Google Scholar databases were utilized, with searches based on the keywords "biophilic school buildings," "public school architecture," "well-being," "connection with nature," "learning environment," and "retrofit."

The objective is to identify design guidelines that can orient regenerative interventions in existing schools, based on a holistic approach – the Biophilic Well-being Systems Approach (BWSA) – which articulates environmental sustainability, constructive efficiency, and emotional connection with nature. The analysis includes four international reference case studies, which illustrate the effectiveness of biophilic architecture in diverse educational contexts, offering applicable insights to the Portuguese territory, where such studies are still scarce. The results underscore the strategic opportunity that biophilic retrofit represents for transforming obsolete schools into healthy, sustainable, and pedagogically innovative environments.

This study seeks to identify biophilic architecture strategies in schools and their reported impacts on the school environment in the literature, contributing to the definition of intervention guidelines that promote healthier and more nature-connected public schools, aligned with the contemporary needs of education.

The results show a broadening in the diversity of strategies, although their application in the Portuguese built environment is still quantitatively insufficient.

Multidisciplinary methods for ambience design in the built environment
Initiating an integrated ambience design framework

Adam THOMAS[1], David OWEN[2], Andreea FELCIUC[3], Foteini KANELLOPOULOU[4]
1. Arup, 8 Fitzroy Street, London, W1T 4BJ, adam.thomas@arup.com
2. Arup, 8 Fitzroy Street, London, W1T 4BJ, david.owen@arup.com
3. Arup, 8 Fitzroy Street, London, W1T 4BJ, Andreea.Felciuc@arup.com
4. Arup, 8 Fitzroy Street, London, W1T 4BJ, Foteini.Kanellopoulou@arup.com

Abstract.
This study proposes methods to integrate ambience outcomes into the design process of the built environment, highlighting the need for a multidisciplinary approach to achieve holistic, inclusive, and emotionally resonant outcomes. It emphasises the importance of defining ambience goals early in the project and collaboratively developing a set of clearly defined ambience attributes. An in-situ stakeholder engagement method named ExperienceWalk is proposed, to test ambience attributes at specific locations for benchmarking purposes and the further refinement of ambience outcomes. The study advocates for a project-specific ambience design brief developed by key multidisciplinary experts to incorporate ambience into the sequential design and construction process. The aim is to stimulate discussion on how ambience research can inform architectural delivery, focusing on sensory perception, cultural context, knowledge, and emotional response.

Keywords:

Ambience, Design, Sensory perception, Cultural identity, ExperienceWalk

87

Introduction

The built environment provides the backdrop for where we live, work, and play. The design of such environments impacts our health, wellbeing, and productivity. Architects and designers must therefore attend to the sensory design (Malnar, 2004) and emotional dimensions of space — the architectural atmosphere — that shape how environments are felt, as well as used (Arbib, 2023). This understanding is vital especially for the urban environments given that, as of 2020, it is estimated that 56% of the world population live in cities, and the urban population is expected to increase to nearly 70% by 2050.

Ambience can shape architectural atmosphere by orchestrating sensory cues to evoke emotion, memory and cultural meaning. This approach directly supports and expands research relating to neuroarchitecture (Assem, 2023), neurourbanism (Adli et al, 2017) and neuroaesthetics (Chatterjee, 2016), as well as sensorial evaluation such as soundscape (Kang, 2016), and lighting (McCloughan, 1999). These fields highlight how perceptual and cognitive aspects are becoming more closely utilised into design practice and to improve human experience outcomes. By integrating multisensory design attributes, ambience becomes a key tool for creating environments that engage users cognitively and emotionally, advancing architectural theory and best practice within neuroscience informed design.

Discussing ambience

Ambience refers to the multi-sensory, emotional, and social atmosphere of a built environment—encompassing both tangible environmental qualities and their subjective perception through individuals' knowledge, understanding, and emotional values. To ensure effective communication, it is vital to develop and agree a shared and collective understanding of ambience between the project stakeholders and the design team, so that they are able to realise them through their collectively delivered holistic design provision.
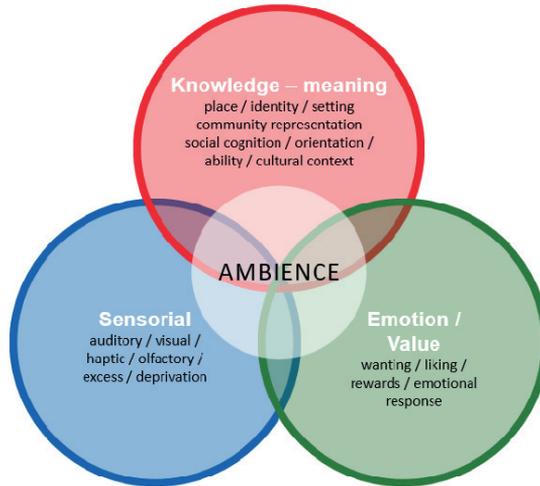
Figure 1. Interactions of perceived ambience, based upon the triad of nueroaesthetics (Chatterjee & Vartanian 2016)

Figure 1 offers a simple illustration of how ambience is experienced by individuals or communities. This illustration relates ambience to factors that need to be considered in the design process and can be used to support initial discussions to define the relevant ambience outcomes for the specific scheme. It also highlights the role of specialist designers in shaping holistic ambience outcomes.

Defining ambience outcomes

Ambience outcomes are complex. Spaces must be formed that not only provide sensorial experiences but also promote behaviours, moods, and social interactions. As noted above successfully achieving such outcomes requires key experiential aspects from a range of specialists to be embedded into the design.

This calls for early identification of ambience goals, defined through a set of perceptible attributes. Attributes are commonly used in sensory analysis, and are proposed here to provide quantitative perceptual data from a user perspective (ISO 5492[1]), on specific ambience outcomes. They must be clearly defined to ensure that the design team and stakeholders understand and interpret them correctly. Mis-attribution poses a significant risk to data quality and the setting of ambience design goals throughout the project lifecycle. Gaining consensus on attributes is an important stage of the process (Zachoraz, 2021), facilitated through a workshop with the design team and key stakeholders.

1. ISO 5492:2008 "Sensory analysis — Vocabulary"

It is vital, that such ambience attributes are co-developed with diverse user perspectives including the design team and relevant project stakeholders. We facilitate this through a flexible workshop approach, tailored to the stakeholders needs. A wider lexicon should be developed to support the ambience attribute definitions, providing an agreed language to enable a shared design narrative and support collaboration.

By defining the attributes to become a set of measurable performance criteria, they can be embedded within the project's technical brief and development.

Stakeholder engagement - *Experience*Walk

Insights from public realm and cultural infrastructure projects highlight the importance of engaging users early in the design process.

ExperienceWalk is an in-situ co-collaborative stakeholder engagement tool developed by the authors to facilitate embodied data collection and experiential mapping during early-stage design. It seeks to collaboratively test the definitions of the defined ambience attributes whilst acquiring valuable data from key stakeholder groups within specific cultural, social, and environmental contexts.

This process is most useful at the early stages of a project, where relevant spaces can be carefully selected that are useful to the projects design intent and progression. These spaces may include existing sites for interventions, local areas and settings, or examples of places that possess a desired ambience for critical evaluation and emulation. This can include understanding the cultural experience and sense of identity the place holds for visitors in relation to their past experiences (memory) and expectations.

The method is adaptable to the needs of the ambience outcomes and provides real world experience of an ambience. It can focus on setting, place, physical or temporal interventions, or any aspect of the experienced built environment that is considered relevant to the agreed ambience outcomes.

This co-collaborative exercise aids in agreeing on and confirming the desired ambience outcomes for a specific project and fostering a collective understanding of the design intent. This collaborative approach is instrumental in designing important aspects of an ambience design brief, ensuring that all stakeholders are aligned with the project's goals and vision.

During the walk, participants are asked to reflect on the ambience in specific targeted locations and provide quantitative data relating to the agreed attributes, and the emotional response relating to the circumplex of affect (Axelsson, 2010). When participants have entered the data individually (completed on their own mobile device through a bespoke QR code addressed online questionnaire), qualitative data is captured in-situ through prompted discussion with the participants. Such methods, grounded in sensory ethnography and inclusive design practice, allows for capturing situated knowledge often overlooked in conventional site analysis.

Upon completion of the *ExperienceWalk*, a second workshop is facilitated to feedback the groups responses. This is the time to refine the attribute set, confirm the ambience goals, and or agree a plan for inclusion of additional stakeholders and/or any further engagement requirements.

It is also a key opportunity to bring in specialist disciplines with expertise in sensory, cultural and social input to the process, to interpret the initial ExperienceWalk data set, and to plan more detailed site analysis which may help refine the final project attributes.
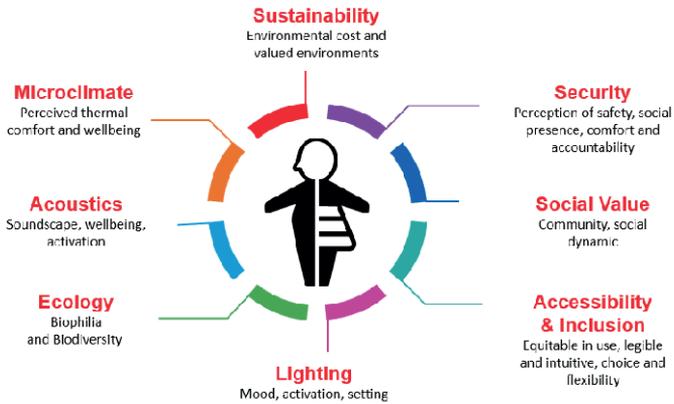
Figure 2. Example specialist disciplines brought in to reflect on the ambience goals and support the development of an ambience design brief

Ambience design brief

Establishing a suitable, project-specific ambience design brief is crucial. The brief should outline the desired ambience outcomes for a project, broken down into sensory, cultural and emotional contribution potentials.

The ambience design brief should have clearly defined the goals and objectives supported by the projects defined *ambience attributes* as a set of perceptual variables that provide sensory and socio-cultural meaning. Importantly such ambience attributes become a set of quantitative metrics that can be used to support the projects stages through its testing and iteration, and to be translated into measurable performance criteria and embedded within the project's technical and visual development by the multidisciplinary team of specialists.

The brief should then be integrated and aligned with the Project's physical design brief, completion testing regime, occupation and growth plans.

Conclusion

Early multidisciplinary planning of project specific ambience outcomes will make ambience more tangible to project teams and stakeholders, so that design can respond to provide better opportunities for planned ambience perceptions within the built environment.

It is the authors belief that there is a significant opportunity to frame ambience as a design methodology which opens up new opportunities to embed cultural value across the design lifecycle. This can be realised through developing a clear language to use within a specific project context. This collective understanding, combined with early multidisciplinary collaboration, can realise and embed a clear ambience design brief into the Project design process.

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AESTHETIC FRAMEWORKS
AND CRITIQUES OF ATMOSPHERES

Sound, Noise, and Master Plans
Motivations behind sound-related urban planning measures in six European development plans

Bálint János KISS[1]
1. Moholy-Nagy University of Art and Design Budapest – Doctoral School
   kiss.balint.janos@stud.mome.hu

Abstract.
This paper presents six European urban plans, evaluating the quantity and quality with which they address sound-related issues. The development plans include three from Northern Europe (Copenhagen, Helsinki, and Stockholm) and three from Central Europe (Budapest, Vienna, and Warsaw). The study focused on textual information of the documents. To identify sound-related content, three search terms were used: soundscape, sound, and noise. The term noise was analysed in both its immediate and broader contexts in all documents. In the immediate context, a strong association emerged between noise and air pollution. Through the broader context, three primary motivations for sound-related measures were identified: environmental protection, health of inhabitants, and restorative quietness. These motivators were critically examined through the lens of soundscape research. The aim of this paper is thus twofold: to inform soundscape researchers about current narratives in urban planning, and to offer professionals new perspectives on the role of sound in urban spaces.

Keywords:

Soundscape, Urban planning, Environmental sound, Noise

93

Introduction

The concept of *soundscape* was coined in 1969 by Michael Southworth and gained wider recognition from the 1970s through the work of Murray Schafer. According to its definition (ISO 12913-1:2014) *soundscape* refers to the way an individual or a society perceives and understands the acoustic environment – making it different from the acoustic environment as the latter refers to the physical phenomenon consisting of air movement.

In the context of urban planning, qualitative interventions in the soundscape (implementations of the so-called *soundscape approach[1]*) are gaining increasing importance. The prerequisites for such interventions include soundscape models that reflect community preferences regarding the acoustic environment, as well as planning principles that assist urban planners in the appropriate treatment of environmental sounds. However, Guastavino (2020) observes that "soundscape research has not yet been translated into fully fledged […] planning principles" and Aletta et al. (2016) highlight "an urgent need for operational tools […] aimed at implementing the soundscape approach in urban planning and design."

Aletta et al. (ibid.) have identified eight key soundscape descriptors – noise annoyance, tranquillity, music-likeness etc. – and their predictors, offering insights into the factors that shape soundscape quality. Steele (2018) meanwhile, examined how urban planners (PBEs[2]) engage with sound in

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1. See e.g. https://doi.org/10.3397/1.3484180 or https://doi.org/10.1515/noise-2015-0001

2. Professionals of the Built Environment

practice, raising a critical concern: soundscape research often "does not actually address the questions that PBEs need to have answered". This article seeks to define a paradigm through which urban development plans address sound and noise, aiming to provide both PBEs and researchers with further data on the urban soundscape.

Methods

Six master plans were chosen for this study. The selected plans were turned into a corpus of text. A query was conducted on the corpus using the following terms: *soundscape*, *sound*, and noise. Among the quantitative data, the number of hits for each term and their proportional differences were recorded. Qualitative findings were gathered from both the immediate context (within a six-word proximity of each search term) and the broader context (at the chapter level) and analysed separately.

	Pages long	Plan period	#noise	#sound[3]	#soundscape	Noise score[4]
Copenhagen	96	2015- 2027	10	0	0	104
Helsinki	84	2013- 2050	8	0	0	95
Stockholm	172	2017- 2040	25	3	0	140
Budapest	272	2013- 2030	43	1	0	160
Vienna	145	2014- 2025	5	0	0	34
Warsaw	66	2018- 2030	4	0	0	60

Figure 1. Overview of chosen urban planning documents

Analysis
Findings based on quantitative data

Master plans approach sound-related issues almost exclusively through the concept of noise as the number of hits for *soundscape* and *sound* is zero or insignificant. This reflects the dominance of the Environmental Noise Management (ENM) framework – coined by Bild et al. (2016) – within urban development and planning, to the detriment of the Soundscape Design Strategy. However, change in this regard is essential: the term *noise* is inherently biased as it frames sound in a negative light and prevents it from being considered in a constructive sense, thus effectively trapping the potential of sound within a conceptual deadlock. Considerable differences were found between the relative frequency of the term *noise.*

Figure 2. Helsinki, Bálint János Kiss, 2024

3. The number of hits for the noun *sound* used as the phenomenon related to hearing.

4. A value to illustrate relative frequency of mentioning the word *noise.* [(#hitsnoise / #pages) × 1000.]

Findings based on immediate context

The terms *air pollution* and noise frequently appeared in close proximity. E.g. "less air pollution and less noise in […] Copenhagen" (City of Copenhagen Municipal Plan, 2015, p. 17). "The sensitivity […] regarding e.g. noise, air quality […] is increasing" (Vienna STEP 2025, 2014, p. 18). However, distinguishing between the two is crucial: while air pollution is objectively harmful, noise belongs to a perceptual category.[5] Immediate context additionally showed that noise is often mentioned in close proximity with the word *traffic.*

Findings based on broader context

Master plans predominantly introduced the concept of noise through status reports and through proposed mitigation measures. Due to its low occurrence, sound was excluded from the analysis. Instead, the concept of *noise* was treated as the primary term through which master plans provide access to urban planners' conceptualisations of sound. Generally, master plans reflected understandings of noise that aligned with two out of the four categories defined by Steele: *noise as environmental pollutant* and *noise as level*.

Chapter-level analysis revealed that noise-related topics and measures in the master plans were structured around certain underlying narratives – that is, rationales for why these measures were proposed. To formalise these, a new category termed *motivators* was introduced. Three such motivators were found to underpin the majority of noise-related references.

Motivator I: Environment.

Environmental protection emerged as a central motivator behind noise measures. In this context, noise was conceptualised as a threat to the urban environment, aligning closely with Steele's (2018) third category: *noise as environmental pollutant*. Noise was frequently addressed in relation to environmental concerns such as greening initiatives and sustainable urban development. This framing, however, presupposes an urban planning paradigm in which the sonic environment is understood in ecological terms, and where certain sounds are perceived as genuine ecological threats. If sound-producing agents were instead looked at as assets within this ecological framework, interventions could be designed to more adequately respond to the sonic needs of both human and non-human city dwellers. The environmental narrative also sheds light on the frequent conflation of air pollution and noise, which stems from their shared sources – primarily road traffic, air transport, and industry – and their similar modes of propagation through air. This linkage is evident across several master plans. For instance, Stockholm's plan promotes "healthy urban environments, with cleaner water and air and less noise" and outlines goals to "help […] regulate the local climate, reduce noise […] and increase biodiversity" (p. 89). Copenhagen likewise "aim[s] to ensure cleaner air and less noise for the people" (p. 51). Helsinki's development strategy notes that "[t]he reduction of driving speeds and strict norms for engine noise, including heavy traffic, have brought traffic noise levels down. Air quality has improved"

Motivator II: Inhabitants' health.

A second key motivator for addressing noise in urban planning was its negative impact on city users' health and well-being. Numerous sources confirm the adverse health consequences associated with noise exposure. The EU Directive 2002/49/EC, for instance, refers to noise as having harmful

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5. Noise below sound pressure levels that are hazardous to hearing.

effects and as a cause of annoyance. These concerns have been integrated into urban planning discourse, where noise-abatement measures are increasingly presented as essential to ensuring environments conducive to public health – a core objective of most development strategies. Budapest's master plan states that "[t]he health status of city dwellers is considerably determined by the noise load" (p. 104), while Stockholm's highlights that "exposure to high levels of noise over time can lead to stress, sleep problems and difficulties concentrating," asserting that "[u]rban environments are to be developed so that no adverse health effects arise in terms of noise" (p. 103). However, there is a simplifying tendency: measuring noise solely in terms of dB levels fails to capture the subjective variability in how individuals perceive and respond to sound. Acoustic qualities and the context play a critical role in shaping whether a sound is experienced as disturbing. As Kohut (2015) notes, in response to the persistent ineffectiveness of certain noise-reduction strategies: "[t]o what degree is this a question of noise as such?". While the correlation between noise exposure and symptoms like stress and reduced concentration is well established, the complexity of these interrelations was rarely addressed in the examined urban plans.

Motivator III. Restorative quietness.

A third motivator identified in urban planning documents was the perceived benefit of quietness. Many development strategies implied that reducing or eliminating noise contributes to well-being by fostering restorative environments. While this theme overlaps with health-related concerns, quietness is often conceptualised separately – as a desirable commodity rather than a response to risk. For instance, Vienna's master plan calls for "recreation zones [with] minimal noise pollution" (p. 48). Copenhagen envisions "green areas" that "serve as an oasis from the city's noise" (p. 43). These examples illustrate a tendency to frame noise and silence as opposing poles; a concept that Venäläinen (2020) critically describes as a metaphorical pursuit of "peace of mind" through silence. However, such references often assume the quality of quietness without further elaboration even though noise management strategies, focused narrowly on reduction, do not necessarily lead to environments perceived as sonically restorative.[6] A more productive approach may lie in treating sound not as a nuisance to be removed, but as a resource to be shaped for positive urban experience (see e.g. Lacey 2016).

Conclusion

This paper has examined how six European master plans approach sound-related issues. The analysis identified a strong reliance on the term noise, while soundscape and sound were nearly absent. Three recurring motivators were found: environmental protection, health, and restorative quietness.

6. See e.g. the Swedish Soundscape Quality Protocol (SSQP), a widely adopted framework using eight descriptors to characterise both loud and quiet soundscapes.

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The Theory of Ambiance in the Visual Artworks
A Method to Read the Picturesque Atmosphere

İlke HİÇSÖNMEZLER[1]

1. Department of Architecture—Yasar University, Izmir, Türkiye, ilke.hicsonmezler@yasar.edu.tr

Abstract.

The aesthetic effects and appreciation of the picturesque meaning "picture-like" were reduced to a design language that can only be understood by the sense of sight, at best. At worst, it was formalized as a third way of aesthetic feeling in the dual categorization or something shaped by mixing the design elements and contexts leading subjects to the judgments of the beautiful and sublime. However, the rambling, viewing, and reading subjects of the picturesque spatiality were also invited to this scenario as the storytellers/perceivers of a multi-sensory and para-sensory ambiance. In this study, I aim to provide a symbiotic reading path linking eighteenth- and nineteenth-century aesthetic concepts to our contemporary atmospheric discussion. By looking inside, the frame and outside of it at the same time, and to use the picturesque theory and design as a bridge by proposing a reading model for atmospheric analyses with the picturesque term. I examined the term via eighteenth- and nineteenth-century representations of gardens in England through visual artworks. My analysis has shown that the picturesque atmosphere ascribes a spatiotemporal meaning to its own being, aiming to eliminate the tensions of the eighteenth century and twentieth/twenty-first centuries at the intersection of aesthetics and architectural disciplines.

Keywords:

picturesque atmosphere, spatiality, visual artworks, theory of ambiance, eighteenth-century aesthetics

Inside and Out of the Frame: The Theory of Ambiance in Picturesque[1]

The concept of atmosphere is very fruitful in terms of handling and analyzing complex relationships such as the ones between subject and object, feelings and environment, or the procedures of spatial experience, perception, cognition, and sensation. The Romanticist tendencies in the judgment of aesthetic qualities of any object were broken with the emergence of Modernism, and it also affected the stylistic dispositions in the discipline of architecture. Therefore, Modern architects tried to search for new contexts in terms of moving with the time (*zeitgeist*), and they proposed different approaches such as the formulation of Gestalt based on the mathematical/geometrical principles of composition.[2] However, attempts to connect the discipline of aesthetics with the discipline of architecture by mathematical/geometrical formulations have been merged with the phenomenological quests in the twentieth century because the focus on aesthetics has shifted to empiricist studies.[3] In these empiricist studies, the atmosphere has been conceived as a *third presentness* leading to perceiving the subject and object bases individually but as the connected

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1. This study is based on the master's thesis titled "Picturesque Atmosphere: A Method to Read Spatiality and Aesthetics in Verbal and Visual Artworks." This thesis was completed as part of the Master's program in the Department of Architecture at Yaşar University. I would like to express my gratitude to my thesis advisor, Assoc. Prof. (PhD) Fatma İpek Ek, for her support and contributions.

2. Colin Rowe, *The mathematics of the Ideal Villa and Other Essays* (Cambridge: Massachusetts and London: The MIT Press, 1978).

3. Maurice Merleau-Ponty, *Phenomenology of Perception* (London: Routledge, 2005); Hermann Schmitz, *System der Philosophie (Der Gefühlsraum, The Sphere of the Emotions)* (Bonn: Bouvier, 1969); Rainer Kazig, "Presentation of Hermann Schmitz' paper, 'Atmospheric Spaces'," *Ambiances* [Online] (April 2016); Gernot Böhme, *Atmosphäre : Essays zur neuen Ästhetik* (Frankfurt : Suhrkamp, 1995); Juhanni Pallasmaa, *The Eyes of the Skin* (Chichester : John Wiley, 2005) ; Peter Zumthor, *Atmospheres—Architectural Environments—Surrounding Objects* (Berlin : Birkhauser, 2006);

phenomenal sources. *Genius loci* (spirit of place)[4] is referred to the object-based phenomenon,[5] while the essence or mood is referred to the subject-based disposition including the personal background formed by sensations, memories, and emotions.[6] This strong connection between the subject and object led to the term atmosphere being codified with experience.

The picturesque, on the other hand, was mostly understood as a frame and transmitted to architecture in that way since it started with a common interest in the art of painting. Many architects or garden designers attempted to design this frame.[7] However, this reductionist approach did not only originate due to the "picture-like" meaning of the picturesque[8] but also because of the existing aesthetic approaches in that century in theoretical context. In the eighteenth century, a judgment-based aesthetic approach prevailed, and it also led to constituting some well-accepted categories to evaluate the object aesthetically as a result of the judgment-based ideation. The existing judgment categories (the sublime and the beautiful) of the aesthetics were mostly utilized to define and frame the picturesque, as a third way to compose an aesthetic language, therefore, the picturesque also started to be understood as if it is a part of the painting art.[9] However, the thing that is aimed to constitute was not the overall frame as referring to the picture-like meaning of the term; it was the scene, instead, which was aimed to beattached to a scenario through which the layout of the scene appears. Therefore, an experiencer of the picturesque tries to read this scenario through the object- and subject-based qualities of the scene, and they also start to be a part of this scenario. The atmosphere may be valuable for reading the aesthetics of picturesque: *picturesque atmosphere* (Figure 1).
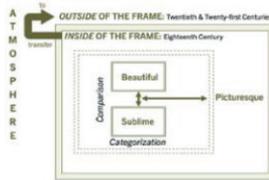
Figure 1. The framework of the reading model, by the author

Proposing A New Analytical Reading Model

My analyses covered the proposal of a translation: I tried to translate Böhme's atmospheric generators—that were suggested for the physical spaces—into the atmospheric generators of the spatial representations in verbal and visual picturesque atrworks. For such an analysis, I first focused on the basic duality of the object and subject and respectively named their signs in the verbal and visual

4. Christian Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture* (New York: Rizzol, 1980).

5. Gernot Böhme, *Atmospheric Architectures: The Aesthetic of Felt Spaces.* Ed. and trans. by A.-Chr. Engels-Schwarzpaul. Bloomsbury, 2017.

6. Juhani Pallasmaa, "Space, Place, and Atmosphere. Emotion and peripheral perception in architectural experience," *Lebenswelt: Aesthetics and Philosophy of Experience* 4, no.1 (2014), 230- 245.

7. Richard Payne Knight, *An Analytical Inquiry into the Principles of Tasted* (Luke Hansard, 1805); Sir Uvedale Price, *An Essay on the Picturesque as Compared with the Sublime and the Beautiful: And, on the Use of Studying Pictures, to improve Real Landscape* (J.Robson, 1794).

8. Isis Brook, "Wildness in the English garden tradition: A reassessment of the picturesque from environmental philosophy," *Ethics and the Environment* 13, no. 1 (Spring 2008), 105-119; Robert Con Davis, "The Structure of the Picturesque: Dorothy Wordsworth's Journals," *The Wordsworth Circle* 9, no. 1 (1978), 45-49.

9. Pablo Diener, "The picturesque as an aesthetic category in the art of travelers"; Jacobs Steven, "Screening Landscapes: Film between the Picturesque and the Painterly," *Acta Universitatis Sapientiae, Film and Media Studies* 19, no. 1 (2021), 1-16.

representations as nature-based and feeling-based layers. The nature-based layer corresponded to the object-based qualities, whereas the feeling-based layer corresponded to the subject-based qualities. In the nature-based layer, we may explore the monic influences of the words or figures (as individual parts) and their meanings or positionings in the overall text or visual field (as parts in the whole). If we have a deeper look at the feeling-based layer, we may find that it contains two different existence modes—being presence (space/spatial) and being present (time/temporal)—and aims to minimize the effects of space-time dichotomy by providing spatiotemporal rendition in both verbal and visual contexts. The associational or mnemonic relationships (in spatial and temporal respects) between the words and between the figures (intra-connections of parts) and between the words and text or figures and visual field (as parts to the whole) may be examined through the feeling-based layer. My proposal consists of three different sub-genre categories and they are named pictorial, intellectual, and emotional.[10]

The pictorial sub-genre refers to a painted or designed frame in which compositional principles are applied in a balanced way. With the idea of framing, it emphasizes the visual side of the picturesque and displays a limited piece of nature or a landscape. Secondly, the intellectual subgenre mainly entails the presence of an experiencer or a creator, and therefore, connects the "human states"160 and the perceived space. The emotional subgenre, thirdly, refers to the environmental qualities, and therefore, the space/place or spatiality with its perceivable qualities prevails in designs, as we can also find in Price's picturesque design idea.

Analytical Reading Track for the Visual Artworks

To figure out the atmospheric effects in each visual case I utilized and converted the definitions of Pallasmaa, Böhme, Griffero and Rauh into an analytical reading model. The proposed translation for reading the atmospheric signs in the visual artworks can be summarized in Figure 2 also regarding their relationships with the nature- and feeling-based analytic layers.

Böhme's atmospheric generators in spaces		Translations of the generators in 2D representations	Corresponding analytic layers
Things		Shape language of object figures or image fragments	Nature-based
		Positions of the objects in the overall visual field	Nature-based
Bodies		Shape language of the dominant subject figures (humans and/or animals)	Nature-based
		Positions of the subjects in the overall visual field	Nature-based
Nonthings	Movements	Vectorial associations or powers (mainly applied to human and/or animal figures)	Feeling-based
		Composition principles	Feeling-based
		Gestalt principles	Feeling-based
		Sensory effects	Feeling-based
		Stylistic expressions	Feeling-based
		Temporal and narrative demonstrations	Feeling-based

Figure 2. Proposal of a New Reading Model for the Picturesque Spatiality with the Related Subgenres, Actors, and Referential Counterparts in Different Centuries, by the author

10. For the relationships of emotion and intellect, see: "Gardens," The Guardian, accessed June 10, 2023, https://www.theguardian.com/lifeandstyle/gardens.

Picturesque in Visual Artworks

I chose one example from the pictorial genre for the sake of word limitation. It is a painting made by George Lambert in 1742 this is an illustration of Chiswick House and Gardens (Figure 3).

Figure 3. View from the Cascade Terrace, Chiswick/London, by George Lambert. (Purchased by English Heritage with generous assistance from the National Heritage Memorial Fund, Art Fun & London Historic House Museums Trust, 1990)

Analytical Reading Track for the Visual Artworks
Shape Languages of the Object and Subject Figures or Image Fragments ("things" and "bodies" in Böhme)

The building and the balustrade represent the only visible element of the balcony and correspond to the geometric expressions (Figure 4). While, the building emphasizes a completely artificial entity, the balustrade partially visible at the terrace implies an impression of a kind of surrender to nature and the overwhelming character of the greenery. The greenery elements, lake, the human and dog figures refer to the organic expressions (Figure 5). The balance between the shape-based languages is for inviting us to the pictorial atmosphere of the painting.

Figures 4 and 5. The building floor and balustrades of the terrace as the geometric expressions and balustrades of the terrace as the geometric expressions

Balance and Dominance through the Guidelines (vanishing line, center of gravity, and vanishing point)

The vanishing line cuts the painting into two equal parts and divides the scene into two different sub-visual fields (Figure 6). The vanishing line, in this respect, passing through the middle of the painting situates the house partially in both upper and lowers fields. With the help of this horizontal guideline, we can see that the part of the house remaining in the upper field is taller than the one in the lower part. In this way, we can understand that the house is positioned higher than the eye level, which should have provided the aesthetic effect of sublimity. However, because of the perspective rules making the house perceived as smaller in the given distance, and further than that, the Classicist style of the building prioritizing the rational and mathematical principles in architectural design, we cannot feel that sublimity. On the contrary, I may claim that the dominance is set in a symbiotic way with the help of the Gestaltic grouping of the geometric figures in vision. The behavior of the vanishing line in the painting, in this respect, is important to establish this grouping relationship: while this line is parallel with the larger geometric language (the terrace and its components), it crosscuts the other geometric expression (the house). This behavior dominates the reading hierarchy, and so, locates the geometric shapes dominantly in the painting.
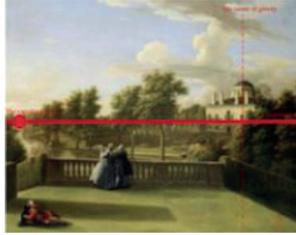
Figure 6. Balance in the composition with the help of the vanishing ling, center of gravity, and vanishing point

Sensory Effects ("nonthing-like" generators in Böhme)
Lights and Shades on the Surfaces

One of the first emanations is the lights and shades on the surfaces provided by the differences in hues and shades of these hues. The upper sub-visual field effectuates a scene with the amorphic elements—clouds and sky—colored with shades of blue and white (Figure 7). The right-hand side of the upper sub-visual field, however, tends to provide a more shade effect with the same hue, white, and so, become a center of the scene—the center of gravity—in that very sub-visual field (Figure 8). On the contrary, in the lower sub-visual field dispersed and numbered as 1, 2, 3, and 4, it is more likely to sense an interwoven composition provided by the shades of the same hue, green. However, there is a disordered effect between these numbers in terms of the lights and shades, accordingly, if we order them as 1-2-3-4, we may sense the decreasing effect of the shades and the increasing effect of the lights.
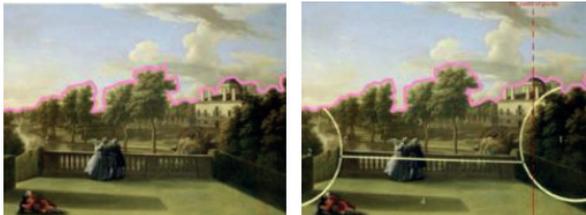
Figures 7 and 8. The balance of the different hues and the dispersion of the hues

The most pertinent motivation on the strengthening of these effects is that the rough surfaces numbered 1 and 2 are the ones where sunlight casts dark shadow figures, while the smooth surfaces numbered 3 and 4 are the other ones where the sunlight provides dimly lit so they do not have shadow figures as dark as 1 and 2. This leads to being codified of the rough surfaces with shades and the smooth surfaces with lights. In other words, the upper sub-visual field is responsible for providing a more balanced effect in terms of the lights and shades through the surfaces of amorphic elements, whereas, the lower sub-visual field is responsible for providing a more interwoven and disordered effect, and these are reinforced with the help of the codifications with rough and smooth surfaces. The overall painting, therefore, has the potential to reflect the needs of the Renaissance by reminding us of the symmetry, order, and beauty through the lights and shades on the smooth surfaces and counterbalances Romanticist tendencies through the disordered and contrasting relationships of the lights and shades on the rough and smooth surfaces.

Concluding Remarks

In the pictorial subgenre, there is a balanced sense in terms of the nature-based and feeling-based properties, and the scene is generally compensated with the scenario or vice versa. One may sense its story-based language informing us about the lives of the subject figures in picturesque environments. This balanced sense and story-based language may be mostly figured out by the positioning of the vanishing line and the center of gravity, which are located on the geometric expressions, and this situation shifts the focus of the visual artwork towards the geometric one. However, the idea of equality may differ from one analysis to another, whether it is on behalf of geometric or organic expressions. We may also find the representation of the man-made environment in (Neo)Classical architectonic language. The tendency toward this style highlights one of the fundamental features of the pictorial subgenre. The dominance principle in this subgenre mostly occurs in the geometric figures regarding the locations of the vanishing line and the center of gravity. Even though the dominance in the artworks refers to the geometric expressions, they may differ from each other with regard to scale and proportion, and therefore, they may contain contrasts, though not in an extensive way.

103

The SR11 Grand Tour
Less is Bore

NDREVATAJ MERSIDA[1], BORELLI GUIDO[2]
1. Iuav University of Venice, Italy, mndrevataj@iuav.it
2. Iuav University of Venice, Italy, gborelli@iuav.it.

Abstract.
This essay investigates the reification of space along a stretch of SR.11 (Strada Regionale 11) in Veneto, Italy, by examining how the commodification of space becomes perceptible only when typical automobilistic travel is abandoned. Inspired by Guy Debord's dérive and grounded in theories by John Brinckerhoff Jackson and Henri Lefebvre, the paper conceptualizes SR.11 as an abstract space—shaped by external, often invisible forces—and explores its materialization through two embodied research approaches. The first is rhythmanalytical, focusing on the bodily perception of spatial rhythms produced by human and non-human agents, revealed through the slow, pedestrian encounter with the landscape. The second is auditory, using sound recordings to analyze the interplay between soundscapes, built environment, and sensory experience. Together, these methods unveil the spatial and social forces shaping SR.11 and argue for a sensory, embodied approach to understanding how economic development imposes its logic on local geographies, often at the expense of bodily presence and lived time.

Keywords:

Rhythmanalysis, Soundscape, Roadscape, Urban Drift, Urban ambiance, Commodification of space

Introduction

The Strada Padana Superiore, or Regional Road 11 (hereinafter SR. 11), is one of the oldest roads in Italy. Inaugurated in 1928, on the ancient remains of the Roman Via Gallica, its 430 kilometers run from west to east across the entire Po Valley—the productive heart of Italy—connecting the cities of Turin and Venice (see Figure 1 below).

The landscape along SR. 11 is not uniform. Traveling from west to east, you pass through evidence of different eras of industrial development. Starting from the archaeological remains of large-scale post-Fordist industry, typical of the West, you arrive at the sprawl of widespread industrialization in the East. The variety of landscapes is shaped by capitalist modes of production, which, perpetually in search of favorable conditions, have metamorphosed, producing socially and historically determined geographies.

We traveled, first alone, then with other companions, along a stretch of SR. 11 without any specific purpose other than to let ourselves be carried away by the stimuli of the places and encounters we encountered there. The aim was to experience through our bodies the famous aphorism of Marx that Debord (1956) quotes in La Théorie de la dérive: "Men can see nothing around them but their own faces: everything speaks to them of themselves. Even their landscape has a soul."

Figure 1. Road map of the SR.11, Source: Wikipedia, 2025

The stretch we traversed corresponds to the section between Montecchio Maggiore and the western edge of Vicenza. It extends for approximately 10 kilometers and is a concentration of urban substance (residential, commercial, industrial, and urbanized agriculture) whose heterogeneity and intensity are remarkable (see Figure 2 below). We have treated this stretch of road as an ideal example of the sprawl typical of widespread industrialization in eastern Italy. It is characterized by disorderly construction, obsessive privatization of space, and the socially exclusive practices of its inhabitants.
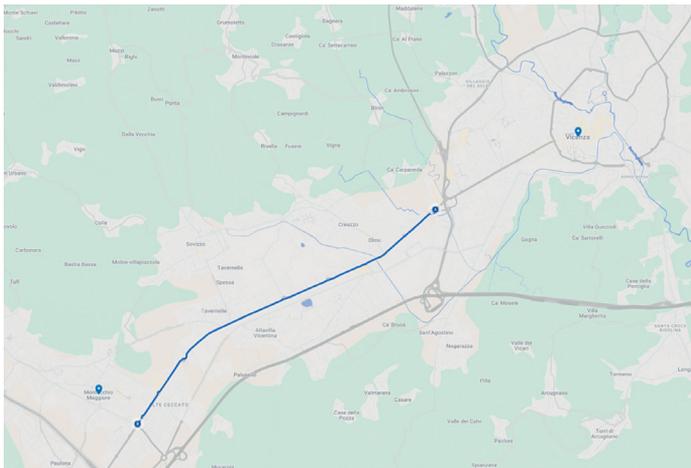
Figure 2. SR.11 Fieldwork Section. Segment between Montecchio Maggiore and the western edge of Vicenza, Source: Author's elaboration, 2025

SR.11: from abstract to concrete space

Dividing the sprawling city of the Italian Northeast longitudinally into two parts, SR 11 can be considered the decumanus of the vast metropolitan sprawl where approximately four million people live, work, and reside. In our case, although SR 11 passes through numerous towns, it is a road that can only be traveled by motorized vehicles. It takes us by car from a shopping mall to a McDonald's or from a woodworking company to a car dealership. Parking lots are the parterre

of this space, and the poor, battered sidewalks do not invite walking. Anyone walking along this stretch of road is viewed with suspicion by drivers. If you are on foot, i.e., walking along the road without driving a motor vehicle, whether it is a latest-generation SUV, a commercial vehicle, or a more modest electric scooter, you are immediately stigmatized by passersby as a socially deviant individual.

We challenged this prejudice and walked the entire stretch from Montecchio Maggiore to Vicenza Ovest in both directions.

We aimed to highlight how the commodification of this space becomes apparent only when we abandon our usual modes of transportation, such as cars. To clarify—first and foremost for ourselves—the scope and meaning of the term "concreteness," we adopted the reflections proposed almost seventy years ago by geographer John Brinckerhoff Jackson (1957-1958) in "The Abstract World of the Hot-Rodder." In his essay, Jackson masterfully described how the landscape has been radically transformed as a result of the spread of private transportation. For Jackson, the new producer/consumer of landscape is the hot-rodder: an individual seeking a new engagement with the landscape, constructed not through the slowness of pedestrian contemplation, but through speed. It is a relationship that rearticulates the idea of displacement, combining the pleasure of mobility with the everyday and (seemingly) insignificant scenes of mid-century America. In this way, the landscape is transformed from concrete to abstract. For the hot rodder, the landscape of reference is no longer the picturesque countryside, but the unmemorable roadside landscape of the United States, from shopping malls to highways.

106

In the same way, with the arrival of flexible production, the abstract space of SR. 11 has turned into a simulacrum of a full space (of what was once full in nature and history). The stretch of SR. 11 that we traveled coincides, for most people, with the journey that quickly crosses it. However, following Lefebvre (1991, p. 306), the key point we wanted to grasp is that abstract space cannot be conceived in the abstract. It has its own content that can only be grasped through specific practices. One of these is certainly to travel it on foot. First alone, then with the students of our courses, and finally with some fellow adventurers [1].

Methodology

We used two research approches. Both use the sensory body of the researcher/passer-by.

The first is based on Lefebvre's (1992) guidelines for rhythm analysis (ritmanalisi). This method proved particularly useful because, once immersed in the concrete space of SR.11, one immediately finds oneself surrounded by a myriad of natural and artificial things, human and non-human actions, which produce a polyrhythm that is complex but by no means eurhythmic. Subjected to the subjective and transgressive gaze of the body freed from its motorized shell/device and from the imperatives of consumption, people and things materialize respectively as solitary monads and ruins because both are subject to morphological transformations that produce spiritual reification and loss of spatial quality.

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1. Our fellow adventurers were: Claudio Bertorelli, architect; Matteo Cibic, designer; Matteo Cremon, actor; Pino Dato, writer; Mattea Gazzola, Director of the Bertoliana Library in Vicenza; Giovanni Glera, architect; Cleto Munari, designer; Nicola Negrin, journalist; Maria Grazia Pegoraro, environmentalist; Maria Pia Veladiano, writer; Chiara Visentin, architect.

The second approach is auditory in nature and is based on the active listening of soundscapes along the SR.11. Listening was carried out as a form of embodied and situated perception, capable of capturing atmospheric, relational, and rhythmic dimensions of space that elude visual analysis. Following the principles of soundscape ecology (Pijanowski et al. 2011), we interpreted soundscapes as revealing devices of the coexistence between human and non-human dimensions, between presence and absence, between control and abandonment. Active listening thus allowed us to detect an additional layer of SR.11's polyrhythmia, highlighting how the auditory experience of space is deeply influenced by the logics of traversal and consumption that dominate this infrastructure.

As a result, a participant-driven field research was carried out in collaboration with our drift companions, employing four specific techniques: photo-elicitation interviews, go-along interviews, photobooks, and sound-recordings. In total, 11 interviews were conducted and later edited into a short documentary titled " *SR. 11 Grand Tour,*" and a total of 10 sound postcards.

The rhythmanalytical approach

Rather than focusing on the perceptual characteristics of abstract space and its homogeneity, the aim is to transcend that space through representations that remove its functionality, accentuate its differences, and restore depth to everyday things and moments. We therefore focused on objects and situations that are seemingly unworthy of attention and aspects that are generally considered unimportant by the consumer market. We suspended the 'distracted enjoyment' that is typical of a moving point of view, replacing it with the static contemplation of the fragments offered by SR. 11 offered us through continuous perceptual shocks. In other words, we were interested in everything that abstract space flattens and conceals.

An Amazon-built and Matteo Cibic's melancholic Irises

"The beauty of SR 11 is that it's like Amazon: an ocean of small, medium, and large companies, with signs that are sometimes tacky, sometimes very dissolute... The beauty of this road is that it is the antithesis of beauty. It's so ugly here that it's beautiful. There's no place in the world more beautiful for its ugliness."

"For many, beauty is having a car under their ass and being able to move freely from one place to another. We are so used to having the car as our only means of transport: probably many people appreciate living on the highways because they find it more convenient. This influences how we experience the landscape, what we appreciate about the landscape, and the value we place on time."

"We've been here for fifteen minutes and haven't met anyone. This is total desolation... people here are so used to living in their own world that they can't even say hello."

"I'm struck by the fact that there is someone who lives along the road and plants and takes care of these flowers (irises) along the roadside. Despite living opposite a busy highway, they still show love for what's outside. This person probably lives beyond this hedge. I don't think they care much about what happens outside, but they care that the little garden facing this non-place is beautiful."

Polyrythmia of heels: Paid sex and street names. Matteo Cremon reinterprets Oscillazioni (Oscillations) by Vitaliano Trevisan

"Considering that I go there (with prostitutes, editor's note) every Friday of the month and every first Wednesday of the month, I would say that the average is five times a month. Five times a month for twelve months means sixty times a year. Sixty times seven is four hundred and twenty. Let's say four hundred and fifty. At fifty thousand lire a time, that's (calculate in your head) twenty-two million five hundred thousand, which is eleven thousand two hundred and fifty euros. I thought it was more."

"The city at night is a completely different city. The streets are completely different. Corso San Felice, Corso Uruguay. And that corner there: the corner of Montevideo. Then, from Ponte Alto up to here in Creazzo, Viale Belgrado. All Serbian, all tall, blonde, stiletto heels, shoulder bags. And from Creazzo up: Africa. Viale Lagos, Strada delle Magrovie, Largo Port Harcourt. Polyrhythm of heels tapping on the asphalt."

"SR. 11 is a horrible road... At night, however, everything is different. And then you see them right away, in their cars, alone, driving at 30 km/h and then turning without signaling because they suddenly decide that that blonde over there is exactly what they're looking for. Or they turn around again and go back again and do another lap again. Up and down, up and down. All night long, up and down." ere is exactly what they're looking for. Or they turn around again and go back again and do another lap again. Up and down, up and down. All night long, up and down."

Lexotan for the soul, by Giovanni Gleria

"All this proliferation of boxes, of commercial areas, given that they become part of people's lives, has certainly contributed to a way of interpreting phenomena, a way of interpreting space, which then translates into the way we speak, the way we move, the way we dress. Because if I live in a situation dominated by chaos, chaos probably becomes part of my way of life."

"Those who travel this road every day (by car) don't even realize (what's outside). Habit is an excellent sedative. Habit leads you to make a selection, so you no longer see things."

The monstrosity of static contemplation, by Maria Pia Veladiano

"It has become a place you have to drive through. Everything you can see with your feet, passing by, touching the ground, looking, is something that escapes us. We only see big things... Everything we cannot see with the necessary calm can become monstrous because I do not perceive its monstrosity. It is a road that has become monstrous."

The auditory approach

If we were to compile an inventory of the *strictly audible* —inspired by Georges Perec's observations of the *infra-ordinary* in *Place de la Suplice* —ours would include: gates, doors, restaurants, traffic, honking horns, and fragments of nature.

This polyphony becomes fully perceptible only when stepping outside the protective shell of a vehicle. Birdsong, animal calls, and the clinking of coffee cups reveal a lived-in space inhabited by human and non-human presences. These sounds not only animate the space but also structure its temporality, accompanying the rhythms of daily life.

Sound renders the abstract tangible, exposing the productive character of the SR11: gates in motion, circulating vehicles, layered horn patterns, and the drone of active construction. People at work, machines in operation, warehouse gates clattering, silent homes, and distant traces of nature all signal the commodification of time, space, and rhythm.

Yet it is through aimless walking that we resist full assimilation into this infrastructure. Walking-as-listening becomes an act of appropriation rather than mere passage, reconfiguring space through otherwise imperceptible sounds.

In this way, listening reveals the immaterial dimension of the SR11—a critical tool for making audible the pressures, violences, and contestations embedded in its atmosphere.

Findings and Conclusions

This essay has proposed a sensory and embodied reinterpretation of SR.11 as a paradigmatic example of abstract space shaped by the logics of commodification, speed, and infrastructural violence. By abandoning the car and reactivating the perceptive and affective faculties of the walking and listening body, the latent rhythms and atmospheres of a landscape otherwise numbed by habit and functionality were uncovered. The rhythmanalytical and auditory methods employed showed that SR.11 is a site of spatial and social reification, far from being a neutral conduit for movement. Here, people and things are disjoined and reduced to isolated presences or ruins, and the possibility of inhabiting space through slowness, attention, and relation is negated. Yet within this degraded, alienating environment, traces of resistance persist: in a planted iris, a nocturnal rhythm of heels, or a fleeting encounter. Though minor, these moments suggest that even in the most commodified landscapes, space can still speak if we learn to listen differently, walk with disobedience, and dwell with the monstrous rather than flee from it. SR.11 thus emerges as both a site of critique and a terrain of potential reappropriation, where the sensory body is the primary tool for reclaiming presence, meaning, and depth.

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CASE STUDIES
AND SITUATED DEVICES

Microhistories in Architectural Ambiances:
Heritage and the Materiality of the Body of Architecture in the Oeuvre of Eduardo Souto de Moura

Mahdi Alizadeh[1], Clara Pimenta do Vale[2], Anastasiia Kholopova[3]
1. Faculty of Architecture of the University of Porto (FAUP) Center for Studies in Architecture and Urbanism (CEAU), PACT Research Group, Portugal and up201802608@up.pt
2. Faculty of Architecture of the University of Porto (FAUP) Center for Studies in Architecture and Urbanism (CEAU), PACT Research Group, Portugal and clara.vale@gmail.com
3. Faculty of Architecture of the University of Porto (FAUP), Portugal and up202300630@up.pt

Abstract.
This paper examines the notion of microhistories in architecture by referring to the work of Eduardo Souto de Moura, through the analysis of localized, temporal and material traces that shape its ambiance. The research discusses some of the significant theoretical contributions on the topic, especially by situating the pre-existent environments of the ruin in the case of the rehabilitation of the farmhouse in Gerês built between 1980-82, being one of the first and most notable works of Souto de Moura. Through close readings of his design approach, and drawing on thinkers such as Rogers, Pallasmaa, Zumthor, and Siza, the paper argues that architectural heritage is not only preserved but redefined through subtle, site-specific interventions. In other words, an architecture that is in the pursuit of an environment where geometry, materiality, and temporality converge, transforming the built object into a lived ambiance.

Keywords:

Microhistories, Circumstance, Heritage, Souto de Moura, Ambiance

111

Microhistories and the Temporal Dimension

The constraints and conditions of architectural work are its defining factors. It is no wonder that the physical boundaries are the principal characteristics that determine the geometrical responses of space, in accordance with its functionality and program. Yet, often a neglected aspect of architecture is the temporal dimension of space. It is in this regard, that Juhani Pallasmaa argues that "we dwell in both space and time, and both dimensions are articulated and domesticated for human purposes" (Pallasmaa, 2015). The same reasoning can be found in the words of Ernesto Nathan Rogers, who in his first book, *Esperienza dell'architettura,* published in 1958 (*The Experience of Architecture in English*) argues that time, like gravity is a conditioning factor of architecture, and in a step further stating that the task of architecture is "to fix time-epoch in the space"[1] (Rogers, 1958, p.183).

One can argue that, when referring to the temporal dimension in the work of architecture, we are principally discussing the questions of history. However, perhaps it is time to rethink the scales of history, the same way as architects often categorise spaces into diverse spatial scales. In other words, instead of history, as a global, vast and comprehensive aspect of architecture, to argue in favour of "microhistories" of architecture, the same way as one may refer to "microhistories of life". To better explain this notion, we can refer to the words of Álvaro Siza, who in his seminal book, Imagining the Evident, reminds us that "All objects have a history. However, from a distance they may look slightly different, and it is precisely in this slight difference that their true meaning in time is hidden"(Siza, 2022, p.122). In other words, it is the microhistory of an object that defines its identity.

1. Original text in Italian "potrei aggiungere, invertendo il ragionamento, che architettura 'e fissare il tempo-epoca nello spazio."

The relevance of understanding the various dimensions of microhistories of a site, is due to the architectural design decisions which are taken in accordance with the "pre-existent environments", a terminology, invented and reflected upon by Rogers (Sabini, 2024, 69). A similar observation can be found as Peter Zumthor in the book *A Feeling of History*[2] argues:

"Landscapes and places store memories, they save traces of lives long gone. What fascinates me about these traces is that they are real, they are unique, they are always authentic. To me landscapes are historical documents; I can try to read and interpret the place where I have to act as an architect" (Zumthor, 2018, p.21).

It is precisely these traces that shape the atmosphere in Zumthor's architecture (Zumthor, 2006, p.18). In order to clarify the importance of microhistories of a site, and consequently architecture one can refer to the work of Eduardo Souto de Moura, especially one of his first works, meaning, the rehabilitation of the remains of a farmhouse in Gerês (1980-82). The architect designed the house alone and at the age of 28, after some years of collaboration with Alvaro Siza, and Fernando Távora. Yet one can argue that the guiding principle of his architecture remained the same, throughout the proceeding years of a long and busy professional practice.

On Circumstance and Heritage

The continuity of a solid principle of architecture is evident in the work of Souto de Moura, to the extent that he acknowledges the fact that "For years now, since my first project, I've been designing the same house" (Souto de Moura in Campo Baeza, 2014, p.2). Though being very young at the time, one can precisely observe the pursuit of the architect to encounter the most practical problems, which in the case of this oeuvre, is the delicate dialogue between the ruin and the artefact. A theme which is replicated in series of his works built or projected in the decades to come. In an insightful text written by Carlos Machado and entitled *Modern Project and Ancient Architecture* (2011), the author provides an elegant exposition in regard to the theme of ruin in Souto de Moura's architecture by stating that:

"the ruin takes on a special meaning as an artifact stripped of its most superficial figuration. It is a reduction of architecture to its formal principles, enabling the buildings to reveal their secrets more readily. It is as if ruin testified to the temporal and spatial unity of architecture" (Machado, 2011).

Building upon this, Carlos Machado refers to Michelangelo's notable test, that a good sculpture should maintain all of its essential qualities, even if rolled downhill. Enhancing the idea that the guiding principle in the work of art is further revealed even if the accessory parts are missing (Machado, 2011).

To elaborate further, the architectural intervention in the ruins of the old farmhouse in Gerês, does not result in the contradiction between the old and new, but rather "corresponds instead to the unveiling of a continuity that lives by making suitable adaptations to the remains of a former farm building in order to fit in with the slab, pillar and glass panes that complete them" (Machado, 2011).

2. A Feeling of History is the latest book published by Peter Zumthor, it is a conversation between him and Mari Lending, Transcripted in the format of a book.

WG 1

The ruin, having the traces of the passing of time, in the body of its pre-existent farmhouse, embodies the intervention of modern architecture as "new equilibrium"[3]. In other words, and borrowing the terminology often used by Fernando Távora, one can refer to an architecture that converges with the pre-existent circumstance, which consequently results in a new reality. Arguably, a tendency of modernity, which is explicitly evident in the words of Távora as he states:

> "[...] the artificial forms, the result of human creation – in addition to the natural forms that play a role of fundamental importance – find themselves to be conditioning factors for every new form created since the space organised by man is conditioned in its organisation but, once organised, becomes in turn conditioning for future organisations"
> (Távora in Liverani, 2022, p. 450).

In the case of the rehabilitation of the remains of a farmhouse in Gerês, the architectural intervention resulted in a 30 m² residential plan, which consists of solely two interior non-load-bearing walls, to separate the room and the bathroom. The living room which consists of an open kitchen, is a square-shaped, limited space facing the curtain wall that reflects the nature into the interior space. The sliding windows, when completely open, converge the exterior with the interior, hence the continuity of a series of spaces. As in the words of the architect "The internal division, through a plane and a pillar, confirms the minimal character of the intervention as the result of a process rather than a formally conceived idea defined a priori" (Souto de Moura in Trigueiros, 2000, p.34). Furthermore, the architect when referring to this work in his professional practice, acknowledges that "the reconversion of this ruin was the first step in a lucid research into architectural processes and nature, and their compatibility, established in this project with the aim of creating an anonymous work, which is the opposite of going unnoticed" (Souto de Moura in Trigueiros, 2000, p.34).
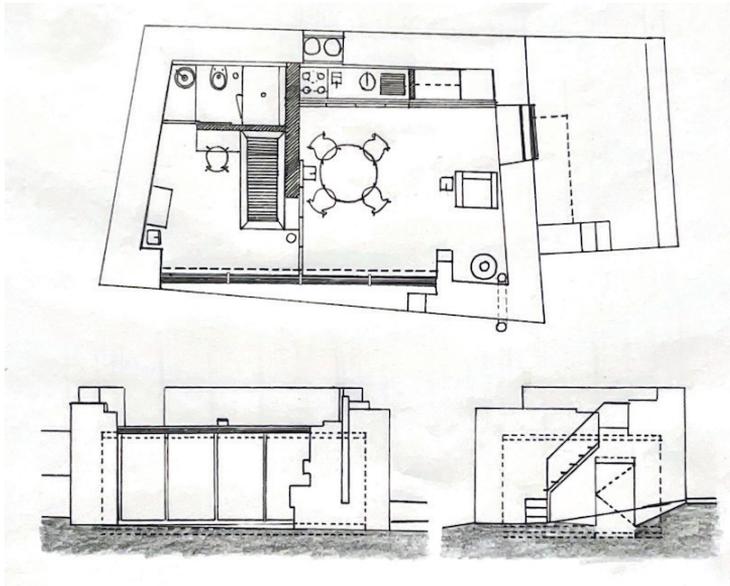
Figure 1. Plans and Elevations of the Project, Redrawn by the author, 2025.

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3. A very delicate terminology used by Carlos Machado

Eduardo Souto de Moura, indicates a subtle difference between anonymity and being unnoticed. Etymologically, the word 'anonymous', of Greek origin, is derived from an (meaning 'without') and onoma (meaning 'name'), constructing the word anõnumos often understood as nameless. Arguably, an architectural intervention that seeks to respond to the most principal question of design, though it does not intend to remain unnoticed. An artefact that intentionally is limited to the "constructive energy" (L'energia construttiva), a terminology used by Ernesto N. Rogers (1958, p.163) in the second chapter of his book when reflecting on Functionality and Beauty (Utilità e bellezza).

It should be stated that this intention of anonymity is dependent on the nature of each work, and based on the architect's careful observation. As in the words of Álvaro Siza, "The exercise of observation is a priority for an architect. The more we observe, the clearer the essence of the object will become. And this essence will be consolidated as vague, instinctive knowledge" (Siza, 2022, p.126). It is the essence of the object, or in this case the architecture, that requires the architect to decide whether remain anonymous, as in the case of the rehabilitation of the farmhouse in Gerês, or to an artefact that manifests itself, as in the case of Casa das Histórias Paula Rego Museum.

Furthermore, Alberto Campo Baeza, when writing on the qualities of Souto de Moura´s architecture, especially the works in a smaller scale, signifies the truthful nature of his interventions. As in a text entitled *Souto, Souto, Souto,* he shows no hesitation to state:

> "The Beauty of Souto de Moura's architecture comes, in Plato's words, from the splendor of the truth that lies in it. The Platonic Beauty as splendor of Truth is punctually fulfilled in our architect. There is always behind every project, whether it is a competition, a project or a work, a convinced and convincing latent idea" (Campo Baeza, 2014, p.5).

On the other hand, the Italian architect and author Giovanni Leoni, when juxtaposing Souto de Moura within the "School of Porto" with Távora and Siza, asserts that in Souto de Moura's architecture one cannot find the "anthropomorphic and anthropological lightness of the seated architectural volumes of Távora, nor the animal-like ability to take possession of the place and to tame it, seen in the work of Siza" (Leoni, 2019, p.26). Rather one encounters, "a tormented attitude and a composite exercise, as happens with many other themes" (Leoni, 2019, p.27). A manifested architecture, rooted in its genealogy, as in the case of Casa das Histórias Paula Rego Museum. This is not a contradictory quality of Souto de Moura's architecture, but rather as Fernando Távora used to teach to his students, "in architecture, the opposite is also true" (Távora in Pinto da Silva, 2022, p.62). That is to say, though the principles and the tools of his architecture remain constant, the approach is dependent on the pre-existent circumstance of each work.

This quality of Souto de Moura´s architecture, is rooted in a profound objective, which is evident as he raises the question "how do you build an environment?" (Souto de Moura in Bismarck, 2022). For the architect, the heritage a work of architecture can leave, is the environment it can create. An environment, which is rooted in the questions of geometry, but not limited to it. An environment that seeks to explore materiality of the body of architecture. An environment, which is the result of the conjugation of materials, as in the case of the farmhouse in Gerês, the pre-existent masonry, the concrete slabs, the glass curtain walls and the wooden furniture. As argued by Carlos Machado, an architecture that similar to the work of Cézanne, is "solid and lasting, like the art of museums"(Machado, 2015, p.12). That is, an artefact transformed to an environment.

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115

Sensitive Ecologies:
Artistic Installations, Urban Ambiances, Critical Spatial Practices

Isabel BARBAS[1]

1. Universidade Lusófona, Lisboa, Portugal, p4098@ulusofona.pt

Abstract.

This study examines artistic installations in public space as poetic and critical devices shaping urban ambiances in response to environmental degradation and the climate crisis. Drawing on theories of ambiance (Thibaud 2015; Böhme 1993), spatial production (Lefebvre 1974), situated practices (Rendell 2006), and public art as sociopolitical mediation (Miles 1997), it argues that these interventions act as micropolitics of presence, perception, and ecological engagement. Rejecting traditional monumentalism and purely aesthetic gestures, many contemporary works activate multispecies relations, ephemeral ecologies, and sensory attention, reconfiguring urban cohabitation beyond functionalist and anthropocentric paradigms (Latour 2004; Tsing 2015). Through case studies we show how these installations not only create atmospheres but also interrogate their conditions of emergence. Ambiance is thus redefined as a sensitive, situated, and contested field — a space where ethical and political responsibilities become tangible and new imaginaries of sustainable habitability can emerge.

Keywords:

Urban Ambiances; Artistic Installations; Critical Spatial Practices.

Ecologies of the Sensible and Public Space in Crisis

At a time when cities in the globalized world of "liquid modernity" (Bauman 2000) face profound transformations driven by the climate crisis, growing inequality, and the erosion of social bonds, the notion of *urban ambiance* gains renewed centrality. More than an aesthetic or atmospheric dimension, ambiance emerges as a sensitive, ecological, and political field of contestation. This article starts from the premise that certain artistic installations in public space operate as critical devices capable of configuring and reconfiguring urban ambiances, producing what is here termed *sensitive ecologies*: modes of inhabiting that mobilize perception, affect, and multispecies cohabitation. By analyzing artistic-architectural interventions in urban space in articulated ways — inscribed in frameworks such as micro-urbanism, tactical or "integral" urbanism (Ellin 2006) — we argue that these works not only generate atmospheres but also activate micropolitics of presence, attention, and ecological engagement, challenging functionalist, and anthropocentric planning logics. Building on theoretical contributions, the text offers a critical reading of urban ambiance as a situated and contested field, where *art* — as a "critical spatial practice" (Rendell 2006) — plays a vital role in inventing new forms of habitation and shared responsibility.

Sensitive Ecologies: Theoretical and Critical Framework

The notion of urban ambiance has gained prominence in debates on contemporary urban transformations. Beyond aesthetics or sensory climate, ambiance is understood as a relational and situated field where perception, experience, and power converge. For Jean- Paul Thibaud (2003), ambiance is a collective and intersubjective phenomenon shaped by social practices and everyday urban rhythms. Gernot Böhme (1993) sees ambiance as atmospheric presence—an active spatial quality shaping how bodies inhabit and relate to their environment. This perspective

aligns with Henri Lefebvre's (1991) view of the city as socially and politically produced space. Lefebvre calls for reimagining the city as oeuvre— a space of use value where art and play can involve inhabitants in its making. Similarly, Jane Rendell (2006) defines spatial practice as a critical gesture that challenges architectural normativity and opens space for multidisciplinary creation, multiplicity, and dissidence. In this context, ambiance becomes a cultural and political practice embedded in how space is lived and contested.

Public art, then, is approached not as ornament or monument but as urban micropolitics acting on sensory and infrastructural levels. Malcolm Miles (1997) argues that public art can foster new imaginaries and ecologies of meaning. Bruno Latour (2004) and Anna Tsing (2015) extend this by positioning ambiance within multispecies entanglements—between bodies, climates, and precarious life rhythms.

It is at this intersection that the notion of sensitive ecologies arises as critical spatial practices that integrate sensorially ecology and symbolic action. Rather than mere experience, ambiance becomes an ethical-aesthetic platform for cohabitation, exposing and reconfiguring relations among species, infrastructures, and temporalities. As Timothy Morton (2021) argues, all art is ecological insofar as it renders visible the entangled mesh that constitutes us as environmental beings—ambiance is thus the very condition of experience and responsibility. Rather than stabilizing the urban, these practices present it as unstable, lived, and contested—opening space for reimagining the common.

Artistic Practices as Critical Devices of Urban Ambiance

The artistic installations examined here operate as critical spatial devices capable of generating different regimes of urban ambiances. Each one activates distinct modes of relation between bodies, territories, materialities, and temporalities, contributing to the formulation of operative categories of ambiance that go beyond the functional or merely aesthetic frameworks of public space. The following section proposes interconnected categories—atmospheric, ecological, nocturnal, and sonic ambiances—which will be summary discussed through a series of paradigmatic case studies.

Atmospheric and Immersive Ambiances — Olafur Eliasson

The work of Olafur Eliasson plays a key role in creating sensory and immersive ambiances that reconfigure spatial perception and environmental awareness. In The *Weather Project* (2003), an artificial solar atmosphere filled Tate Modern's Turbine Hall with golden mist, evoking climatic sensations, cosmic scale, and collective contemplation. In Ice Watch (2014), blocks of ice from Greenland were installed in European city squares, staging the physical presence of melting ice sheets, and making the climate crisis sensorially tangible.

Through sensory beauty and phenomenological engagement—where spectators' bodies co-create the experience—Eliasson activates an aesthetic that is also critical. Light, color, water, temperature, and atmospheric scale generate ambiances that go beyond decoration to become media of shared reflection.

Figure 1. *The Weather Proj*ect (2003) Olafur Eliason; *Ice Watch* (2014-18), Olafur Eliason.

This echoes what Byung-Chul Han (2015) describes as *active contemplation,* and what Morton (2021) frames as art's *attunement to the non-human*. Eliasson's atmospheres reveal our ecological entanglement, turning aesthetics into a tool for rethinking urban life and confronting planetary transformation. Ambiance thus becomes reflective and political—a presence (Böhme 1993) that not only surrounds but challenges. Such dispositifs expose latent conflicts within the common world, rendering ambiance an active field of mediation that transforms the public into implicated agents (Latour 2004).

Ecological and Multispecies Ambiances — Agnes Denes and Andrés Jaque

Figure 2. *Wheatfiel*d: A Co*nfrontation* (1982), Agnes Denes; *COSMO* (2015), OFFPOLINN.

The selected installations by Agnes Denes and Andrés Jaque/OFFPOLINN, in New York, propose forms of ambiance that integrate non-human agents, ecological cycles, and vital infrastructures, expanding the urban experience into multispecies cohabitation. In *Wheatfield: A Confrontation* (1982), Denes planted two acres of wheat next to the World Trade Center, directly confronting the global financial center with the temporality of cultivation, care, and regeneration. The ambiance generated by this gesture is both productive and contradictory: on one hand, it stages a radically displaced ecology; on the other, it exposes the lack of space for plant life in the contemporary metropolis and denounces the speculative mechanisms that assign value to land. The city thus becomes a stage for the confrontation between the logic of capital and the metabolism of the earth, challenging the traditional binary between "rural and urban environments", proposing instead the possibility of hybridization and ecological cohabitation.

In a distinct but equally ecological register, *COSMO* (2015), by OFFPOLINN, transforms water purification—typically invisible and chemically aggressive—into a visible, self-sustaining,

and sensorial process. Installed at MoMA PS1, it consists of a translucent, pulsating structure where algae purify water and release phosphorescent particles at night, increasing atmospheric oxygen and creating an urban oasis. Combining agricultural components with biotechnological research, *COSMO* immerses visitors in an ecological and participatory ambiance. Through color, translucency, and unstable materialities, it evokes what Latour (2004) describes as *critical zones*—sites where nature, science, and society converge—and aligns with Morton's (2021) notion of *ecological art*: a practice that reveals the hidden interdependencies shaping the contemporary world.

Both *COSMO* and *Wheatfield* reframe the notion of ambiance as a sensitive ecosystem, composed of multiple agents and scales. As Jaque suggests, the objective is to bring together purity and toxicity through transescalar practices of coexistence and composition, generating hybrid atmospheres. Echoing Tsing (2015), these are *precarious ecologies*—forms of life that endure within the ruins of capitalism—offering experimental, collective, and affective modes of resistance.

Nocturnal Ambiances — MAGstudio, Isabel Barbas

Figure 3. *Nieve* (2011), *Rio* (2014), Christmas lights, Madrid, Isabel Barbas e Ben Busche.

The light interventions by MAGstudio (Isabel Barbas), such as *Nieve* (2011) and *Río* (2014), exemplify an ephemeral, tactical, and sensorial approach to urban ambiances. Using light as an immaterial medium, these works subtly disrupt everyday life, inviting contemplation and shifts in perception. Referencing natural elements—snow, river, winter—they reject religious or commercial iconography, proposing Christmas as a shared sensory experience across cultures. This evocative language turns ambiance into aesthetic and political hospitality. *Nieve* suspends translucent spirals resembling snowflakes or pasta (*fusilli*), fostering ambiguity and collective interpretation. Río traces luminous threads recalling an underground river, offering a poetic geography above the noisy street. Both works invite critical engagement, resisting passive spectacle.

Combining formal poetry and urban critique, these light installations function as relational fields where sensoriality and shared affect converge. As critical spatial practices (Rendell 2006), they operate through attention, lightness, and suspension. When lit, they trigger a nocturnal transformation—a city layered in reflections, shadows, and atmospheres. Such ambiances emerge from the encounter between subject and space, reinterpreting saturation and opening cracks for silence and imagination.

Sonic Ambiances and Shared Embodiment — MAG studio, Isabel Barbas

Figure 4. *Sound T*extures (2004),Porto, Isabel Barbas e João Alves.

Sound Textures, presented on Avenida dos Aliados in Porto (2014) by *MAGstudio,* introduces the dimension of sound ambiance as a spatial, collective, and bodily experience. Comprising five large triangular structures, the installation blends sound, space, and light to transform public space into a sensitive, participatory acoustic field. Each module functions simultaneously as sculpture, instrument, and architectural device. Distributed across the avenue, the abstract geometries generate shifting perspectives and spatial relations. The sounds—triggered randomly or by specific interaction—create an unpredictable polyphony that is also tactile and kinesthetic.

This ambiance emerges through active listening, as sound is produced and transformed by bodily movement. It evokes what Thibaud (2003) describes as a "sensitive landscape," where practice, materiality, and perception intertwine. The structures act as contemporary *folies*—permeable, performative shelters inviting passage, play, and shared presence. Here, sound becomes a medium of cohabitation, negotiating proximity, scale, and belonging. Av. dos Aliados—usually a monumental empty space—is temporarily reprogrammed as a site for collective, sensory creation. *Texturas Sonoras* turns listening into action and ambiance into relational practice.

Contributions to a Critical Theory of Urban Ambiances

These artistic practices articulate four interconnected dimensions of urban ambiance: atmospheric, ecological, nocturnal, and sonic. Despite their diversity, they share ephemeral, participatory, and sustainable qualities. They incorporate natural and unstable materials into spatial production, engaging critically with everyday urban experience. Sound, even when not foregrounded, remains latent: in the cracking of melting ice (Ice Watch), the mechanical rhythms of harvesting (Wheatfield), or the silent suspension of light (*Nieve* and *Río*). These sonic traces help shape ambiances—modes of affecting and being affected by space. The same can be said of light or water. Working across materials and scales, these interventions generate sensitive atmospheres that resist urban normativity, offering alternative ecologies of presence and cohabitation.

As micropolitical acts, these spatial practices expose hidden infrastructures, shift perceptual regimes, and reintegrate the body into the urban field. In doing so, they affirm ambiance as a situated, ethical, and relational condition — aligned with Morton's (2021) notion of art as a mode of dwelling within planetary tension. This study thus contributes to a critical theory of urban ambiance, understanding it as a field of invention through which art reconfigures the commons, dwelling, and the political.

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121

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Dansbana! as urban heterotopia
Spaces where personal stories are invited to be expressed in the public realm

Teres SELBERG
1. Konstfack University of Arts, Crafts and Design, senior lecturer in interior architecture, teres.selberg@konstfack.se
2. Lusófona University, PhD candidate in architecture

Abstract.
As our urban cities become more diverse, and inequalities in public space are being visualised, the creation of spaces of 'otherness', different from the traditional planning canon becomes of great importance. This paper investigates if applied theories of heterotopia by Michel Foucault and a situated approach to urban design have the possibility to create such norm creative public spaces. Exemplified by the work of the organisation Dansbana!, especially the new urban square Rosa torget (the Pink square), it further reflects on the role of the architect, suggesting a multidisciplinary and participatory approach.

Keywords:

Dansbana, Public space, Heterotopia, Rosa torget, Norm creative

Rosa torget and the theory of heterotopia

In the lecture 'Of Other Spaces' Michel Foucault presents a theory of space where curiosity creates counter-sites that relates to other spaces and somehow mirror or reflect them. Outlined through a set of principles, they are described as effectively enacted utopias – heterotopias. Read through a lens of sensorial experience rather than that of regulations, this paper aims to dissect the public spaces for dance created by the organisation Dansbana!, especially the public square Rosa torget, and show how such spaces can constitute heterotopias, even if Foucault argues that "in general, the heterotopic site is not freely accessible like a public space". (Foucault, 1986)

The organisation Dansbana! creates public spaces for dance with and for a focus group of young girls as an answer to gender inequalities in public realm. Simultaneously the traditional building typology 'dansbana' (area for dance) is updated to meet the contemporary dance scene of today. The updated dance spaces are designed to create an atmosphere of its own, contrasting but still in dialogue with its surroundings. All spaces aim to add curiosity and playfulness to the site to create a safe and relaxed environment, where the visitor feels encouraged to dance.

Norm creativity

The first principle of heterotopia is that (probably) all cultures constitute heterotopias.
Those could be divided into crises heterotopias, in which only a defined group of people are welcome (e.g. boarding schools or elderly homes) and heterotopias of deviation, spaces where people are controlled because they behave differently than the norm (e.g. prisons or psychiatric hospitals). (Foucault, 1986)

The Swedish government emphasise a need to create public spaces where people from different backgrounds can meet (Löfven & Kuhnke, 2018) – places where strangers meet, as Richard Sennett shortly describes public realm. (Sennett, 2020) The traditional building typology once constituted important public spaces where people from different classes would meet (Selberg, 2022) and were criticised, as places where young people were not behaving according to the norms of its time. (Fridolin et al., 2015)

In the documentary 'The social life of small urban spaces' William Whyte presents a recipe for a successful public square where one of the ingredients is something unexpected, such as a piece of art. He calls it triangulation. (Whyte, 2005) The triangulation wants to interrupt the everyday rhythm and make people stop, change direction and interact. By introducing an element of a portal to imagine a passage from or into another world, as well as its dancing partner, the portal turned upside down, not behaving at all the way society wants (and definitely not behaving as the brick wants as Louis Kahn would note), the triangulations at Rosa torget aims to encourage a non-normative bodily approach to them and to the whole space.

Figure 1. Left. The Pink Square, Photo by Skanska, 2024. Right. The Pink Square. Collage by the organisation Dansbana!, 2021.

Flexibility

The second principle is that a heterotopia has a certain function, but its role can change with society and history, e.g. the cemetery as a space to whom everyone in the city is connected. (Foucault, 1986) The relationship to such space is substituted to change with a shift in attitude, e.g. to death - or to dance.

Even though the heyday of the historical building typology dansbana has long passed, and the youth of today has lost the understanding of this term, its legacy is kept alive by the updated versions created by the organisation Dansbana!. These new spaces always include an interactive sound system with Bluetooth connection instead of the orchestra pit and dancing happens on a spontaneous basis rather than solely through organised events. As heterotopias the contemporary spaces of Dansbana! follow transitions of our time and society, away from gender inequalities and open to culturally diverse ways of dance expressions.

Spaces of semiotics

According to the third principle a heterotopia can consist of multiple juxtaposed sites or spaces within its very real space, e.g. the theatre with its scenography(s) or the cinema with its 2-dimentional images of spaces from elsewhere. The Oriental Garden with its symbolism is described as the oldest example of this aspect of heterotopia. Furthermore, carpets are mentioned as reproductions of gardens that in turn are reproductions of the world. (Foucault, 1986)

Launched by Region Skåne, the scope of the artistic competition that framed the starting point of Rosa torget was to place an art piece - a triangulation, on the planned new square with the proposed name Östra torget (the Eastern square). Instead of following the brief strictly, and as a reaction to the neat but generalised plans of the site, the organisation Dansbana! proposed to include the whole square into their artistic proposal to be able to create a full spatial and sensorial experience. As a result, the whole square is now officially an artwork.

The most dominating element of Rosa torget is the cross-patterned flooring, the carpet, binding the facades together and thus creating the feeling of an interior room. Rosa torget is an outdoor interior, a public exterior space with interior qualities. Such qualities have the capacity to evokes feelings of home or familiarity (a feeling of privacy or safety), but also feelings of excitement and invitation by juxtaposing the surrounding urban landscape. Simultaneously music is played out loud over the square through the built-in interactive sound system, inviting a disruption in the everyday rhythm. Personal as well as collective memories and images of music videos pass through the notion of its visitors – linking the space to other spaces in other times.

Ephemeral process

The fourth principal notes that heterotopias are linked to a certain 'slice in time'. The museum and the library are used as examples of heterotopias that through their function accumulate time. Furthermore, festivals or fairgrounds are contrasts to such, but could be described with the same principle – as temporal spaces linked to a time in transition. (Foucault, 1986)

Many of the traditional dansbanas was built as part of the Folkets Park (People's Park) movement in Sweden. Initiated by the labour movement, Folkets Park evolved into important cultural and social hubs with community facilities for recreation and entertainment not very different from the fairground. Even if they as physical structures were permanent in their location, they were activated on event basis, eg. for a concert or yearly celebrations. They were set designs for ephemeral happenings and experiences – for a time in transition.

Figure 2. Inflatable prototypes, testing scales and inviting to dance workshops, Photos by the organisation Dansbana!, 2022.

With a situated approach to design, where each new project is an accumulated reading of the spatial, historical and social context, mixed with influences from the participatory process, each space creates a complex time capsule expressed in spatial design. One can argue that the choice of content is somehow random and subjective, but maybe it is also as such it becomes more playful and evokes the curiosity that lies in the basis of the heterotopia. Even if the ambition is to capture a contemporary playful expression of the 'now', it is however difficult to assess whether these dance spaces will be considered representative of our time in the future. Nevertheless, this research wishes to argue that too generalised and regulation guided spaces often loose its personality – loose its ambiance.

Ambiguity of inclusion

The fifth principle states that heterotopias always are both isolated and at the same time permeable. As examples Foucault uses Muslim hammams or the Scandinavian saunas. To enter one might have to get permission or submit to rites. It is also linked to this principle that Foucault states that public space generally not constitute heterotopias. (Foucault, 1986) The idea of exclusion is obviously contradictory to that of the public. At the same time, it is from the notion that young girls felt excluded in public space for activities that the organisation Dansbana! once started. (Selberg, 2022)

Richard Sennett writes about public realm with an interest into spaces where people from different backgrounds and classes can meet. He states that where there is a border, most knowledge exchange happens. He further reads public realm in relation to natural ecologies, and argues that it is in such permeable borders (spaces) organisms "become more inter-active, due to the meeting of different species or physical conditions". (Sennett, 2010) From a conservative point of view the traditional dansbanas were criticised as playgrounds for unplanned relationships (over classes) and distractions from career and family, (Wigerfelt, 1996) creating a 'nowness' of its time, open to public, yet socially and politically unresearched.

Furthermore, one can argue that all programmed public spaces have an intrinsic inclusion/ exclusion dilemma, where also social, cultural and personal aspects (e.g. in relation to dance) play an important role.

Figure 3. The portal symbolising a passage, and the 'other' portal turned upside down encouraging a norm creative movement. Photos by the organisation Dansbana!, 2025.

Conclusion: Sensorial public spaces of 'otherness'

The last principle of heterotopias is that they are related "to all the spaces that remains" as spaces that is 'other', exemplified by the (free) ship and the (strict) colonies. (Foucault, 1986). The theories on heterotopias have been read and presented from many perspectives within multiple disciplines, where two common contradicting readings have been that of regulations of space and that of feeling of space. It is to the later reading this paper relates.

Through the creation of a real physical space with contextual yet unique specificities Rosa torget aims to create a feeling of being in a space of 'other' where norms are erased and feelings are

welcome. Even if a hospital could be argued to be a space of deviation (a heterotopia of control), a public square (external space) within such area where death and birth, desperation and hope, are near, have the responsibility to give room (internal space) for thoughts and reflections.

Just as Foucault needs the utopia to articulate and situate the heterotopia in its relation – as a physical real or external space compared to a place of fantasy, illusion or internal, the role of the organisation Dansbana! as artists instead of architects probably opened a portal to a different attitude towards the commission in the creation of Rosa torget.

If not used as guidelines of control, but rather that of inspiration, an implementation of the theories of heterotopias in relation to feelings or ambiances, along with a contextual and multidisciplinary participatory design process, could be applied to generate norm creative spaces with an openness to the yet unknown. Just like public spaces in classical European cities had connotations to the theatre, as places for action, or in Hannah Arendt's words, 'space of appearance' (Arendt, 1958), the spaces of Dansbana! wish to make room for meetings where personal expressions are invited to take place in public realm.

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Re-Illuminating Antiquity: Nocturnal Ambiances and Urban Heritage in the Nighttime Lighting of Ephesus

Zeynep Aydin Polat[1]

1. Ministry of Culture and Tourism of Turkey – Turkey

Abstract.

This paper explores the transformation of spatial and sensory experience in the ancient city of Ephesus through its contemporary nighttime lighting design. As one of the most visited archaeological sites in the Mediterranean, Ephesus presents a unique case for investigating how artificial lighting redefines the perception, atmosphere, and use of urban heritage after dark.

Drawing on theories of urban ambiance and architectural phenomenology, this study examines how lighting interventions mediate the relationship between visitors and ancient ruins. Through on-site observations, light mapping, and photometric analysis, the paper analyses the ways in which light choreographs movement, evokes emotions, and reconfigures the spatial legibility of key monuments, such as the Library of Celsus and the Marble Road.

By situating Ephesus within the broader discourse on cultural heritage lighting, the paper addresses questions of authenticity, temporality, and sensory engagement. It argues that nighttime illumination can either enhance or compromise the interpretive depth of historical sites, depending on its sensitivity to context and narrative.

This research contributes to ongoing discussions within COST Action CA23145 by foregrounding the role of ambiance in the nocturnal reanimation of archaeological landscapes. It invites a rethinking of light as not merely a technical tool but a cultural medium that shapes our urban memory and architectural imagination.

128

MAPPING & ASSESSING
THE URBAN ATMOSPHERE

Exploring the Ambiances of "Invisible Quality Places" in European neighborhoods

Dalit SHACH-PINSLY[1], Hadas SHADAR[2]
1. NB School of Design, University of Haifa, Haifa 3498838, Israel dshach-pi@staff.haifa.ac.il
2. NB School of Design, University of Haifa, Haifa 3498838, Israel hshadar@univ.haifa.ac.il

Abstract.

This paper proposes a methodology for identifying the spatial potential of beneficial sub-neighborhood spaces, places that are identified locally by residents and carry the ambiance of the local area, in mass housing neighborhoods built through state initiatives in Europe between 1945 and 1980. These neighborhoods, shaped by modernist planning ideologies and often criticized for their anti-urban morphology, reveal valuable intra-neighborhood "invisible spaces" areas discovered and activated by residents through bottom-up practices, especially during crises such as the COVID-19 lockdowns. The study highlights how morphological characteristics such as walkability, visibility, spatial diversity, and green openness can support well-being and urban resilience and assist in creating the ambiance of a place. Based on spatial analysis and evaluation tools, we present a framework for recognizing these spaces and argue for their consideration in future urban renewal strategies.

Keywords:

Spatial evaluation, Invisible Spaces, Urban renewal, Walkability, Visibility

Introduction

The quality of the built environment affects quality of life and plays a critical role in every neighborhood setting. At first glance, the quality of neighborhood spaces may appear to be assessable through standard planning tools such as plans, sections, and layouts. However, such an approach often overlooks a key element: the high-quality places that are identified, developed, and shaped by the residents themselves, informally and without professional planning, and fosters their individual sence of identity and the ambiance they associate with the neighborhood. These are often "invisible quality places," hidden from view and difficult for outsiders to recognize. In contrast, neighborhood residents discover and appropriate these places through their everyday wanderings and interactions within the neighborhood.

This paper aims to uncover the "Invisible quality places" found in mass housing neighborhoods, concealed from public view and known primarily to the local community. The argument is that the ideological, economic, and professional approaches that shaped the initial planning of these neighborhoods created the conditions for the emergence of such quality communal spaces. Furthermore, we argue that evaluating urban location, spatial and human diversity, intra-neighborhood visibility, and pedestrian accessibility can provide insights into the neighborhood's qualities and human activities, revealing the potential for the formation of these beneficial "Invisible quality places".

An example of such spaces can be found in places where clusters of seating items such as couches, chairs, and tables of various sizes appear to have been placed using placemaking methodology. However, in reality, they were arranged in an "unprofessional" local manner by the residents

themselves. In doing so, a "space/place" is created, one that the neighborhood residents have formed, return to again and again, identify with, and consider as their place in the neighborhood. Another example refers to play areas for children. These are the neighborhood's quality places, locations identified by the residents themselves, later developed by them, and used by them.

The paper examines the spatial and ideological characteristics of neighborhoods built through state initiatives in various countries, particularly in Europe, between 1945 and 1980, in the post-World War II years. We argue that despite being aging and subject to economic, professional, and ideological criticism, these neighborhoods contain beneficial physical spaces that became especially evident during the COVID-19 pandemic. These spaces provided opportunities for well-being, relaxation, and community-building during lockdowns and restrictions on movement in the built environment. Residents discovered these spaces, referred to here as "Invisible quality places", through a bottom-up process, and they largely remain unknown to planners or other external stakeholders.

In this paper, we present several "invisible quality places" case studies from various neighborhoods across Israel. We demonstrate how these places contribute to neighbourhood well-being and, more specifically, how the spaces in which they emerge can be objectively assessed. In other words, we seek to identify the spatial qualities within neighbourhoods that foster the emergence of such places.

Between Criticism and Rediscovery

Mass housing neighborhoods built through state initiatives after World War II (1945– 1980) were planned as part of welfare state policies aimed at providing affordable, healthy, and modern living environments. They incorporated principles from pre-war modernist urban theories, such as the Garden City (Howard 1898), the Radiant City (Le Corbusier 1933), and neighborhood unit models (Perry 1929). With the shift towards privatization and neoliberal urbanism since the 1980s, these neighborhoods have been widely criticized for their anti-urban character, social segregation, and design failures (Shadar and Shach-Pinsly 2025).

Nevertheless, during the COVID-19 pandemic, residents of these neighborhoods rediscovered the value of their generous, green intra-neighborhood spaces. These spaces, termed here "invisible spaces," are unrecognized by planners yet serve as areas for recreation, observation, and informal social interaction. This paper proposes a methodology for identifying such spaces through morphological and spatial analysis tools.

Ideological Origins and Morphological Characteristics

The original design of mass housing neighborhoods was rooted in ideological motivations: creating healthy environments, ensuring access to green space, and fostering community. Yet, planners rejected traditional urban elements such as continuous street frontage, mixed uses, and defined public squares, leading to spatial forms often considered anti-urban.

These design choices enabled alternative spatial practices. As shown in Figure 1, road networks were external to neighborhoods, encouraging pedestrian movement within. Repetitive building placement (e.g., Zeilenbau) generated varied, open spaces between structures, which residents adapted for community use.
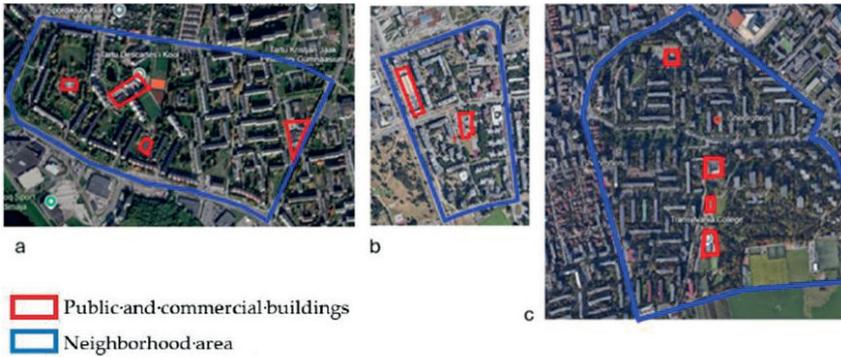
Figure 1. Annelinn, Liman, and Gheorgheni neighborhoods in Europe. Authors, 2024.

Rediscovery through Crisis: The Role of Intra-Neighborhood Spaces

During COVID-19, limited mobility forced residents to engage with their immediate surroundings. In neighborhoods with open spaces, residents found areas for gathering, socialization, and observation. Figure 2 illustrates this dynamic: older and lower-income residents using shaded spaces near old urban centers for daily interactions, transforming passive green spaces into active communal places.

These spontaneous, bottom-up adaptations reveal the resilience potential embedded in the neighborhood's spatial design. Such spaces are not planned but emerge from continuous, informal use, and as such, they effectively frame the areas of the neighborhood that hold a distinct ambiance.

131

Figure 2. Public gatherings in Kiryat Eliezer, Haifa. Authors, 2024.

Evaluating Invisible Spaces: Tools and Indicators

The evaluation of the built environment consists of two main components: 1) Quantitative assessments – involving numerical and statistical measures (e.g., housing density per acre); 2) Qualitative assessments – focusing on aspects like connectivity or walkability, evaluated using tools that quantify these qualities.

Although there is no established methodology for spatial-neighborhood assessment, there is a variety of sporadic tools available for evaluating the built environment. Regarding qualitative values that are quantified, we note several models and tools. Quantitative tools developed by Carmona and colleagues (Carmona, Magalhães, (2009) include the "Positive-Local-Qualities" (PLQ) tool,

which assesses diverse environmental dimensions such as greenery, security, accessibility, and economic vitality.

Visibility in the built environment has been measured by several researchers for a variety of purposes. As a measure of visible area, Benedikt (1979) developed the term "isovist". Frank et al. (2010) created a Walkability Index to assess quality of life. Connectivity is another aspect that impacts the built environment, which is calculated as the density of intersections in an urban area (Handy, et. al., 2002).

Our paper addresses this gap by identifying existing tools that can assist in identifying beneficial 'invisible spaces' and revealing their potential to enhance residents' perceptions of the neighborhood's ambiance and quality of life.

Intra-neighborhood areas are one of the most prominent features of MHSIN neighborhoods. Using visual analysis tools (Shach-Pinsly, D., (2010), it shows that the 18–20 meter spacing between buildings (Zeilenbau layout), as is demonstrated in Bat Galim, Haifa (Figure 3), provides both openness to views and sufficient visual privacy. This spacing also enhances safety by creating wide, car-free passageways within the neighborhood. The distance between the two rows of buildings is 20 m, which allows for a wide passageway in the neighborhood without motor traffic passing through, thus increasing personal safety and security.

Most MHSIN neighborhoods are designed without internal roads to promote community interaction and safe movement. This design creates strong walkability potential, with numerous interconnected walking paths spaced about 20 meters apart (Ewing, et, al., 2013). The high number of short path segments and frequent intersections ensures good connectivity and ease of movement throughout the neighborhood.

Older neighborhoods, originally built for lower- and middle-income groups, now provide affordable housing for diverse populations, such as students, young families, long-term elderly residents, working-class families, and immigrants. These groups rely on and actively use public spaces as extensions of their homes. Therefore, urban renewal and gentrification without careful assessment risk displacing these communities, thereby undermining social diversity and the city's character (Shadar & Shach-Pinsly, 2024).

The proposed methodology incorporates spatial evaluation tools to identify and analyze "invisible spaces." Key indicators include:
- Visual openness and privacy: Analysis of sightlines (e.g., isovists) reveals how spatial arrangements allow views across green courtyards while maintaining privacy. In Figure 5, 18–20 meters between buildings provides both visual access and privacy buffers (Shach-Pinsly, 2010).
- Walkability: Dense pedestrian networks with short paths and multiple intersections enhance accessibility and informal encounters.
- Spatial diversity: Socioeconomic heterogeneity and housing variety create opportunities for cross-demographic interactions in shared spaces.
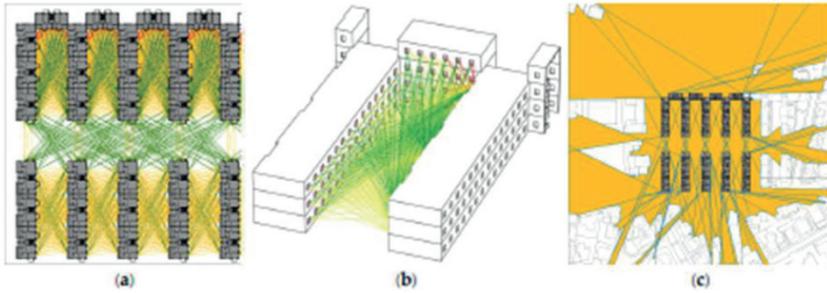
Figure 3. Visibility and visual privacy analysis, Bat Galim, Haifa. Shach-Pinsly, 2024.

Resident Appropriation and Spatial Vitality

The flexibility of intra-neighborhood spaces supports resident appropriation. This includes informal constructions, planting, or reprogramming of public areas. These actions increase attachment to place and contribute to social sustainability.

As shown in Figure 4, residents built temporary structures, painted public spaces, and created personalized corners. These interventions are indicators of the neighborhood's social health and potential for future resilience.

Figure 4. Resident appropriation in Arad and Haifa. Authors, 2024.

Conclusion: Toward Sensitive Urban Renewal

Rather than dismissing modernist mass housing neighborhoods as outdated, planners should recognize their spatial potential. The methodology proposed here enables identification of "invisible spaces" that support well-being, especially among vulnerable populations.

One of the most challenging aspects to plan for is those hidden « invisible spaces" within the built environment, the elusive places that create the 'ambiance of a neighborhood and enhance the well-being of its residents.

Incorporating these findings into urban renewal frameworks will prevent erasure of valuable spatial practices and promote sustainable, inclusive transformation. Further research should extend the evaluation tools and examine a wider range of morphological indicators.

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Locating Urban Ambiances
Mapping Sarajevo's Experiential Terrains for Situated Ambiance Research

Lejla ODOBAŠIĆ NOVO[1], Lejla KREŠEVLJAKOVIĆ[2]
1. International Burch University, Department of Architecture, Bosnia and Herzegovina,
   lejla.odobasic@ibu.edu.ba
2. University of Sarajevo, Faculty of Architecture, Bosnia and Herzegovina,
   lejla.kresevljakovic@af.unsa.ba

Abstract.

As the discourse on ambiance gains prominence in architecture and urban studies, there is a pressing need for empirically grounded, context-sensitive inquiry. This paper positions Sarajevo—a city defined by Ottoman-era Baščaršija, Austro-Hungarian civic quarters, socialist housing districts, and post-war peripheries—as a critical site for exploring urban ambience. It undertakes a preliminary typological cartography of four ambient zones, analyzing their spatial morphology, sensory textures, historical resonances, and everyday uses. The paper proposes four interpretive criteria—multisensorial density; historical sedimentation and rupture; symbolic and affective charge; and spatial rhythm and lived use—to guide future research. As a methodological prelude, it outlines protocols for desk-based morphological analysis, an ordinal sensory-observation scheme at georeferenced points, and planned participatory mapping. This framework establishes the foundations for subsequent empirical phases—instrumented fieldwork, sensory ethnography, and community engagement—to develop a place-based, materially embedded theory of post-conflict ambiance.

135

Introduction

The notion of ambiance has emerged in architectural and urban studies as an indispensable paradigm for apprehending how the sensory, affective, and experiential dimensions of built space condition human engagement. Once relegated to the margins of environmental psychology or aesthetic speculation, ambiance is increasingly recognized as a relational and situated condition, engendered through the dynamic interplay of material form, spatial configuration, socio-cultural practices, and multisensory perception. Yet the extant discourse often remains tethered to generalized theorization, insufficiently attuned to the specificities of historically stratified, politically contested, and materially intricate urban contexts.

This paper seeks to address that lacuna by anchoring ambiance research in the palimpsestic fabric of Sarajevo, a city whose urban morphology has been successively inscribed by Ottoman *čaršija*, Austro-Hungarian civic boulevards, socialist housing estates, and the informal sprawl of post-war reconstruction. Each of these typologies both produces and is produced by distinct sensory ecologies, temporal rhythms, and symbolic resonances. Rather than advancing a comprehensive theory of ambiance in abstraction, this study undertakes a typologically organized, architecturally grounded cartography of four emblematic urban zones. Through this mapping, it proposes four interpretive heuristics: multisensorial density, historical sedimentation and rupture,

symbolic and affective charge, and spatial rhythm and lived use as provisional guides for future, data-driven investigations in transitional and post-conflict cities.

Crucially, this paper should be understood as a methodological prelude. It establishes the conceptual frameworks and operational protocols from architectural typology and morphological analysis to an ordinal sensory-observation design that will underpin forthcoming empirical phases, in which calibrated instrumentation and extended fieldwork, engagement will be deployed to generate robust, comparative insights.

Theoretical Framework: Ambiance as Situated Relationality

Ambiance, as a critical concept in architectural and urban discourse, constitutes the atmospheric milieu through which individuals engage with space. Jean-Paul Thibaud (2015) defines it as an affective co-presence, unfolding through multisensory fields, while Gernot Böhme (1993, 2006) theorizes atmospheres as quasi-objective conditions spatialized feelings that emerge from material environments. These approaches converge in understanding ambiance as a relational construct, neither fully subjective nor wholly objective. Yet, phenomenological traditions such as those of Bachelard (1994) and Norberg-Schulz (1980) risk detaching ambiance from its socio-historical context by emphasizing archetypal or poetic experiences over material, political, and cultural embeddedness.

To redress these limitations, this study proposes four interlinked dimensions through which ambiance may be rigorously analyzed. First, multisensoriality emphasizes the convergence of acoustic, olfactory, tactile, thermal, and visual cues, shaped by architectural features; scholars like Pallasmaa (2005) and Jelić and Borch (2020) offer frameworks for such sensory immersion. Second, historical sedimentation and rupture considers how spatial atmospheres carry the imprints of imperial, modernist, and conflictual pasts, operating as palimpsests (Said, 1994; Mbembe, 2001; de Certeau, 1984). Third, symbolic and affective charge interprets ambiance through the lens of spatial semiotics, drawing on Lefebvre (1991) and Nora (1989) to analyze how built form encodes collective memory and identity.

Finally, ambiance materializes through spatial rhythm and lived use, co-produced by everyday practices within architectural affordances. Seamon's (1979, 2018) concept of place-ballet and Lefebvre's (2001) rhythm analysis illuminate how temporal patterns of occupation infuse space with atmospheric qualities. These four axes collectively advocate for architecturally grounded, historically conscious, and socially situated analyses of ambiance. This approach resists aesthetic abstraction, recognizing ambiance as a dynamic and contested field of sensory, symbolic, and material production within the lived urban condition.

Methodological Design: Situating a Framework for Ambient Analysis

This paper proposes a methodological prelude for researching urban ambiance in Sarajevo by foregrounding architectural specificity, spatial morphology, and sensory ethnography. Rather than presenting conclusive findings, it establishes a research scaffold for future empirical inquiry by

delineating four emblematic urban zones: Ottoman, Austro-Hungarian, socialist, and post-war, each defined by distinct spatial logics, architectural typologies, and atmospheric registers. The framework unfolds through three interrelated methodological phases: typological-morphological groundwork, sensory-observation protocols, and a preliminary cartography of ambient zones. By integrating theoretical insight with field-oriented architectural tools, the study adopts an epistemologically situated, materially grounded, and affectively attuned approach to ambiance.

Typological and Morphological Groundwork

The first phase conducts a spatial archaeology of Sarajevo's historically layered fabric, privileging architectural typologies and urban morphology as structuring agents of ambient experience. Each selected zone : (1) the Ottoman čaršija, (2) Austro-Hungarian civic grids, (3) socialist superblocks (e.g., Alipašino Polje), and (4) post-war peripheral developments constitutes a distinctive spatial regime. These regimes are examined not only as morphological systems but as spatial practices encoded with social, climatic, and symbolic meaning.

Figure 1. Mapping Urban Ambiances in Sarajevo: 1 – Baščaršija (Ottoman core); 2 – Marijin Dvor (Austro-Hungarian grid); 3 – Alipašino Polje (socialist superblock); 4 – Pofalići (post-war incremental development)., Kreševljaković and Odobasic Novo, 23/06/2025

The research undertakes desk-based analysis through:

- **Morphological diagrams** that elucidate spatial configurations at multiple scales, including block dimensions, axial alignments, courtyard systems, plot depth, and transitional thresholds. Special attention is paid to edge conditions, permeability, and the modulation of public and semi-public space.
- **Typological matrices** cataloguing dominant building forms (e.g., caravanserais, civic palaces, slab blocks, informal infill), volumetric articulation (e.g., setbacks, height-to-width ratios, rooflines), and façade composition (e.g., fenestration rhythm, material stratification, tectonic articulation).
- **Preliminary spatial syntax models** to hypothesize movement flows, degrees of integration and segregation, and zones of potential acoustic reverberation, thermal buffering, and visual occlusion.

Rather than serving as static documentation, this architectural corpus functions as a generative interpretive mechanism for identifying spatial thresholds as passages, courtyards, arcades, and voids where ambiance is materially registered and socially produced.

Ordinal Sensory-Observation Protocol

The second phase introduces a structured sensory protocol to be deployed across ten georeferenced loci within each zone. The method draws on Jean-Paul Thibaud's "promenade sensitive" and anthropological approaches to sensory ethnography (Thibaud, 2015; Pink, 2015), situating perception within architectural form.

At each site, observers will evaluate:

- **Acoustic articulation** (1 = hushed, 5 = cacophonous), attending to sonic layering (e.g., reverberation in narrow lanes vs. absorption in vegetated courtyards), source directionality, and temporal fluctuation.
- **Olfactory signatures** (1 = neutral, 5 = pungent), distinguishing between architectural-material sources (e.g., aged wood, lime plaster) and socio-programmatic cues (e.g., food stalls, vehicular exhaust).
- **Tactile and thermal conditions**, categorically recorded through descriptors such as cool/warm, rough/smooth, damp/dry, attuned to materials (e.g., polished stone, rough concrete), surface exposures, and shading devices.
- **Visual enclosure and spatial rhythm**, assessed on a scalar continuum that notes contrast gradients, chromatic saturation, depth of field, textural layering, and the interplay of solids and voids.

138

Observational data will be supplemented with annotated analytical sketches, serial photography, and reflexive field notes. All findings will be spatially indexed within a GIS platform, enabling cross-zonal comparative analysis and temporal mapping of ambient density.

Preliminary Cartography of Ambient Zones

This phase constructs a **conceptual cartography of ambient regimes** by synthesizing the morphological and sensory attributes of each typology. Though full-scale fieldwork remains forthcoming, the framework establishes a preliminary matrix articulating how urban form shapes atmospheric perception, shown in Table 1.

Zone	Architectural and Morphological Features	Sensory Markers	Affective Logic
Baščaršija	Intimate grain, irregular street matrices, deep shadows, timber, stone	Spices, smoke, hammering, narrow visual fields	Immersion, spatial intimacy, historical layering
Austro-Hungarian	Grand boulevards, axial symmetry, civic ornamentality, plaster façades	Tram echoes, bell chimes, leaf rustle	Order, monumentality, ceremonial detachment
Alipašino Polje	Slab typologies, green buffers, internal courtyards, prefab materiality	Courtyard echoes, domestic TV noise, concrete	Collective alienation, rhythmic monotony
Post-War Periphery	Ad-hoc plots, unregulated infill, material heterogeneity	Barking dogs, metallic clatter, smoke from stoves	Improvisation, marginality, spatial dissonance

Table 1. Typological Urban Ambiances of Sarajevo, Kreševljaković and Odobašić Novo, 23/06/2025

Conclusion and Outlook

This paper has delineated a methodological framework for investigating urban ambiance in Sarajevo as a stratified and contested experiential field. By anchoring the inquiry in typological and morphological analysis, and by operationalizing a multisensory observation protocol, it articulates a replicable and historically attuned approach to studying how sensory ecologies emerge from architectural form, spatial rhythms, and socio-political transformation.

The diversity of sensory ecologies and spatial rhythms identified across Sarajevo's four typological zones informed the formulation of four interpretive heuristics, underscoring the need for context-sensitive methodologies in ambiance research. Rather than offering definitive findings, the framework provides an epistemic and procedural scaffold grounded in archival research, structured sensory documentation, and cartographic synthesis, preparing the terrain for future empirical elaboration. Subsequent phases will apply calibrated instruments (e.g., decibel meters, olfactometers, thermal sensors) and longitudinal ethnography to deepen and validate the mappings proposed here.

Deploying this protocol in other urban contexts will allow for the refinement and testing of its heuristic dimensions across varying socio-historical conditions. Ultimately, this methodological prelude advances ambiance as a historically inscribed, materially embedded construct, while equipping urban research with transferable tools for investigating memory, identity, and socio-spatial justice.

139

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Assessing Residents' Satisfaction with the Physical Environment in Large Housing Estates
Insights from Novi Sad, Serbia

Dejana NEDUČIN[1], Milena KRKLJEŠ[2]
1. Faculty of Technical Sciences, University of Novi Sad, Serbia, d.neducin@uns.ac.rs
2. Faculty of Technical Sciences, University of Novi Sad, Serbia, mkrkljes@uns.ac.rs

Abstract.

The paper examines how two contrasting land-use logics and planning approaches shape residents' experience of the neighborhood physical environment (NPE). Building on a previous study of neighborhood satisfaction, it explores perceptions of the NPE in two unrefurbished large housing estates (LHEs) and one post-socialist residential district in Novi Sad, Serbia. The findings reveal that, despite aging infrastructure and the absence of formal regeneration, residents of the LHEs report higher satisfaction, appreciating features inherited from socialist-era planning. In contrast, the post-socialist district shows lower satisfaction, reflecting the shortcomings of investor-led urbanism. Residents' realistic assessment of NPE conditions and their relocation preferences highlight the enduring appeal of well-planned, human-centered environments and point to the need for housing strategies that adapt the strengths of past planning to today's development challenges.

Keywords:

Large housing estates, CEE, Satisfaction, Neighborhood physical environment

Introduction

141

Large housing estates (LHEs) are among the most prominent spatial legacies of the socialist era in Central and Eastern Europe (CEE) and continue to comprise a significant share of the region's urban housing stock. They were state-planned and financed, characterized by recognizable spatial boundaries, unified layouts, repetitive high-rise prefab buildings, and abundant public and green spaces (Murie et al. 2003). Their post-socialist trajectories have varied considerably. While some CEE cities have pursued policy-driven regeneration, others (particularly in the Balkans) have largely adopted a laissez-faire approach, leaving many LHEs at what Temelová et al. (2010: 1820) described as a "crossroads between regeneration and degradation." Although the material condition of the housing stock remains a key consideration, residents' experiences of the neighborhood physical environment (NPE) are vital for assessing neighborhood livability. Building on a previous study of neighborhood satisfaction in Novi Sad, Serbia (Nedučin et al. 2023), this paper draws on its dataset to examine how residents of LHEs 'at a crossroads' perceive their NPE and compares their evaluations with those of residents of a nearby post-socialist neighborhood. As these areas reflect fundamentally different land- use and planning logics, the comparison offers valuable insights into how two different frameworks shape the lived experience of the NPE.

LHEs in CEE

LHEs were built to accommodate rapid urban urbanization and support extensive industrialization, making them a cornerstone of socialist modernization (Dimitrovska Andrews and Sendi 2001). Simultaneously, they were ideologically framed as a means of promoting collectivism and fostering

egalitarian housing (Smith 1996). Their populations were socially diverse (Nedučin et al. 2019; Szafrańska 2017), and despite underdeveloped services, modest construction quality, and poor maintenance, LHEs were widely regarded as the 'dwelling ideal' during socialism (Herfert et al. 2013).

As CEE countries shifted to market-based housing systems after 1989, concerns arose that LHEs would mirror the decline of their Western counterparts, with physical deterioration prompting middle-class out-migration (Szelényi 1996). However, this scenario largely did not materialize. Most LHEs retained a social mix (Hess et al. 2018; Kalm et al. 2023), even without refurbishment, due to their prevalence in the housing stock, affordability, and strengthened resident attachment following privatization. Additionally, many now feature upgraded service infrastructure while still providing generous greenery and public spaces.

Case-Study Areas

The study focuses on three residential districts in Novi Sad - Liman II and Liman III as two LHEs, and post-socialist Grbavica (Figures 1-4). All lie close to the Danube River, have comparable population densities, hold above-average housing market positions, offer diverse amenities, and exhibit social diversity.

Liman II and III, developed as part of the Liman complex between the 1950s and 1980s, share a common planning legacy, but differ in architectural expression and extent of infill. Liman II looks 'less socialist' due to later-stage developments that abandoned strict modernism, while Liman III retained a uniform modernist look. Neither has undergone formal regeneration, though post-socialist infill has varied: minimal in Liman II, with negligible impact on its morphology and density, and much more extensive in Liman III. Still, both retain ample greenery and public space, show no out-migration, and have above-average real-estate values reflecting their sustained appeal, although the absence of upgrades place them in a 'crossroads' position.

Grbavica, originally a low-density neighborhood, has undergone radical transformation since 1990 under the regime of "permanent reconstruction" (one of many such cases in Novi Sad). Although initially aimed at curbing sprawl and redeveloping underused land by replacing low-rise housing with medium- to high-rise apartment buildings, this regime gradually evolved into a form of deregulated, investor-led urbanism. Today, Grbavica features narrow streets, overbuilt plots, gated courtyards repurposed for parking, a shortage of greenery and public space, and chaotic architectural styles, yet represents one of the city's most expensive neighborhoods (Nedučin et al. 2021).

Figure 1. Neighborhoods and micro-units: purple – Liman II; blue – Liman III; yellow – Grbavica. Figure 2. Liman II. Figure 3. Liman III. Figure 4. Grbavica. *Source: Google Maps*.

143

Methodology

Data were collected through 162 structured face-to-face interviews: 53 from Liman II and Liman III, respectively, and 56 from Grbavica (Nedučin et al. 2023). The questionnaire included 18 Likert-scale items on satisfaction with various NPE features and open-ended questions on perceived neighborhood advantages and disadvantages, reasons for choosing the current residence, and intentions to relocate (including motivations and preferred alternatives). Fieldwork took place in micro-units representative of each district's functional organization, morphology, and design (Figures 1-4). SPSS 23.0 was used for analysis. ANOVA and Scheffé post-hoc tests assessed group differences. The NPE satisfaction scale demonstrated excellent internal consistency (Cronbach's alpha = 0.90).

Results

The analysis reveals significant differences in NPE satisfaction (Table 1). Liman II reported the highest score (70.65), followed by Liman III (63.50), with Grbavica scoring the lowest (48.03).

Grbavica residents expressed dissatisfaction with multiple aspects of the NPE, citing congestion, overcrowding, inadequate pedestrian and cycling infrastructure, insufficient parking, and a lack of public and green spaces as key disadvantages of their neighborhood.

These concerns reflect the broader shortcomings of investor-led urbanism, where housing quantity often trumps quality. By contrast, the Limans benefited from features rooted in socialist-era planning, such as dedicated bike paths, wide sidewalks, a well-developed pedestrian network,

and abundant greenery and public spaces, as mentioned in respondents' comments. Liman II consistently received higher satisfaction scores than Liman III, likely due to its more restrained scale of post-socialist infill. It also scored higher on neighborhood aesthetics, possibly because it features fewer 'gray slabs.' Although LHEs' appearance is often considered unappealing, residents tend to evaluate it more favorably (Kovács and Herfert 2012; Wassenberg 2018), and only a few respondents criticized the modernist design of their neighborhoods. Grbavica scored the lowest, with its architecture described as inconsistent and chaotic. Parking availability received low ratings across all districts. Grbavica has struggled with parking issues since its transformation; infill development worsened parking conditions in Liman III, while proximity to the university campus likely adds pressure in Liman II. Conversely, all three neighborhoods were rated positively for their access to public services and daily venues.

	Liman II		Liman III		Grbavica		F	DF	p
	M	SD	M	SD	M	SD			
Motor traffic	3.75	1.31	3.24	1.31	2.10	1.07	13.13	2	<.001**
Parking availability	2.30	2.03	2.63	2.43	1.69	1.07	5.42	2	.005**
Cycling infrastructure	3.85	1.11	3.74	1.33	1.94	.94	29.18	2	<.001**
Pedestrian infrastructure	4.60	1.38	3.96	1.35	2.98	1.03	21.65	2	<.001**
Pedestrian safety	4.37	1.09	3.41	1.16	2.80	1.16	19.46	2	<.001**
Public transportation	4.87	1.16	4.15	1.00	3.64	1.11	6.44	2	.002**
Schools and kindergartens	4.85	1.50	4.25	1.38	4.07	1.41	5.22	2	.006**
Daily venues/services	4.89	1.63	4.24	1.56	4.65	1.92	1.37	2	.256
Green spaces	4.54	1.50	4.03	1.39	3.32	1.27	24.27	2	<.001**
Playgrounds	4.03	1.20	3.36	1.31	2.25	1.33	28.14	2	<.001**
Open spaces	3.65	1.09	3.41	1.39	1.91	1.18	24.41	2	<.001**
Open-air sports fields	4.08	1.33	3.20	1.30	1.74	1.08	28.78	2	<.001**
Street furniture	3.55	1.11	2.96	1.20	2.04	1.01	20.54	2	<.001**
Aesthetics	3.50	1.19	2.96	.95	2.35	1.06	16.74	2	<.001**
Cleanness	3.78	1.11	2.93	1.03	2.89	1.01	5.57	2	.005**
Street lighting	4.23	1.12	3.59	1.09	3.34	1.21	5.26	2	.006**
Safety	3.69	1.42	3.15	1.03	2.55	1.04	3.17	2	.044*
Children raising in the neighborhood	4.18	1.55	3.36	1.23	2.43	1.38	15.97	2	<.001**
NPE satisfaction	70.65	12.48	63.50	13.86	48.03	10.71	46.13	2	.001**

Notes: *p≤ .05; **p≤ .01.

Table 1. Satisfaction with the NPE. *Source: Neducin et al. 2023.*

Overall, residents' perceptions of the NPE closely reflects its actual condition, indicating strong awareness of the availability and quality of various NPE features. These perceptions also influenced relocation preferences: only 11% of Liman residents considered moving, compared to 57% in Grbavica. Over half of the latter identified the Limans as their preference, viewing them as equally well-located but more tranquil and spacious, greener, and better equipped with public spaces and pedestrian and cycling infrastructure.

Discussion and Conclusion

This study reveals how different planning paradigms have shaped the NPE and continue to influence how residents perceive it, highlighting the enduring value of integrated planning. Despite aging infrastructure and the absence of formal upgrades, Liman II and III remain desirable places to live, largely due to walkability, well-developed cycling infrastructure, greenery, and generous public spaces – qualities often lacking in market-led developments in Novi Sad. The findings suggest that the spatial (and social) logic of socialist-era planning created resilient neighborhoods, which still foster resident satisfaction, stability, and place attachment. In contrast, Grbavica's lower satisfaction scores expose the limitations of investor-led urbanism, typical of Novi Sad's post-

socialist urban development, challenging the assumption that high real-estate values translate into high-quality living environments and greater neighborhood livability.

Residents' realistic assessment of NPE conditions and their relocation preferences underline the importance of thoughtfully planned human-centered neighborhood environments. However, this does not imply a blanket endorsement of LHEs, but rather a critique of deregulated market-led planning. The observed residential stability in LHEs 'at a crossroads' suggests that satisfaction with certain NPE features can persist even under laissez-faire governance. Still, as positive resident perceptions can sometimes obscure neighborhood problems (Permentier et al. 2010), high satisfaction should not be used to justify deferring regeneration. Prolonged neglect may accelerate physical deterioration, complicating and increasing the cost of future interventions. Regeneration strategies should also extend beyond building-level improvements to address the spatial and environmental qualities of LHEs, which residents value most. In general terms, integrating key strengths of past planning with today's urban development challenges may offer a more sustainable alternative to relying solely on market-driven solutions.

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145

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How does it feel, to be on your own […] a complete unknown?
The lack of visual representation of women in urban signage

Onna SEGEV¹
1. University of Haifa – Head of the visual communication design department
osegev@univ.haifa.ac.il

Abstract.
Inspired by Dylan's lyrics, research question explores how women are being excluded in public space. The research unfolds the mechanism in which women are mis-represented in official urban signage (OUS), and follows the forging of what became the common image of 'a woman', 'The great matriarch' symbol used in signage systems worldwide. Furthermore, the research depicts a new attempt to portray 'a woman' in signage system. Findings point out both graphic and ideologic trends expressed within the design of human pictograms in OUS. Thus, it emphasizes the necessity to construct a just, safe and equal ambience for women and all 'others' in public space worldwide.

Keywords:

women, gender, visual representation, urban signage

The research explores the visual (mis)representation of women in official urban signage (OUS), following the forging of what became the common image of "a woman" in signage systems worldwide, elaborating on the visual attributes which formulate gender appearance in public space.

147

Official Urban Signage (OUS)

Urban space is inhabited by different kinds of signage. Some are placed by the authorities, while others are self-initiated. Some are commercial, such as shop signs or advertisements; some are non-commercial, such as road signs, wayfinding systems and public authority notices that direct, inform, guide, warn, and altogether establish order in public space. The research is interested in the latter type, defined by scholars as visually oriented information systems that guide people's passage through the physical world (Hassan, 2015, p. 303) and signage systems that are intended to inform the rules that exist in a given place (Clara & Swasty, 2017, p. 168). OUS, therefore, is a collective term referring to all signage systems that inform, warn, direct, and guide.

Choosing OUS as main subject grew out of the assumption that non-commercial signage systems, which are bound to regulations and function as a service to the public, should be bias- and prejudice-free, unaffected by any intentions or hidden agendas, except for "doing their job". The alleged neutrality and transparency of OUS make it a much more interesting case study, inviting the attempt to unmask its seeming objectivity, put a crack in its veneer of obviousness, and reveal the messages that OUS really convey.

OUS do not only direct and manage public behavior but also index the municipal regulatory powers that maintain their functioning. When we react to a sign or traffic light we index ourselves in respect to the regulatory powers, as law-abiding citizens (Scollon & Scollon, 2003, p. x). Thus, another significant element of OUS, in addition to its seeming objectivity is indexicality. Scollon &

Scollon (2003) refer to indexicality as the meaning of signs that is based on their material location, their "situatedness" (xii). They use the term "Geo-semiotics" to designate "the study of the social meaning of the material placement of signs and discourses and of our actions in the material world" (p.2), and further explain indexicality as the property of the context-dependency of signs, and the study of those aspects of meaning which depend on the placement of the sign in the material world. "In geo-semiotics, as in all branches of semiotics, the word 'sign' means any material object that indicates or refers to something other than itself" (Scollon & Scollon, 2003, p.3).

Pictograms

The research focuses on human pictograms, schematic illustrations that are used in signage systems to convey a simplyfied message, which should be immediately understood by passers-by and drivers. According to Frutiger (1989), pictograms demonstrate visual communication at its highest level, due to their ability to successfully communicate by very limited graphic means (Frutiger, 1989, p. 226), and this is one main feature that makes them a fascinating subject matter.

Pictograms are semiotic resources which are used for communicative purposes; they are socially shaped and socially shape public space. From a feminist viewpoint, following geographer Doreen Massey, it is recognized that "spaces and places are gendered in myriad different ways which vary between cultures and over time" and that "this gendering of space and place both reflects and has effects back on the ways in which gender is constructed and understood in the societies in which we live" (Massey 1994, p. 186). Therefore, calling attention to everyday imagery in common public spaces might seem like dealing with the obvious, but it in fact requires a creative endeavor. As research shows, human pictograms attempt to convey clear message regarding human behaviour in public space, but fail to equally represent gender.

Woman Pictogram in International Signage Systems
The international Road Signs System

Since its establishment in the 1940's the international road signs system has put aside women, while only one feminine figure appears in a sign: a girl. The girl appears in the CHILDREN CROSSING sign (figure 01), accompanying a boy. Together the girl and the boy convey a message of 'plural'. The girl is there to form a group. This sign was designed in the 1960's by Margaret Calvert, a British designer, who joined designer Jock Kinneir in re-designing British road signage system. Calvert wanted to give a fresh look to the CHILDREN CROSSING sign, as she indicates herself: 'There was a different attitude to schooling coming in and I thought, wouldn't it be nice to turn it around and have a girl leading a small boy" (McClatchey, 2011). But still, this exceptional sign demonstrates two main attributes regarding gender representation and the appearance of women: one is that a feminine figure is there to accompany the male figure, she has no existence by herself, and the other is that we can identify the girl by her feminine clothing, that is - her dress. Unfortunately, these attributes are still dominant in OUS, and since 1940's no change has been made.

Figure 01: CHILDREN CROSSING road sign, 1960's

DOT Signage System

The DOT signage system is a collaboration between DOT (American Department of Transport) and AIGA (American Institute of Graphic Arts) who joined forces to create a standard for graphic symbols that could be used internationally in public transport networks such as airports, train stations and other public wayfinding systems. The signage system includes 34 symbols that were developed in 1974, and 16 additional symbols in 1979, created by graphic designers Roger Cook and Don Shanosky setting the tone for the future formalization of universal public symbol systems. DOT signage system was gradually accepted as a pillar of classic modern design.

149

Here, as in the international road signs system, a women figure is identified by wearing feminie clothing, i.e., a dress, and appears only as a 'guest' in three symbols: the women toilets symbol, in the beauty salon symbol, and as a clerk behind the counter in the ticket purchase symbol. In all other pictograms presenting human activities, the unmarked active figure is male (figure 02). The message conveyed here is quite clear: women are 'the other', adequate for "rare guest appearance", for a supporting role. DOT signage system demonstrates with a vengeance the unequal approach towards gender representation which has been perpetuated for decades. Establishing not just a graphic standard, but also setting the standard for representation of gender in public space. Followed by that, it is very disappointing to realize that Simone de Beauvoir's well-known notion from 1949, that a woman "is determined and differentiated in relation to man" and that she is "the inessential in front of the essential" ([1949] 2010, p. 26) is not outdated, but stands as a long-lasting resolution which is being perpetuated since.

Figure 02: DOT Signage System, 1974-9

A New Graphic Solution?

So it seems that the design of human pictograms in signage systems requires rethinking. The guiding principle that one figure can represent all, and that this figure can be perceived as 'unmarked human', is no longer acceptable. Furthermore, nowadays it is understood that there is a wide range of gender identity, therefore a binary division does not represent current social views. What was considered agreeable in the 1940's throughout the 1970's and so forth till now, is not suitable anymore. A new design is needed, to give place for diversity and for equal representation.

Figure 03: Geneva pedestrian Crossing signs, 2020

One new and interesting initiative takes place in Geneva, where in 2020 six new road signs with only feminine figures, were added in service replacing some of the existing ones of male figures (figure 03). In order to promote gender equality and diversity the new pedestrian crossing pictograms feature women from different ethnic origins, different age, in different sizes and shapes. There is one pregnant, one is elderly, one is of African origin, a woman with a ponytail, a plus size woman and two women holding hands. It is noticeable that most of the pictograms do not strictly obey gender roles and do not feature gendered clothing.[1] Some of the figures wear dresses or skirts, while others wear trousers. Some wear flat shoes some high heels, and their hairdos vary from a feminine ponytail to short hair. All in all, the visual message conveyed is clear: women are present, women are seen, women are integral to public sphere.

As this example shows, multiple figures is a good platform for introducing diversity. This principle can be implemented throughout several signs scattered around the city and in a single sign, showing a group of people. Either way, human pictograms can no longer stagnate, especially while cities and communities are constantly evolving. Following Norman's acknowledgment "that design affects society is hardly news to designers" (Norman, 2013, p. 291), it is the time for designers to roll up their sleeves, and get to work.

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1. As opposed to Judith Butler's idea of *Gender performativity* which define gender as a recurrent practice, constituted in time through a stylized repetition of acts. The body, bodily gestures, movements and clothing.

152

ATMOSPHERES & ARTISTIC DEVICES

Listening beyond standards
Understanding Sound Ambiances qualities with non-standard evaluation techniques

Petros FLAMPOURIS[1], Nicolas REMY[2]
1. Freelance architect, AASA lab, Sd+be Lab, Dpt of Architecture, University of Thessaly, Greece, pflampouris@uth.com
2. Sd+be Lab, Dpt of Architecture, University of Thessaly, Greece – AAU CRESSON Grenoble Alpes University, nremy@uth.gr

Abstract.
This research investigates how sound perceived within specific architectural contexts can become a primary and generative force in spatial design rather than a post-design technical adjustment. In line with the COST Action CitySenZ CA23145 Architectural and Urban Ambiances of European Cities, the study refines Ambiance Theory by exploring how sonic perception reveals embedded social, material, and historical dimensions of space. Traditional acoustic design prioritises measurable parameters such as reverberation time, decibel levels, and frequency response, which often fail to capture in-situ sonic experience. This project proposes a framework of non-standard acoustic techniques to uncover sensory and affective dimensions of sound ambiance, including the temporal unfolding of sound, its interaction with surfaces, spatial directionality, and tonal coloration. These attributes convey emotional and atmospheric qualities that shape how space is remembered or socially understood. The research uses measurement devices and DIY tools to capture context-sensitive sonic phenomena, discovering latent acoustic qualities within architectural environments.

Keywords:
Sound ambiance, ambiance theory, listening, diy, evaluation, non- standard

From Measurement to Ambiance: Sound as Material and Method in Design

Traditional acoustic design often prioritizes measurable parameters like reverberation time, decibel levels, and frequency response. While useful in some contexts, these metrics often miss the richness of in-situ sonic experience. Sound perception is not passive reception but an active process shaped by intention, attention, and context, emerging from the interaction between physical sound waves and the perceptual and cognitive mechanisms that construct meaning. The architectural and situational environment frames what is heard and how it is interpreted. Acoustic design is often treated as a post-design intervention with spatial parameters fixed before acousticians enter. An emerging approach considers atmosphere as a dynamic network where sound is both witness and participant. This includes perceptual and material elements, environmental sound sources, infrastructural noise, and the resonances of materials. This project develops non-standard acoustic techniques positioning sound as a sensitive indicator of existing ambiances and as a medium for shaping new ones. It uncovers sensory and affective dimensions of sound ambiance including temporal unfolding of reverberations, sound-material interactions, spatial diffusion, and tonal coloration that give spaces their sonic signatures. These often convey emotional and atmospheric qualities that shape how spaces are remembered and navigated. The research integrates measurement devices with DIY tools like modified microphones, directional sensors, and speaker arrays. Through site-specific recordings, impulse response testing with

environmental sounds, and participatory listening practices, the project captures context-sensitive sonic phenomena that evade conventional analysis. Using situated listening devices, the project extends auditory sensitivity to living and material agents that may not have a conventional voice. By engaging these expanded forms of audition, the project shifts from extractive measurement to empathetic attunement.

Measuring the Unmeasurable: Tools for Site-Specific in-situ Site Analysis

Creating tailored tools for site-specific matters is critical in contemporary design practice. Each site holds unique conditions such as soil type, water table, microclimate, and ecological factors requiring precise, localized responses rather than generic solutions. Custom tools align with local regulations, cultural contexts, and community needs while improving workflow efficiency. They support deeper site analysis by collecting, visualizing, and interpreting data like wind patterns, solar exposure, and pedestrian flows, aiding evidence-based decisions anchored in the reality of place. They also help simulate and test how people will interact with a space, ensuring sensory and spatial qualities are thoughtfully addressed. From a sustainability perspective, site-specific tools allow designers to evaluate water management, vegetation adaptability, and energy strategies in direct response to local conditions, fostering climate-responsive outcomes. By reducing unnecessary iterations and enabling the automation of terrain-adapted grading, these tools improve design and construction phases, leading to informed and context-sensitive results. Tailored tools are even more critical in environments where it is unclear what should be measured or how it should be interpreted. Traditional metrics often fail to capture the layered, affective, and situational qualities that define many sites. In these contexts, custom tools enable designers and researchers to discover latent site qualities by developing methods sensitive to context, allowing measurement to become an act of discovery rather than a rigid imposition of predefined parameters. This expands site analysis beyond extractive quantification, fostering deeper, situated engagement with the sensory and relational dimensions of place and allowing design processes to respond meaningfully to nuanced realities that generic frameworks overlook.

DIY: Tools for Contextual Ambiance Exploration

The DIY methods and tools responds to the limitations of institutional frameworks by positioning open-source experimentation as a way to generate and test ambiance through site-specific listening and making. Rather than relying solely on standardized parameters, DIY approaches enable context-sensitive attunement, aligning with the view that ambiance is shaped by the unfolding of sound, its interaction with materials, and its tonal coloration, revealing affective dimensions such as tension, intimacy, and openness within spatial conditions. By integrating DIY methods into ambiance testing, designers and researchers transform measurement from rigid extraction into a relational and situated practice, using sound as an active participant in design processes. Modified microphones, simple directional sensors, speaker arrays, and open-source tools are used to capture vibrations, spatial diffusion, and tonal layers that often evade conventional measurement. This approach aligns technical exploration with lived experience and spatial navigation, treating sonic ambiance as a material that uncovers embedded social, material, and sensory dimensions within sites. In design education, DIY practices foster hands-on

participatory learning that connects making with critical listening, enabling learners to experience ambiance as a phenomenon shaped by sonic perception and material interactions. This bridges technical precision with sensory awareness, preparing practitioners to engage with ambiance as both an analytical tool and a generative method in design. DIY methods draw from the precision of institutional science while critiquing its metric-heavy limitations. By enabling experimentation, iteration, and collaborative discovery, DIY approaches allow ambiance studies to operate within real contexts, revealing the nuanced and dynamic qualities of sound within site-specific conditions. Through this, DIY methods support climate-responsive, culturally resonant, and socially engaged design, demonstrating how listening can drive spatial innovation while fostering empathetic and contextually embedded practices.

Where We Are Now: In-Situ Testing and Applications of Resonant Gestures

Resonant Gestures as a methodology of sound ambiance Site Analysis

In the Resounding Ruins project (Paxinou, Flampouris, and Remy 2024), non-standard acoustic (Flampouris and Remy 2024), (Flampouris and Remy 2025) measurement methods explored the sonic affordances of ruins beyond quantitative analysis. Instead of decibel meters, the research used 92.5FM Sympathy Radio (Paxinou, Flampouris, and Remy 2024), wired microphones with varied sensitivity, portable sound systems, and live streaming, focusing on situated and embodied measurement through resonant gestures and in-situ improvisation (Paxinou, Flampouris, and Remy 2023). Participants recorded continuous soundtracks until battery depletion, revealing how river sounds masked micro-sounds like insects or falling stones, exposing layered dynamics within the soundscape. The act of pressing record and stepping away became a way to measure the sonic background in the absence of human presence (Thibaud 2022). Technical practices included placing microphones inside cavities, soil layers, and masonry cracks to capture non-human perspectives and how materials resonated under wind and water flows (Helmreich 2010). By repositioning microphones and speakers while streaming, participants mapped sound travel through decayed structures and vegetation, aligning with Bernhard Leitner's exploration of body-space-sound configurations (Ingold 2007). DIY constraints such as battery limits and mic sensitivity adjustments became part of measurement, turning improvisation into live resonance testing. These methods embody Spuybroek's notion of sympathy as a technical and aesthetic measure of environmental engagement (Spuybroek 2016).

Resonant Gestures and Non-Standard Acoustic Measurement in the Sanatorium Ruins

In the Sanatorium project, non-standard acoustic measurement methods (Flampouris, 2026) (Flampouris and Remy 2025)were used to investigate the sonic qualities of ruins beyond quantitative frameworks. Instead of decibel meters, the research used 92.5FM Sympathy Radio, wired microphones with variable sensitivity, portable sound systems, and live streaming, focusing on situated and embodied measurement through resonant gestures and in-situ improvisation. Participants recorded continuous soundtracks until battery depletion, revealing how river sounds masked microsounds, such as those of insects or falling stones, and exposed dynamic layers within the soundscape. The act of pressing record and stepping away became a measurement of the site's sonic background in human absence. Technical practices included moving microphones

into soil layers, masonry cavities, and tree branches to capture non-human acoustic perspectives, revealing how materials resonated under wind and water flows. By repositioning microphones and speakers while streaming, the team mapped how sounds travelled through decayed structures and dense vegetation, aligning with body-space-sound configurations explored by Leitner. DIY and bricolage approaches, such as adjusting battery constraints and mic sensitivity, were integral to these methods, making improvisation a live test of spatial resonance. Participants experimented with filtering, masking, and mixing environmental and artificial sounds to assess how interventions transform ambiance, embodying Spuybroek's notion of sympathy as a measure of environmental engagement.

KARLIAMENT: Participatory and Sonic Experimentation

In KARLIAMENT, technical aspects focused on participatory and performative in situ experimentation, activating Lake Karla's polyphonic and dynamic potential through embodied and technological practices (Latour 2007, Thibaud 2015). Wired and wireless microphones, binaural recording setups, and portable speakers were used to capture and transmit environmental and participant-generated sounds. Bone conduction headphones enabled real-time listening while maintaining bodily connection with the environment, aligning with Ingold's (2007) call for openness to place-based rhythms. Participants engaged in resonant gestures by placing microphones in reeds, along water surfaces, and under decaying structures, allowing the subtle sounds of the site to emerge without imposing aesthetic control (Thibaud 2018). The Sympathy Radio installation utilised radio receivers and live streaming technologies (Sympathy Radio n.d.) to create a collective sonic composition, where participants actively transmitted and received sounds such as wind, birds, and mechanical hums, shifting from consumption to co-creation (Paxinou 2017). A sonic atlas was developed using these recordings to map the site's subtle presences, while the long table will be transformed into a responsive acoustic interface (Amphoux and Tixier 2016), enabling gestures and environmental sounds to form layered compositions. These methods turned post-infrastructural landscapes into living laboratories where ambiance emerged from technological mediation, resonance, and collective improvisation (Thibaud 2022).

Discussion and Further Research

This research positions sound ambiance as central in spatial design, shifting it from technical adjustment to an active agent shaping lived experience. Using non-standard acoustic techniques, DIY tools, and participatory listening, it challenges conventional metrics and proposes ambiance as layered through social, material, and sensory conditions. Traditional acoustic design often prioritizes measurable outputs over lived experience, while attentive, situated listening reveals emotional and atmospheric dimensions like tension or intimacy that shape how spaces are felt and remembered. Site-specific recordings and custom devices show how sound interacts with surfaces to create tonal colorations and spatial signatures. DIY methods shift from rigid measurement to sensory discovery, using modified microphones to capture subtle vibrations and layers, treating sound as a relational, perceptual medium. Listening becomes a critical spatial practice, connecting architecture, urban design, and sound studies while expanding space beyond the visual toward the heard and felt. Future research should apply these methods across urban, natural, and informal environments to inform design and planning through context-sensitive sound analysis. There is

potential to refine open-source and diy ambiance toolkits for participatory design and local sound data collection, while exploring cultural perceptions of sound and ambiance in relation to identity and equity. Integrating ambiance studies with ecological conditions can also support climate-adaptive design and expand spatial practices.

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LIGHT NEVILLE STREET
FACSIMLIES, ECHOS AND ARCHIVES

Susan Ball[1]
1. University of Leeds, Arts and Humanities Research Council, White Rose College of Arts and Humanities,
rprm5875@leeds.ac.uk

Abstract.
The paper will outline the process and issues arising from archiving the designed immersive environment of 'Light' Neville Street, an engineered 100-metre-long tunnel thoroughfare into the city of Leeds, one of only a handful of permanent sculptural works in the world that comprised sound and one of even fewer that engaged computing technologies. Through the process of archiving project documents in partnership with Henry Moore Institute, I discuss the 'live' archive presented as a research model that, whilst supporting the long-term preservation of documents in analogue and digital form, also facilitates critical discourse on the nature of the archive in respect of the collection of the intangible materials associated with sound and space as well as reflecting on the structural and power relations of archives; opportunities for creative intervention; and public access and participation.

Keywords:

Sound Art, Archive, Public Art, Embodied listening, Sensory urban design

158

'Light' Neville Street was a significant collaboration in architectural design, engineering and art for the acoustically hostile tunnel entrance into the city of Leeds. For over a decade, the interplay of light and sound transformed the gateway tunnel into an immersive urban landscape for its 19,000 everyday users, particularly those on foot.

In 2005 in my role as cultural producer with a special interest in commissioning sound art in public space, I introduced the artist and composer Hans Peter Kuhn (DE) into an early-stage design process with project lead Bauman Lyons Architects, Arup specialist teams and local authority client.

Launched in 2009, Kuhn's composition *A Light and Sound Transit* mixed the ambient noisescape with randomly selected sound files and was heard moving along the tunnel length via a high-performance 24 speaker system. This was embedded within highly engineered wall panels and canopy designed to acoustically dampen vibrational frequencies of the passing traffic and train.

The artist described the intention for the work to create 'a smoother acoustic' and 'curiosity for the everyday user' [1] blending the discordant traffic noise into a personal urban composition which was observed by a respondent observer 'to almost slow down that environment'[2].

1. Light Neville Street Archive 2009 https://henry-moore.org/henry-moore-institute/research-library-and-archive/ archive-of-sculptors-papers/archive-collections/light-neville-street/ Retrieved June 2025

2. Light Neville Street Archive 2009 https://henry-moore.org/henry-moore-institute/research-library-and-archive/ archive-of-sculptors-papers/archive-collections/light-neville-street/ Retrieved June 2025

For the collaborative team, the four-year research and development phase supported transdisciplinary[3] collaboration at its most productive; prototyping and adopting innovative uses of parametric design and 3DMax programme software for bespoke LED light technology display in a public site at large scale.

Notification by Leeds City Council in 2021 of the removal of artwork and infrastructure due to Leeds Rail Station redevelopment without a decommissioning strategy in place, was a critical and energising moment in the validation, re-presentation and appraisal of this unique work. The work had been funded as one of the 'Icons of the North' alongside Anthony Gormley's series of standing figures 'Another Place' at Crosby Beach and Richard Wilson's 'Turning the Place Over' in Liverpool.

In partnership with the Henry Moore Foundation and the Archive of Sculptors' Papers, I proposed to curate a 'Light' Neville Street archive, initially as a form of protest to mitigate the cultural amnesia by city leaders of this iconic and impressive multi-sensory gateway. But in gathering a comprehensive body of project documentation, VR facsimiles of the work in-situ, and interviews with the originating interdisciplinary art/design/engineering team, 'Light' Neville Street has become a platform for professional learning and knowledge share and as an adaptive model of a technological and multi-sensory urban transit space.

As part of the process of formally archiving project documents in 2024, I ran a reunion programme of workshops and events. This included a workshop event hosted by Arup with the design team, client commissioners and policy makers. With an open agenda, the group reflected on Neville Street's design processes, R&D interdisciplinary collaboration, impact on individual career trajectories and evidencable business benefit, and the changes in the policy landscape for sensory place-making over the ensuing fifteen years.

An associated event with panel of artist, architect, engineer and myself helped capture public perception of the work and its ambient qualities, and the cultural impact of this permanent sound/light intervention in raising the threshold for imaginative public space in the city. The event incorporated a remix of the 'Light' Neville Street sound installation by Kuhn and utilised the hi-quality Meyer PA system, deinstalled from the Neville Street canopy and now offered as hireable kit by a non-profit agency in Leeds.

In May 2025 with Henry Moore Institute, a round table discussion with academics and professionals from archive, architecture and sound design sectors investigated the model of the 'live' archive to consider what methods can be used to archive the intangible materials of sound and space as a preservable medium, and how the archive can be future orientated for the benefit of its stakeholders and public.

Whilst the archive was curated to re-validate LNS as a contemporary non object-based work of public art and design, it has become a welcomed opportunity by the Henry Moore Institute. Whilst the accessioning of documentation respects the conventions of the archive — that assets are formally preserved in their entirety for public access and without institutional narrative — the

additionality of digital VR content and the contributors' anecdotes encourages public participation through an associated programme of research and creative engagement via an online portal.

So why archive and what purpose does it serve?
'The Archive is not potentially made up of *everything,* as is human memory. The Archive is made from selected and consciously selected documentation from the past and also from the mad fragmentations that no one intended to preserve that just ended up there'.4 (Steedman 2001 p68)

Steedman reflects on the archive and its 'mad fragmentation' helping us question the accuracy of the archive in capturing cultural memory. Similarly, it is important to consider the fidelity of the individual artifact, or the degree to which it accurately represents an experience, a process, or an event when interpreted across varying temporal and spatial contexts.

This becomes even more pronounced when engaging with works of a multi-modal nature, as sound and space are inherently ephemeral and intangible. The subjective experience of an embodied receiver will inevitably vary according to their unique intersectional subjectivities, auditory predispositions, levels of receptivity, and auditory health. Additionally, temporal factors—such as time of day, seasonal variations, and climatic conditions—further influence perception.

So, a number of issues arise here - what things matter about the space, how do you retell the story of the experience of the space (and any intervention) through an archival process. How true are they to the subjective experience of that space? And what qualities and perspectives are we looking to achieve and evaluate in the design of ambient multi-sensory space?

Reproductions, whether as photographs, digital models or VR environments, ultimately create a new version of the experience, and can never with true fidelity capture it. But if reproductions are understood as a translation of, or as a representation (not a representation), this opens up a number of conceptual and practical opportunities which relate to the re-framing of the processes, systems and events that were integral to the original project, beyond the physical life of the project.

An example of an experiential re-presentation of 'Light' Neville Street is that of a 360 video which I commissioned with funding from Leeds City Council and recorded in-situ. Our decision making at pre- and post-production consciously sought to enhance the audio track of Kuhn's sound composition for it to be heard above its environment and allow the viewer to differentiate the compositional artwork from the traffic. This clearly deviates from the artist's intention for the site-specific composition and is not an accurate representation of the experience. (NB The artist was informed of the VR version and gave permission for the render).

4. Steedman C (2001) Dust, Manchester University Press p68

Fig1 'Light' Neville Street VR, Henry Moore Institute Sculptors Archive, 2024 Photo credit: Min Young Lim

Yet, the VR is another public 'event' in the life of the work, providing an on-going engagement and embodied user experience of the space, whilst utilising a media with its own integrity and potentiality. So not legacy but an experience of the space in its designed construct as another event in the lifetime of that sensory space. The digital re-presentation (or we could call it a translation) enables a VR headset experience when visiting the archive collection in person or has the potential for engaging a broad range of online publics via Henry Moore Institute's portal.

In 2025 the archive received and accessioned the Bauman Lyons Architect's portfolio including AutoCAD drawings. Novel at that time in the mid 2000's, it includes a laser point cloud survey undertaken and 3D model of the tunnel interior created to test design options.

So by accessing digital assets in the archive, the potential of re-animating data collected in the 2000's is an exciting possibility. By inputting survey data into a 3D model of the space, as measurements of the reverberant tunnel structure, traffic flows, artistic inputs, ambient light levels for instance, there is also the potential of user control.

Another potential for re-animating archived digital documents could be to locate sound recordings of the tunnel and its environs made by the artist and Arup acoustics, as well as by young sound artists in the associated educational project 'Klanging Banging' and other afficionados of the project and public members. The 3D model could enable the viewer to experience a multi-perspective participative sonic 'collage' of the space. This modelling could be extended through the addition of current recordings facilitated through a public social media call-out to help demonstrate the rapidly changing soundscape of Leeds from the 2000's to now, increasingly pedestrianised and perhaps quieter with the introduction of the electric car and demise of the diesel vehicle.

WG 2

From the recent workshop at the Henry Moore Institute (May 2025) with archivists, sound practitioners and architects, a suggestion could help evidence the qualitive characteristics of ambiance through that of 'transition'. The 3D model could be re-framed to demonstrate the user's ambient experience of the tunnel taken at points of transition, such as at entry by registering levels of natural light and open space before being immersed in the constructed space of the tunnel, and at the point of exit into a different sensory cityscape.

As well as considering the conceptual dilemmas of re-presenting the intangible materials of space and sound, the 'Light' Neville Street archive has been interrogated to propose a range of success indicators and metrics of value with related professional learning from the design and client team. These metrics could be beneficial in defining an evaluation framework for future multi-modal sensory urban space, particularly those that adopt technology. Indicators include: the integration of artists in project development; proactive use technical restraints; how to build successful collaborations; the advantages of clear communication between project partners; project de-risking; the value and need for client education; maintenance plans and decommissioning; the need for long term project advocacy for client and the public; and for associated education, mentoring and training programmes.

The resultant 'Light' Neville Street archive, now part of the permanent collection of the Henry Moore Institute's Archive of Sculptor's Papers, has thus proved to be an adaptive creative model and demonstrates the benefit and impact of instigating a formal archival strategy at project outset. I will continue to be explore archival mechanisms in the context of urban ambiance within my research which uses a Mode 2 social design methodology.

Anthropomorphisation of senses, experiences, emotions and memories: Fun Palace as a suggestive Artificially Intelligent Architecture by Cedric Price, 1961-1974

Danyal Ahmed[1,2]
1. Tohoku University – Japan
2. ETH Zurich – Switzerland

Abstract.
Politeness, interpersonal distance, flattery, judging others and ourselves, personality of characters and interfaces, imitating personality, good versus bad, negativity, arousal, gen- der, voices, source orientation, image size, audio fidelity, synchrony motion, scene changes, subliminal images - if we want to give all of these characteristics a name with reference to urbanised and architecturalised environment, that would definitely be a Fun Palace (1961- 1974, unbuilt) by English Architect and Planner Cedric Price (1934-2003). Based on the senses, experiences, emotions and memories of its participants, the spatial layout of the Palace kept on modifying itself. As a consequence, how did its users felt once experiencing a space with infinite or no urban or architectural boundaries and how did the system in return responded to the requests made by these 24/7 information and communication absorbers? While preceding the Embodied Cognitive Science paradigm with its situated, embodied, intelligent and emergent behavioural characteristics, what could we learn from Fun Palace as a non-urban and architectural space within the context of swinging sixties and seventies Britain? This paper discusses and explores the phenomenon of Fun Palace while placing it in the context of continuously changing atmospheres of senses, experiences, emotions and memories and attempts to visualise an urban/non-urban and architectural/non-architectural approaches presented by Price to its admirers.

Keywords:

Cedric Price, Fun Palace, Embodied Cognitive Science, Phenomena, Cybernetics

164

SENSITIVE DESIGN, HERITAGE & STORYTELLING

Transferring Ambiance: Lessons from Persian Architectural Elements for Enhancing Urban Atmospheres in European Cities

Mehrdad HEJAZI[1]

1. Department of Civil Engineering, Faculty of Civil Engineering and Transportation, University of Isfahan, Iran, m.hejazi@eng.ui.ac.ir

Abstract.

"Ambiance" is crucial for urban design. European cities, facing climatic and social shifts, need sustainable strategies to enhance urban atmospheres. This paper explores how historical Persian architectural elements offer insights for ambiance-oriented design in Europe. Focusing on the ivan (vaulted hall), badgir (wind tower), central courtyard, sahn (prayer courtyard), and chahar bagh (quadripartite garden), the study examines how these elements foster multi-sensory experiences through passive environmental regulation and symbolic spatial articulation. Based on comparative architectural analysis, the research advocates conceptual adaptation, not literal replication. Findings suggest Persian principles can enrich urban design by offering passive microclimatic strategies, fostering rhythmic spatial transitions, and embedding cultural narratives. This paper integrates cross-cultural knowledge into European urban discourse, promoting intercultural dialogue for ambiance-aware cities.

Keywords:

Architectural ambiance, Persian architecture, Climate-adaptive design

Introduction

"Ambiance" shapes urban experience (Thibaud, 2015; Pallasmaa, 2005). European cities face critical challenges: rising temperatures, densification, and fragmentation. Designs fostering comfort, identity, and inclusivity are essential. Non-European historical traditions offer insights. Persian architecture, honed over centuries in arid climates, provides knowledge on social cohesion and spiritual meaning. Its elements—*ivan, badgir, chahar bagh, sahn,* central courtyards—are climate-responsive and cultivate ambiance (Hejazi and Mehdizadeh Saradj, 2014). This paper investigates how Persian architectural elements inform ambiance strategies in European urban design. Analysing their sensory, climatic, spatial, and social roles bridges historical wisdom with modern challenges. It proposes adapting Persian spatial logic and environmental responsiveness, not stylistic imitation, to enhance urban ambiance, especially in Southern European cities. Through comparative analysis, this research contributes to intercultural architectural discourse, offering a globally relevant, ambiance-centered design framework.

Methodology and theoretical framework

This study uses qualitative comparative architectural analysis to identify ambiance design principles from classical Persian architecture. These align with spatial/climatic challenges in Southern European cities (rising temperatures, densification, cultural resonance). The framework draws from ambiance studies (environmental psychology, phenomenology, sociology). Ambiance is a relational condition, encompassing environmental ambiance (comfort, thermal/sound control) and cultural ambiance (meanings, memories, narratives). Five Persian architectural elements

are case studies: *ivan, badgir,* central courtyard, *sahn, chahar bagh*. Each is examined through environmental, spatial-experiential, and symbolic-cultural dimensions. This links elements to urban design; European contexts are reviewed for ambiance challenges. The methodology advocates transpositional design logic: reinterpreting Persian architectural values for European contexts, supporting intercultural design. Scope is limited to conceptual principles transferable to European urban challenges, excluding socio-economic/political factors or detailed implementation.

Case studies in Persian architecture

This section explores how ambiance is generated through key Persian architectural elements, focusing on thermal comfort, symbolic layering, and sensory experience.

The ivan: transition and threshold

The *ivan*—an open vaulted porch—mediates between exterior and interior (Figure 1(a)). Found in mosques and madrassas, it provides shaded, semi-enclosed space, acoustic modulation, and frames views (Figure 1(b)). As a threshold, it orchestrates rhythmic, symbolic transitions. In Europe, where thresholds often lack depth, the ivan offers a model for climatic and symbolic layered transitions.

| (a) | (b) | (c) |
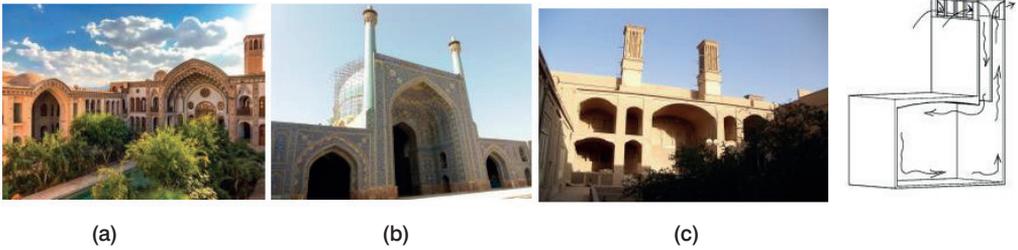
Figure 1. a) *Ivan* as material mediation between exterior and interior spaces: b) ivan as spiritual meditation, orchestrating rhythmic and symbolic spatial transitions, c) *badgir* (wind tower), passive climate control and airflow mechanics leading to ambiance-related benefits (thermal comfort, natural ventilation), inspiring innovative designs for natural ventilation in contemporary European architecture.

Badgir (wind tower): passive climate control

The *badgir* (wind tower) captures winds for interior ventilation (Figure 1(c)) (Hejazi and Hejazi, 2014). This passive system reduces mechanical cooling, enhancing thermal comfort. Facing rising temperatures/energy demands, its air stratification/cross-ventilation principle offers a transferable low-energy solution for European cities.

Central courtyard and sahn: spatial cohesion and microclimate

Central courtyards (residential/institutional) and *sahn*s (religious) moderate climate and foster social gathering (Figures 2(a) to (c)). Their enclosed geometry provides shade, breezes, and cooling water. In European housing/public spaces, they could enhance microclimatic comfort and community interaction in dense urban areas (Figure 2(d)).

(a)   (b)
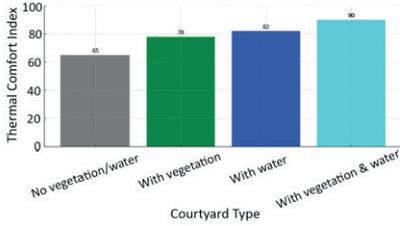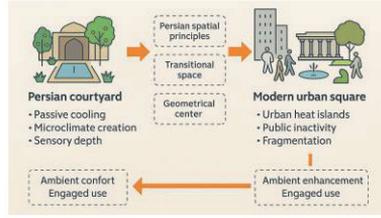
(c)   (d)

Figure 2. Spatial cohesion and microclimate: a) courtyard, a spatial enclosure for thermal regulation,
b) sahn, a collective gathering space, c) thermal comfort comparison of courtyard designs, illustrating
the microclimatic benefits of shaded, enclosed spaces, d) ambiance flow from the Persian courtyard
(geometry, water and shade) to the European urban square.

Chahar bagh (Persian garden): symbolism and multisensory experience

The chahar bagh, a four-part garden with water channels, reflects cosmological symbolism (Hejazi
and Mehdizadeh Saradj, 2014). Beyond this, it regulates environment and offers sensory layering
(Figure 3). For European urban regeneration, this model inspires structured, multi-sensory green
spaces fostering tranquillity and microclimatic benefits.
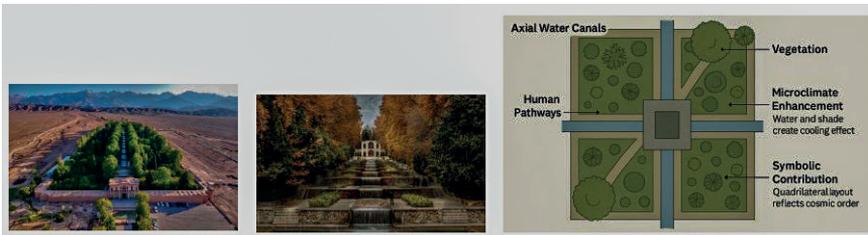
Figure 3. Chahar bagh (Persian garden): elements and their microclimatic and symbolic contribution,
combining environmental regulation (shade, water cooling) with deep cultural symbolism and sensory layering
(sound of water, scent of plants), a conceptual framework for the design of European urban parks.

Integration and synthesis

Elements contribute to ambiance as part of an integrated spatial system, balancing environmental
functionality with symbolic meaning. These principles inform ambiance-oriented design in
European cities.

Comparative insights: Persian architectural principles and urban ambiance in European contexts

Persian and European architectural traditions shape functional, emotionally resonant, and atmospherically rich spaces. This section identifies transferable strategies for enhancing urban ambiance.

Climate responsiveness and passive cooling techniques

Southern European cities face urban heat islands. Persian architecture offers passive climate regulation: courtyards, *badgirs,* masonry. Wind tower ventilation principles can reinterpret European facades/roofs. The *chahar bagh* (water, shade) inspires Mediterranean green spaces, fostering microclimatic moderation and multisensory engagement, creating resilient public realms in cities like Marseille or Rome.

Spatial transitions and rhythmic organisation

The *ivan,* a semi-open, shaded threshold, serves climatic purposes and creates rhythmic spatial transitions. This resonates with underutilised European traditions (e.g., Bologna's porticos). Adapting its logic can create semi-private, shaded zones in European urban edges, transitional courtyards, and communal entrances.

Symbolism, memory, and socio-spatial identity

Persian architectural forms embed cultural/symbolic meaning. While direct transfer is inappropriate, encoding memory/identity into form is universally relevant. European cities, facing identity erosion, could link materiality, geometry, and spatial narrative to local cultural memory. For instance, Persian *sahn*s organise collective experience; similar strategies can enhance emotional orientation in European civic/cultural spaces.

Lessons in atmosphere-driven design

Persian architecture demonstrates ambiance as a primary structuring principle. Foregrounding material tactility, controlled light, acoustic modulation, and symbolic transitions, its elements offer a toolkit for richer urban experiences. European application should avoid superficial mimicry, involving interpretive processes: rethinking spatial thresholds, climatic adaptability, and symbolic meaning layering (Table 1).

Implications and recommendations

Exploring Persian architectural elements through ambiance offers implications for European urban design. Understanding ambiance as a culturally embedded, environmentally responsive, and socially generative condition opens new pathways for intercultural learning.

Design Principle	Persian Architecture	Southern European Architecture	Transfer Potential to European Cities
Passive Climate Control	Wind towers (*badgir*), thick walls, thermal mass, courtyards	Arcades, thick masonry, internal courtyards, tiled roofs	Retrofitting airflow solutions, using courtyard logic for cooling
Transitional Spaces	Ivan (vaulted porch) for shaded spatial threshold	Loggias, porticoes in civic buildings and palaces	Creating shaded gathering spaces in public areas
Courtyard Geometry	Inward-facing rectangular courtyards (privacy, cooling)	Cloisters and patios, typically open to public circulation	Design inner patios in dense housing to enhance microclimate
Water Integration	*Chahar Bagh* gardens, fountains, flowing water channels	Fountain squares, cloistered gardens, Venice canals	Cooling aesthetics through water – fountains, ponds in urban landscapes
Vegetation Use	Trees within gardens, integrated green space planning	Urban squares with trees, olive groves, shaded pergolas	Extend shade corridors, integrate tree canopy in pedestrian zones
Symbolic Spatial Hierarchy	Axial layouts, domed sanctuaries, thresholds mark sacred/protected spaces	Plaza hierarchies, church axes, civic layout logic	Embed spatial rhythm and hierarchy in modern planning (e.g. community spaces)

Table 1. Persian and Southern European architecture – transferable lessons for ambiance-oriented urban design.

Design adaptations for European contexts

Integrating ambiance-driven design inspired by Persian elements provides passive, low-energy solutions for improving thermal comfort, acoustic quality, and atmospheric richness in public/semi-public spaces. For instance (Figure 4):

- *Ivans* may be reinterpreted as shaded urban thresholds.
- Courtyard forms can serve as urban pockets of relief, supporting social cohesion/microclimatic control.
- Wind towers (*badgirs*) may inspire vertical ventilation strategies.
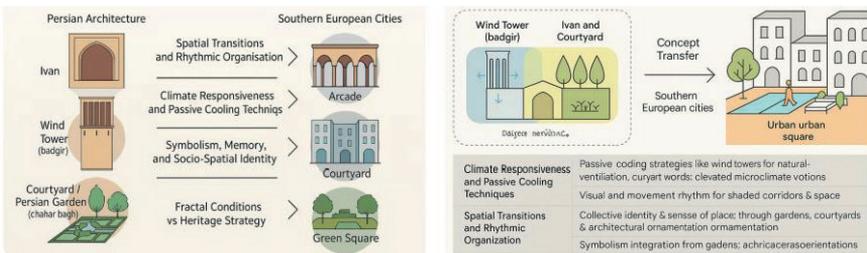
Figure 4. Conceptual transfer of Persian spatial ambiences to Southern European cities.

Implications for policy and planning

European urban renewal prioritises efficiency. Ambiance-sensitive approaches shift focus to sensory/cultural wellbeing. Municipalities can support pilot ambiance retrofits, especially in cities like Lisbon, Genoa, or Seville. Policy must consider existing regulatory frameworks.

Intercultural and educational opportunities

The study advocates including global architectural heritage in European architectural curricula. Properly contextualised, Persian strategies can enhance students' understanding of non-Western spatial logics and foster critical reflection on environmental/sensory quality.

Community engagement and participatory design

Successful adaptation of Persian principles requires robust community engagement. Participatory processes (workshops, charrettes, consultations) ensure culturally sensitive interventions, meeting needs and fostering ownership. Integrating local knowledge enhances ambiance by mitigating resistance.

Cautions and considerations

Cultural transfer must be nuanced. Replicating traditional forms risks superficiality; principles, not appearances, should guide adaptation. Practical implementation faces challenges: navigating regulations, cost, and ensuring community acceptance.

Conclusion

This study explored Persian architectural heritage and European urban design via ambiance. Key Persian elements—*ivan,* wind tower, courtyard, *sahn, chahar bagh*—shape profound sensory, cultural, and symbolic experiences, beyond environmental challenges. Their capacity for thermal comfort, acoustic modulation, spatial rhythm, and place-making offers a holistic framework for ambiance-oriented design. Comparing this with Southern European challenges (rising temperatures, fragmentation) highlights these historical strategies' relevance. Ambiance principles should reinterpret Persian spatial logic respectfully, not replicate forms. This research broadens architectural ambiance discourse, suggesting its deep embedding in global heritage. It calls for greater intercultural dialogue in theory and practice, advocating for inclusive, sensory-rich urban design rooted in past wisdom and contemporary needs. The outcome invites designers, planners, and educators to engage with space's experiential/cultural dimensions, making ambiance a method and message for liveable, meaningful, sustainable urban futures.

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Designing with Sensitivity
Trauma-Informed Design as a Human-Centred Ambience Strategy

Adrienne CSIZMADY[1]
1. HUN-REN Centre for Social Sciences - Institute for Sociology, Budapest, Hungary,
   csizmady.adrienne@tk.hu

Abstract.

This paper examines Trauma-Informed Design (TID) as a crucial methodology for incorporating emotional and psychological sensitivity into architectural and urban practices. Rooted in trauma-informed care, TID emphasises spatial strategies that foster safety, dignity, agency, and healing. Moving beyond clinical settings, the paper frames TID within ambience theory, highlighting its potential to shape sensory, affective, and social atmospheres across diverse built environments. Through a literature synthesis the paper demonstrates how trauma-aware interventions can support inclusion, mental health, and social repair. Case studies from Budapest and Kyiv illustrate the adaptation of TID in Central and Eastern Europe, addressing region-specific challenges such as institutional mistrust, housing precariat, and post-conflict recovery. The findings argue for TID as an ethical and ambience-sensitive design philosophy, advancing urban resilience and psychological sustainability. The paper concludes with a call for further research into neighbourhood-scale applications of TID using participatory and evidence-informed approaches.

Keywords:

Trauma-Informed Design, Ambience-Sensitive Architecture

171

1. Introduction

As the fields of urbanism and architecture increasingly grapple with the emotional, psychological, and sensory dimensions of space, trauma-informed design (TID) offers a vital lens for addressing how the built environment can either perpetuate harm or foster recovery. Initially developed within the healthcare and social services sectors, TID is now gaining traction across various domains. At its core, it aims to create environments that acknowledge the lived experience of trauma, and intentionally support safety, agency, dignity, and psychological well-being.

This paper examines trauma-informed design as a practice that extends beyond functionality, in order to encompass the emotional and relational aspects of space. It proposes TID as an ambience-oriented methodology that enriches both the theoretical understanding and applied practice of spatial experience. Drawing on examples from Europe, the paper demonstrates how the implementation of trauma-sensitive spatial strategies can address region-specific social ruptures such as historical displacement, systemic marginalisation, and institutional mistrust. This review presents a broader argument: TID should not be conceptualised as a marginal therapeutic intervention, but rather as a design philosophy embedded in ethics, care, and the politics of presence.

To fully appreciate the theoretical positioning of TID, it is crucial to situate it within the broader discourse of ambience theory. Ambience refers to the affective atmosphere of space; a lived, embodied, and culturally mediated experience. Böhme (1993) conceptualises architecture, not merely as the creation of forms but as the staging of atmospheres, a view that aligns with the

concern of TID regarding how spatial qualities evoke emotional and psychological responses. Trauma-informed design thus becomes an operationalisation of ambience theory, translating abstract atmospheric qualities into material and participatory design decisions. Features such as soft lighting, biophilic elements, acoustic comfort, and spatial legibility are not solely functional, because they are also ambience-sensitive tools that shape users' cognitive and affective states.

While trauma-informed care focuses primarily on the relational and psychological dimensions of healing, the integration of ambience theory offers an expanded spatial ontology. The notion of "affective tonalities" (Griffero 2016) and the concept of atmospheres (Böhme 1993; 2017) draw attention to the non-verbal, pre-reflective qualities of space that act upon users' moods, perceptions, and bodily states. These perspectives underscore the fact that design interventions are not merely technical variables, but rather they are atmospheric agents that can mitigate or intensify traumatic affect. Trauma-informed design, understood through this lens, is thus a spatial practice of ethical calibration; a tuning of environments toward empathy, containment, and attunement to vulnerability.

The methodology informing this paper draws on a desk review and a literature review. The paper positions trauma-informed design as a critical innovation within the discourse on ambience, one that contributes not only to resilience but also to inclusion, social repair, and a deeper engagement with human vulnerability in urban contexts.

2. Trauma-Informed Design and the Built Environment

Trauma-informed design is a relatively recent development at the intersection of environmental psychology, architecture, and care-based practice. Building on the principles defined by Di Raimo, Petrillo, and Thomas (2022), trauma-informed care (TIC) recognises that trauma has wide-ranging effects on an individual's cognitive, emotional, physical, and social functioning. In response, TID advocates for built environments that facilitate safety, control, empowerment, and connectedness, which are key conditions for psychological healing (Bollo and Donofrio 2022).

Designers working within a trauma-informed framework are encouraged to translate user experience into material and spatial terms. Di Raimo (2022) emphasises the importance of listening as a design act, whereby architects must consider how inhabitants emotionally and sensorially engage with their surroundings. Elements such as calming colour palettes, acoustic modulation, personalisable furnishings, biophilic integration, and spatial legibility are not simply aesthetic choices, but rather they are therapeutic tools. Numerous studies point to the health benefits of such features, including reduced anxiety, enhanced emotional regulation, and improved social interaction (Gill 2019; Preservation of Affordable Housing 2025). Recent research has further explored trauma-informed spatial strategies in the context of supported housing, PTSD-affected veteran accommodation, and high-stress institutional settings (Khanade et al. 2018; McLane and Pable 2020). These studies highlight a standard set of priorities: control over one's environment, access to quietness and privacy, natural light, and predictable spatial configurations. Interior design choices—including texture, lighting, and sound—also influence users' sense of comfort and autonomy. All things considered, these findings suggest a growing need for empirically-grounded design guidelines that are tailored to trauma-sensitive environments.

2.1. Trauma-Informed Neighbourhoods: Extending Trauma-Sensitive Approaches to the Urban Scale

The notion of a "trauma-informed neighbourhood" represents an effort to extend TID principles from individual buildings to urban environments. Although the concept remains, to our knowledge, underdeveloped in the academic literature, it does carry significant promise (Schroeder et al. 2021). Neighbourhood-scale design decisions—such as lighting, street noise, access to green space, or the presence of defensive architecture—can either trigger distress or promote psychological resilience, especially in communities with high exposure to structural violence or displacement.

The built environment, understood as the ensemble of human-made and modified settings for living, working, and leisure, has a measurable impact on behavioural patterns, perceptions of safety, and interpersonal dynamics (Sullivan and Chang 2011). In this context, urban features such as poor lighting, heavy traffic, and surveillance infrastructure can aggravate vulnerability, while noise barriers, community artwork, and participatory planning processes can contribute to healing. The trauma-informed neighbourhood thus brings together principles from therapeutic landscape theory (Bell et al. 2018) and public health to propose a relational model of urban design.

2.2. Nature-Based Therapy

Nature-based Therapy (NBT) refers to a structured, therapeutic approach that harnesses the restorative potential of natural environments with which to support mental health and psychosocial well-being. Unlike informal nature exposure, NBT involves deliberate and evidence-informed interventions that engage patients with green spaces through guided activities, mindfulness, horticultural engagement, and landscape immersion. NBT sits at the intersection of ecological psychology, environmental therapy, and healthcare design, emphasising the therapeutic alliance between individuals and their natural surroundings. Widely practised in Scandinavian countries through initiatives like the Alnarp Rehabilitation Garden (Sweden) and Nacadia (Denmark), NBT is also gaining traction in post-conflict and urban stress environments. Its structured methodology aligns with trauma-informed design, when integrated into urban green infrastructure or residential settings for vulnerable populations. By embedding therapeutic landscapes into built environments, NBT expands the design horizon from passive exposure to active healing processes, thus offering a bio-psycho-social framework for urban resilience and psychological sustainability (Annerstedt and Währborg 2011).

3. Examples from Europe

This section presents a short comparative overview of TID practices across Europe, with an emphasis on two detailed case studies from Central and Eastern Europe. While Western European initiatives such as Hope Street (Liverpool) in the UK and Psychologically Informed Environment (PIE)-based shelters in Amsterdam, illustrate a growing integration of emotional safety, dignity, and sensory regulation into urban and housing strategies (Snug Architects 2023; PIELink.net 2024), the Budapest and Kyiv cases reveal how these principles are being adapted to address local challenges, including displacement, institutional mistrust, and social fragmentation. The evolution TID from clinical origins to interdisciplinary design reflects a broader ethical shift in architecture towards participatory and healing-centred practices. The examples demonstrate that trauma-informed approaches are not confined to interiors or therapeutic settings, but rather

they increasingly shape public and residential environments, thus advancing inclusive urbanism. By examining region-specific adaptations, the case studies highlight the relevance of TID as a responsive and culturally-embedded design methodology across European contexts.

3.1. Trauma-Informed Shelter for Women Experiencing Homelessness – Budapest, Hungary

The PIE4Shelters project (2018–2020) in Budapest exemplifies the integration of trauma-informed design (TID) within homeless services for women affected by trauma and gender-based violence (PIE4shelters 2018). Coordinated by Budapest Methodological Centre of Social Policy (BMSZKI) and supported by EU partners, the initiative introduced the Psychologically Informed Environments (PIE) approach, which embeds psychological awareness into both environmental design and institutional practices. Interventions included calming colour schemes, secure furnishings, clear spatial zoning, and co-designed private areas aimed at fostering emotional safety and empowerment. Staff received training in reflective practice and trauma recognition, with reported improvements in collaboration and service delivery. The PIE framework—emphasising user feedback, co-produced environments, and relationship-building—is positioned as a dynamic, evolving model (PIELink.net 2024). In Hungary, its application marked a shift in both material and cultural approaches to trauma and homelessness. The Budapest case illustrates how TID can support mental health recovery and social reintegration, contributing to a broader Central-Eastern European discourse on ethical, healing-centred spatial practices. It offers a replicable model for integrating ambience-sensitive strategies into frontline services, with relevance for practitioners and policymakers who are committed to inclusive and psychologically supportive urban infrastructures.

174

3.2. A Trauma-Informed Landscape Initiative – Kyiv, Ukraine

In the spring of 2024, a Nordic Therapy Garden was established adjacent to the Pavlov Psychiatric Hospital in Kyiv, thus addressing the growing need for trauma-sensitive spaces amidst ongoing conflict. Designed by the Coolville Design Lab (Copenhagen, Denmark), with local partners, the 4,500 m² public garden was informed by Scandinavian evidence-based health design principles (Colville-Andersen 2024). The site features three zones: secluded cabins for individuals experiencing acute stress, semi-private forest-inspired walking paths, and communal gardens for horticultural therapy and social engagement. The project attracted over 1,000 volunteers, fostering rapid realisation and strong community ownership.

The initiative involved multiple stakeholders, including Ukrainian NGOs, landscape architects, and international donors, demonstrating a translocal model of psychosocial resilience. Beyond its therapeutic function, the garden serves as a knowledge hub, offering workshops and replicable design templates for other Ukrainian cities. By integrating Nordic landscape therapy methods with local needs, the Kyiv case exemplifies how TID can be adapted to post-conflict urban contexts.

4. Conclusion

Trauma-informed design (TID) marks a critical shift in how architecture and urban planning engage with vulnerability and adversity. By integrating emotional and physiological awareness into spatial practices, it moves beyond aesthetics to support recovery, dignity, and inclusion. Merging ambience theory with trauma-informed care deepens our understanding of how environments shape lived experience. Case studies from Budapest and Kyiv demonstrate the practical and ethical value of co-design, nature-based therapy, and predictable spatial layouts. To advance this approach, further research must develop validated urban TID guidelines, integrate participatory planning, and counter spatial stigma. Trauma-informed design offers not only technical strategies, but also an ethical compass for healing urban futures.

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Shaping Tushemisht's Urban Ambiance: Public Art, Infrastructure, Nature and Tourism
The Case of the "Teto Ollga" Statue in Tushemisht

Diana MILE
Architect email: mile.diana2@gmail.com

Abstract.
This paper explores the transformation of the public space in Tushemisht, Albania, through the integration of public art, infrastructure improvements, and natural elements. Using the installation of the 'Teto Ollga' statue as a symbolic centerpiece, the project redefined the village's urban ambiance and cultural identity. It demonstrates how artistic interventions and sustainable design can foster a sense of place, community pride, and tourism development, while also raising questions about long-term impact and authenticity preservation.

Keywords:

Urban transformation, Public art, Identity, Tourism, Cultural heritage.

Figure 1. THE STATUE OF "TETO OLLGA", PHOTO BY THE AUTHOR, 14.04.2013

Introduction

Tushemisht, a lakeside village in southeastern Albania, has undergone a unique spatial transformation that reshaped its urban ambiance by intertwining public art, local infrastructure renewal, and environmental elements. This paper explores how the 2012 intervention — centered around the placement of the 'Teto Ollga' statue — evolved beyond a cultural gesture to become a driver of identity, atmosphere, and tourism-based regeneration. The transformation serves as a case study for understanding how the spatial, symbolic, and sensory qualities of place can be intentionally composed to shape ambiance in small communities.

This project not only brought practical and aesthetic improvements to the village's public space but also became a cultural symbol linking residents and visitors to an important aspect of their shared identity. The statue of "Teto Ollga," a beloved character from the Albanian film "Zonja nga qyteti" (The Lady from the City), was placed in the central square of Tushemisht, turning this location into an attractive focal point and gathering place for visitors to the area.

The project sought to demonstrate how public art can serve as a catalyst for the economic and cultural development of a small community. This paper examines the project's impact on the village's urban development, the significance of public art in preserving local identity, and how the improvement of public spaces can contribute to sustainable tourism development.

Figure 2. FIRST DAY, PHOTO BY THE AUTHOR, 25.07.2013

Historical background and context

Historically, Tushemisht, a small village on the shores of Lake Ohrid, surrounded by abundant water sources, has long been recognized for its unique traditions and culture. Water has been, and remains, the dominant natural element influencing the daily life of residents and the village's landscape. The village served as the setting for key scenes in the famous Albanian film "Zonja nga qyteti", where the character of "Teto Ollga"—a woman with a strong personality beloved by audiences—became a symbol of Albanian humor and traditional values. Portrayed by the well-known actress Violeta Manushi, this character became closely identified with the residents and lifestyle of the region. The decision to place the statue of "Teto Ollga" in the central square of Tushemisht was deliberate, symbolizing a powerful connection between popular culture and the local community. This project revived a part of the village's cultural heritage and honored a figure embodying the values and memories of many Albanians. Thus, the statue of "Teto Ollga" is more than a decorative element; it is a shared symbol reinforcing the community's cultural identity.

Figure 3. PHOTO FROM THE FILM "THE LADY FROM THE CITY", COURTESY OF THE CENTRAL STATE FILM ARCHIVE

179

Project description and its impact

Henri Lefebvre, in his book "The Production of Space", states: Public space is a social product reflecting social and cultural relations.

Despite its specific characteristics, Tushemisht had reached 2012 with inadequate infrastructure, dysfunctional public spaces, and a fading cultural identity due to the absence of elements reflecting local history and traditions. Restaurants were confined mainly to the lakeside, exerting pressure for tourism development without a sustainable strategy that respected local culture and the environment.

In 2012, as part of efforts to revitalize Tushemisht as a tourist village, I proposed a project involving infrastructure improvements and the installation of a symbolic artistic element—the statue of "Teto Ollga," the beloved character from the film "Zonja nga qyteti". This project aimed to create a new tourist attraction honoring the village's cultural heritage while enhancing the identity and character of its public spaces.

Fortunately, the project's implementation included most of the proposed elements and proceeded through several stages—from planning and consultations with the artistic community to choosing the ideal location for the statue and preparing the surrounding area. Community involvement was essential to the project's success, alongside the artistic work by sculptors, Professor Sadik Spahia and Vasillaq Kolevica, ensuring that residents felt included and invested in the final outcome. Consequently, the project fostered a strong sense of belonging and pride in their cultural heritage.

The impact on the community has been significant. Tushemisht has become a prominent tourist destination, attracting visitors from Albania and around the world who come to see the "Teto Ollga" statue and experience the village's history. By improving infrastructure and adding cultural attractions, the project has economically benefited local residents while strengthening the area's cultural identity.

Figure 4. ARCHITECTURAL MODEL OF THE SQUARE, PHOTO BY THE AUTHOR, 15.01.2013

Public Art and the Shaping of Urban Ambiance

Yi-Fu Tuan, in his seminal work Topophilia, explores how symbols and memory shape emotional connections between people and place. The "Teto Ollga" statue in Tushemisht represents a powerful example of how public art can actively contribute to crafting urban ambiance in small-scale communities. Situated in a location loaded with cultural meaning and natural presence—particularly the strong relationship with water—the statue transformed the village's central square into a meaningful spatial experience for both residents and visitors.

Rather than functioning as a decorative object, the statue serves as a multisensory and symbolic anchor that reshaped how people perceive, use, and remember the space. It has become not only a visual landmark, but also a generator of atmosphere, influencing rhythms of social life, seasonal tourism, and local identity expression. The intervention catalyzed improvements in infrastructure, hospitality, and the collective maintenance of public space, reinforcing a shared sense of pride and ownership.

In shaping ambiance, public art in Tushemisht has also helped build a narrative of sustainable cultural tourism—one that emphasizes memory, place identity, and continuity rather than spectacle. By rooting the intervention in a cinematic and emotional landscape already familiar to Albanians, the project achieved a strong resonance and long-term relevance. This case illustrates how artistic gestures can be designed not only to represent a place, but to generate a living ambiance—a quality that is felt, remembered, and continually co-created by those who inhabit or visit the space.

Conclusion

The Tushemisht experience illustrates the transformative potential of public art when integrated with infrastructure and natural landscape as part of a holistic spatial strategy. Rather than acting as a standalone gesture, the 'Teto Ollga' statue helped to craft an ambiance that resonates with visitors and locals alike. The case advocates for multi-layered design approaches that shape meaningful urban ambiance while aligning development with identity, culture, and sustainability.

While tourism has brought economic opportunity, it has also introduced challenges related to infrastructure capacity, seasonal overcrowding, and the risk of co modifying local culture. The project highlights the need to balance tourism-driven development with the preservation of authenticity, community needs, and environmental resilience.

Figure 5. THE SQUARE OF TUSHEMISHT, PHOTO BY THE AUTHOR, 26.07.2013

However, the project raises critical questions related to the intentional design and sustainability of urban ambiance, particularly in rural and culturally sensitive environments:

How can urban ambiance be consciously shaped through the integration of spatial, sensory, and symbolic dimensions?

In what ways can public space interventions maintain the emotional and cultural depth of place while accommodating visitor experience?

How do local communities perceive and co-create ambiance, and what mechanisms ensure their continuous engagement?

What role do long-term planning and public investment play in maintaining and evolving place-based ambiances that are both authentic and resilient?
Tushemisht's experience underscores the importance of an integrated approach that combines public art, infrastructure, natural elements, and social participation. Rather than focusing solely

on singular interventions, it emphasizes the shaping of a holistic atmosphere—one that supports identity, fosters belonging, and invites multisensory interaction with place.

This discussion remains open: How can similar projects be adapted to different spatial and cultural contexts? What design methodologies and governance models are best suited for cultivating ambiance as a shared and evolving experience?

Short Biography

Diana Mile, born in Pogradec, Albania in 1978, is an architect and urban designer with a strong background in cultural heritage, sustainable tourism, and environmental planning. She graduated from the Polytechnic University of Tirana in 2001 and has held key public positions, including Director of Urban Planning at the Municipality of Pogradec and Director of Environmental Education and Policy at the Municipality of Tirana. She is the founder of the "Green House" Association and the co-author of the tourism masterplan for the Pogradec–Drilon area (2011), as well as several public space interventions, including the restoration of Drilon and the installation of the statue of "Teto Ollga" in Tushemisht (2012). Currently, Mile works as a freelance architect, consultant for UNICEF Albania on environmental and climate-related projects, and visiting lecturer at the Faculty of Architecture and Urbanism FAU, Polytechnic University of Tirana. She also leads the "Friends House" gallery in Pogradec, a space dedicated to community engagement through architecture, art, and environmental education. Her work is characterized by a transdisciplinary approach that connects spatial identity, ecological awareness, and cultural continuity.

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Author's Note:

Parts of this work were previously presented at another academic event. The current version has been substantially revised and reframed to address the theme of urban ambiance within the CitySenZ conference scope.

Urban and Architectural Ambiance at the Cultural Route in Skopje, Republic of North Macedonia

Viktorija Mangaroska[1]

1. Faculty of Architectural Engineering, International Balkan University, Skopje, Republic of North Macedonia, vmangaroska_ibu@gmail.com

Abstract.

The Cultural route in the city of Skopje, capital of North Macedonia, offers a fascinating blend of urban and architectural ambiances, in which history, culture, and modernity coexist. This scientific paper investigates the multidisciplinary and sensory methodology of visitors by identifying how spatial form, material articulation and urban context can co-produce ambiance in a culturally layered urban setting. The concept of urban ambiance identifies and proposes urban mapping strategy for restoring circulation by activating social aspects and developing cultural activities in museums, monuments and urban squares as a strategy for cultural development along Cultural Route in Skopje as a European Capital of Culture in 2028. The expected results and key findings reveal that urban ambiance emerges not solely from architectural form or urban structure, but from the interaction between lived sensory experience, urban spatial design and systemic organization.

Keywords:

Urban and Cultural Ambiances, Cultural Route, Skopje

1. Introduction

Urban and architectural ambiances in cities, significantly enhance experiences of visitors by providing layers of sensory aspects. Cultural perceptions shape the experience of ambiance in different architectural contexts, by identifying collective cultural memory and significance of urban places (Mangaroska, 2021). Urban design of ambiances effectively integrates settings, sensory rhythm and cultural openness (Zumthor, 2006). The multidisciplinary approaches, measuring and modeling ambiances, and defining the visitors sensory data collection contribute to coherence and innovation of urban ambiances (Pallasmaa, 2012). The patterns and materials contribute to the experience of urban ambiances. Spatial configuration, scale, enclosure and openness can also shaping urban ambiances. Urban morphology can impact ambiance by defining the use and perception of public spaces as inclusive and exclusive urban design (Pieres, Coehlo, 2022). The perception of the ambient characterize the relationship between people and spaces. Different types of sensory effects of urban ambiances can significantly enhance the perception of community and connection. Cities' soundscapes stimulate the senses and foster strong identification among visitors with a connection to the urban environment. They contribute to the humanistic and social integration to the urban ambiance (Jenkins, 2024). Music in urban ambient can produce a distinct simulation of senses by contributing to the touristic and cultural perception in urban ambiances.

2. Research Study of Urban and Architectural Ambiance along Cultural Route in Skopje

Urban and architectural ambiance of the Cultural Route in Skopje, offers historical layering, taking visitors through several centuries of history, showcasing a mix of Ottoman, Byzantine, and neoclassical styles, as well as more contemporary structures reflecting modernization. The cultural

and architectural ambiance in Skopje is deeply influenced by its diverse heritage. The city Skopje has been a crossroads for many cultures and civilizations over the centuries.

2.1 Objectives of the Research

The objectives of the research are to develop a sensory mapping methodology that integrates data from user perception, architectural observation and spatial analysis, enabling understanding of how different cultural ambiance varies across different sites in Skopje. Skopje as a European Capital of Culture, is a city where both ancient and contemporary styles interact in the rhythms of various cultures, and tradition is reflected in a united urban ambiance (Skopje 2028, European Capital of Culture). The study objectives provide an alignment between architectural design, urban spatial organization and user experience, that incorporates the perspectives of architects, urban planners, and everyday users. The movement patterns influence the atmospheric quality of public cultural spaces and identify architectural and urban elements that shape the sensory and spatial ambiance of selected cultural buildings along the Cultural Route in Skopje. The study provides a comprehensive approach to identifying and proposing urban design for improving sensory richness, user comfort and cultural resonance in heritage-driven urban areas in Skopje using interdisciplinary approaches in historically and culturally layered urban ambiances.

3. Methodology

The methodology identifies a case study of the urban and architectural ambiance through the Cultural Route in Skopje, which contributes to the development of a comprehensive and inclusive cultural identity. It identifies methods and in-city interviews with residents and visitors about the contemporary and incoming urban and architectural ambiance semiotic features in Skopje, as a new structural revival of intensive urban social life (Mangaroska, 2025). The research study uses a mixed-methods framework to investigate the study's complexity framework, which includes architectural analysis, urban mapping, and user-centered sensory audits. Sensory walkthroughs and perception surveys provide documentation on light, sound, texture, temperature and smell spatial experience, while spatial analysis tools examine urban continuity and walkability (Mangaroska, 2021). By identifying the sensory aspects and engagement in the Cultural Route, architectural and urban models are researched which will be important in order to provide increased circulation and movements of visitors and tourists. The proposed dynamic models of architectural and urban solutions at the Cultural Route, provide identification of urban networks and uniting museums, as interconnections between cultural institutions and public places along the route.

4. Results and Discussion

The research study area explores the following five significant cultural sites urban ambiances along the Cultural Route in Skopje, National Museum of Macedonia, Museum of Contemporary Art, National Gallery Cifte Hamam, Holocaust Memorial Center, and Mother Teresa Memorial House. The complexity and historical layering of the urban ambiances in Skopje can be seen by choosing case studies different ambiances at the Cultural Route: the modern part of the City (Holocaust Memorial Center, Memorial House of Mother Teresa) and traditional Skopje Old Bazaar (National Museum of Macedonia, Museum of Contemporary Art, Cifte Hamam). The methodology included field observations and sensory audit sheet questionnaires, observations and defining

intervals of urban nodes. The questionnaire was provided to 75 participants (locals and visitors) following the sensory walk along the Cultural Route. As part of the research study on the urban atmosphere along the Cultural Route, mixed-methods approach was implemented. The collected data included sensory walkthroughs, spatial mapping, and user perception surveys. The study maps interpretation on ambient sensory qualities contribute to the cultural, emotional, architectural identity in order to understand experienced ambiance of the selected sites. The analysis of the structured interviews is based on a qualitative and interpretative comparative method. The visitors presented especially high appreciation in the cultural buildings in the Skopje Old Bazaar, which had oriental music and oriental sounds which contributed to the traditional architectural patterns. According to the visitors, the Skopje historic Bazaar offers a unique blend of cultural buildings, events, traditional artisans displays, presenting the unique character of the city's historic quarter.

Museums along the Cultural Route in Skopje	Sensory Congruence		Emotional Depth		Spatial Coherence		Cultural Resonance	
	Locals	Tourists	Locals	Tourists	Locals	Tourists	Locals	Tourists
Museum of Contemporary Art	High 90%	High 85%	High 85%	High 85%	High 90%	High 90%	High 90%	High 90%
National Museum of Macedonia	High 85%	Medium 70 %	High 90%	Medium 70%	High 90%	High 90%	High 90%	High 90%
National Gallery Cifte Hamam	High 90%	High 90%	High 90%	High 90%	High 90%	High 90%	High 90%	High 90%
Holocaust Museum	High 85%	High 90%	High 90%	High 90%	Medium-low 60%	Medium 75%	Medium 80%	Medium 85%
Mother Theresa Museum	Medium 80%	Medium 80%	High 85%	High 85 %	Medium-low 65%	Medium 75%	Medium 85%	Medium 85%

Table 1. Research Survey Sensory results, Mangaroska, 2025

The sensory survey results provides feedback on the alignment of the participatory approach of visitors perception and analysis of urban planning, The urban ambiance according to the visitor perception include: visual expression responses to the architectural shapes and textures with play of daylight at the National Museum of Macedonia. The results from the tactile and urban patterns of cultural buildings along Cultural Route in Skopje present appreciation of stone surfaces and textures in a heritage urban context. In the urban ambiance of the complex in the National Museum of Macedonia, participants especially emphasized the urban landscape zoning and atrium green spaces as an outdoor open public green space for music, concerts and cultural events at the Kursumli Han in Skopje.

Alignment between Architectural/Urban Design and Visitor Perception		
Museums- Cultural Route, Skopje	Visitor Perception vs. Architectural/Urban Intention	Urban Ambiance Alignment
Museum of Contemporary Art	Valued for openness, lacks accessibility	Medium-High
National Museum of Macedonia	Old, Historic and Atmospheric Spaces	Medium-High
National Gallery Cifte Hamam	Perceived as calm, historic, and immersive	High
Holocaust Museum	Emotionally impactful, spatially detached	Medium
Mother Theresa Museum	Design, that need clear ambiance identity	Medium- Low

Table 2. Research on Alignment between Architectural/Urban Design and Visitor Perception and Experience along Cultural Route in Skopje, 2025

In terms of urban accessibility, participants of the survey identified that the Cultural route has excellent connectivity and accessibility, urban morphology in flat terrain for people with special needs. The pedestrian distance between cultural buildings of 200- 300 meters, with exception of vehicular traffic interruptions in one stretch. The visitors surveys provided feedback that there is disturbance of ambiance with traffic noise, around Memorial House of Mother Theresa and Holocaust Museum. The survey's cultural and interpretative perception revealed that for 80% of local participants the most important aspect was cultural interpretation of urban ambiance as a sense of historical layering and an emotional connection to old materials, whereas for 75% of tourists, the most important aspect of the urban ambiance was the cultural interpretation of traditional aesthetic and atmospheric uniqueness.

Figure 1. Urban Ambiances along the Cultural Route in Skopje, 2025, Mangaroska

The study's application in urban design involves using participatory sensory experiences as a tactical engagement strategy. Participatory mapping will provides intuitive understandings of spatial sensory ambiance hotspots. Based on ambiance visitors' perceptions, the surveys identified cultural nodes as ambiance-rich zones that naturally invite social and cultural gathering and reflection (National Gallery Cifte Hamam with historic textures, ambient lighting, and sound installations, National Museum of Macedonia public plateau as a cultural node for concerts and cultural events, Museum of Contemporary Art with hill and panoramic view. Integrating urban atmosphere into urban design offers practical and aesthetic criteria for identification of cultural nodes along the Cultural Route in Skopje.

5. Conclusion

This research offers valuable insights for urban designers, architects, and planners aiming to preserve and improve ambient experiences in heritage-rich urban environments. The findings reveal sensory aspects that both enhance and interrupt the continuity of ambiance along the route. The general sensory perceptions of urban ambiances patterns, architectural spatial organization and cultural and interpretative functions, present inventory basis for defining cultural nodes at the Cultural Route in Skopje as important holistic approach in the urban and architectural design strategy for the cultural development of the ciy. (Mangaroska et al, 2023) The complexity of this research study focuses on the principles of the holistic approach to designing urban cultural ambiances, which include urban planning, architects, civil engineers, touristic planners, cultural professionals, museum curators, residents, as well as visitors and tourists that contribute in co-creation of sensory aspects of urban and architectural ambiance. Findings reveal that ambiance emerges not solely from architectural form or urban structure, but from the interaction between people and spatial design, systemic organization, and lived sensory experience, enhancing the sensory richness and cultural identity of public and cultural spaces in Skopje and similar historic cities.

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188

MAPPING AND DIAGNOSING URBAN ENVIROMENTS

Integrating Environmental Contamination Data and Ambiance Theory: Evaluating Phytomining in Post- Industrial Spatial Planning

Aida BANI[1], Boriana GOLGOTA[2],Uran ABAZI[1]

1. Department of Environment and Natural Resources, Agricultural University of Tirana, Albania,
   abani@ubt.edu.al
   uabazi@ubt.edu.al
2. Department of Horticulture and Landscape Architecture, Agricultural University of Tirana, Albania,
   borianagolgota@gmail.com

Abstract

This study explores how heavy metal pollution shapes spatial perception through Ambiance Theory in post-industrial landscapes. At the former Elbasan metallurgical site in Albania, elevated concentrations of Ni, Cr, Zn, Fe, and Mn contaminate soils, crops, and the Shkumbini River, where Cr and Ni exceed regulatory limits, affecting biodiversity. Food accumulate Ni and Co above national thresholds, posing health risks. The research tests Odontarrhena chalcidica for phytomining as a remediation method that also transforms sensory perception. On contaminated soils, Ni yields ranged from 12.6–18.0 kg/ha, lower than the 145 kg/ha achieved on serpentine, but still effective. Post-harvest data show reduced Ni bioavailability. Ambiance Theory helps interpret pollution as both a chemical and affective condition, contributing to an atmosphere of estrangement. The study proposes a framework that integrates environmental data with sensory and spatial criteria to guide sustainable remediation as both ecological recovery and perceptual renewal.

Keywords:

Ambiance Theory, Post-industrial landscapes, Heavy metals, Phytomining

189

Introduction

Post-industrial landscapes are marked by ecological degradation and altered sensory experiences. Heavy metal pollution, biodiversity loss, and social disruption leave material and affective imprints on both land and communities (Shekhar et al. 2024). These environments often exhibit a toxic ambiance—an atmosphere shaped by sensory and emotional responses to environmental harm (Thibaud 2015). Ambiance Theory helps bridge this divide by interpreting how degraded environments generate specific sensory and cultural conditions (Anderson 2009; Thibaud 2011). This study examines the metallurgical site in Elbasan, Albania, polluted with Ni, Cr, Zn, Fe, and Mn—reflecting patterns seen across contaminated European regions (Alengebawy et al. 2021). Research supports phytomining with native *Odontarrhena chalcidica* as a viable remediation strategy (Bani et al. 2024b), while ongoing contamination continues to pose health and ecological risks. Here, phytomining is explored not only as a cleanup method but also as a tool for sensory and spatial renewal (Bani et al. 2024a). This study aims to explore how phytomining can simultaneously remediate heavy metal contamination and regenerate the sensory and spatial quality of post-industrial landscapes, using the Elbasan metallurgical site as a case study. **Objectives were to (i)**Analyze heavy metal contamination) in soils, crops, and surface waters around Elbasan, (ii) Evaluate ecological and health risks from metal bioaccumulation in food and aquatic systems, (iii) Assess the effectiveness of *Odontarrhena chalcidica* in extracting nickel and reducing soil toxicity, (IV) Interpret contamination impacts through Ambiance Theory, focusing on sensory disruption and environmental perception.

Materials and Methods

This study was conducted from 2024 to 2025 on contaminated farmland near the former metallurgical plant in Elbasan, Albania (41°09'18.12"N, 20°04'34.17"E) (Figure 1).
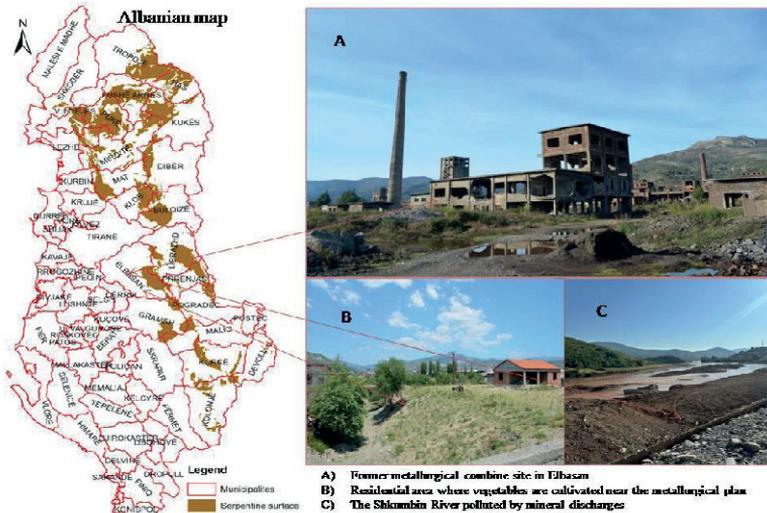
Figure 1. The study area of the former metallurgical plant in Elbasan, Albania

Sampling

Soil and edible parts of five crops—onion, salad, potato, pepper, and strawberry—were collected in spring and summer 2025. For each crop, three rhizosphere soil subsamples were analyzed at the Agricultural University of Tirana (AUT). In September 2024, water samples from the Shkumbini River were collected to assess heavy metal levels. In 2025, five 100 m² phytomining plots were established and planted with Odontarrhena chalcidica. Two fertilization regimes were applied: pig manure (17,500 kg/ha) plus NPK (N260:P105:K260 kg/ha), followed by an additional NPK dose (N50:P50:K50 kg/ha). Plants were harvested on May 30, 2025.

Sample Preparation and Analysis

Plant samples (food crops and *O. chalcidica*) were digested using HNO_3 and H_2O_2 via microwave digestion and analyzed for heavy metals. Total metals were determined by aqua regia digestion and determined in AAS. Available nickel was extracted using Mehlich-1 and measured via atomic absorption spectrometry. Water samples were collected 20 cm below the surface and analyzed according to ISO 15586 via AAS with graphite furnace. Ambiance Theory was employed to interpret environmental and spatial patterns related to soil and water contamination, risks to food crops, and phytomining effects (Augoyard and Torgue 2006; Thibaud 2011, 2014; Bille and Simonsen 2021).

Results and Discussion

Contaminated Atmospheres: Soil Pollution and Ambiance at the Former Elbasan Metallurgical Site

Heavy metal analysis of soils near the former Elbasan metallurgical complex reveals uneven contamination when compared to Intervention Threshold Values (ITVs) (Denneman and Robberse 1990). While Manganese (Mn) and Zinc (Zn) remain below concern levels, Nickel (Ni) and Cobalt

(Co) exceed ITVs at all sampling sites—Ni concentrations range from 540 to 610 mg/kg (ITV: 210 mg/kg), and Co from 72 to 110 mg/kg (ITV: 50 mg/kg). Chromium (Cr) shows greater spatial variability (Figure 2).These findings underscore the urgent need for targeted remediation, particularly concerning Ni, Co, and Cr. From the perspective of Ambiance Theory, this contamination is not merely a technical or environmental issue—it profoundly alters the affective and spatial relationship between people and place. The presence of heavy metals contributes to an atmosphere of unease, abandonment, and disconnection, transforming formerly productive agricultural land into a landscape marked by risk, memory, and loss. Ambiance Theory thus allows for a deeper interpretation of pollution's impact—not only on ecosystems but also on the lived experience of space (Anderson 2009; Thibaud 2011, 2014; Bille and Simonsen 2021). A) B)
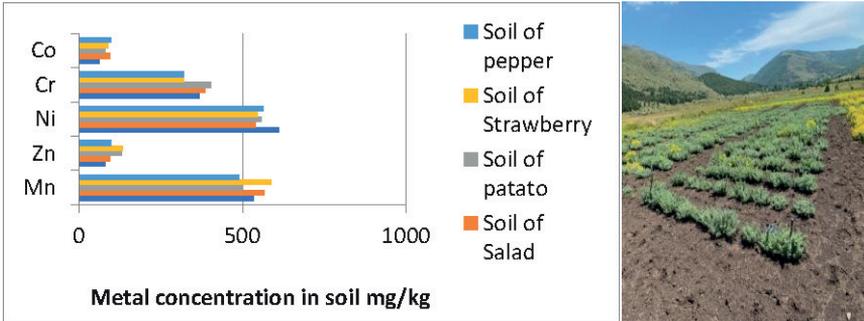
Figure 2. A) Metal Concentration in former metallurgical plant in Elbasan; B) Phytomining Plots 0 500 1000 Mn Zn Ni Cr Co

Heavy Metal Contamination in Shkumbin River: An Ambiance Theory Analysis

Heavy metal analysis of Shkumbin River water near the Elbasan metallurgical site reveals elevated Nickel (Ni) concentrations at downstream locations Paper (47 μg/L) and Peqin (38.8 μg/L), compared to upstream ($\sim$15 μg/L) (Figure 3). This increase reflects pollutant leaching from contaminated soils, disrupting the river's physical and sensory environment. Chromium (Cr) levels near Paper are also elevated, linked to industrial emissions. These pollutants degrade water quality and the ecological balance, affecting local communities' lived experience and reliance on the river. Prior studies connect high Ni and Cr levels to declines in fish species such as *Anguilla anguilla, Alburnus scoranza,* (Bani et al. 2020). This contamination alters the river's sensory and emotional atmosphere, creating a sense of environmental loss and disconnection that extends beyond measurable pollution to the lived experience of place(Augoyard and Torgue 2006; Thibaud 2011).
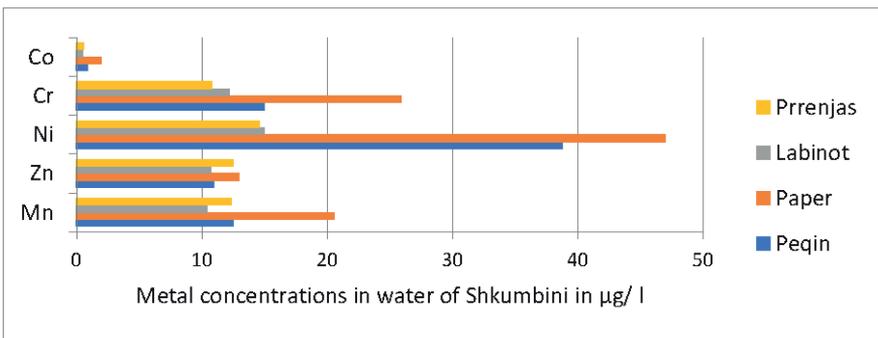
Figure 3. Metal concentrations in water of Shkumbini river

Contamination in Edible Plants: An Ambiance Theory View
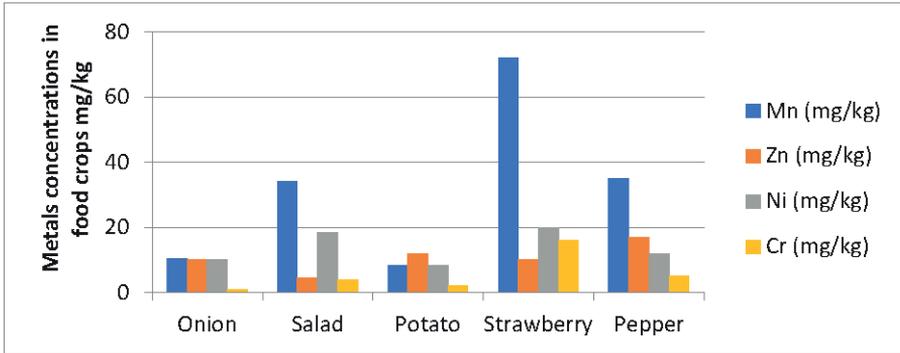
Figure 4. Metal concentrations in edible parts of food crops

Nickel (Ni) and Chromium (Cr) levels in vegetables near Elbasan exceed WHO limits, with Ni surpassing 10 mg/kg in onions, salad, strawberries, and peppers, and Cr exceeding 1.3 mg/kg—strawberries reaching up to 16 mg/kg (Figure 4) (WHO 1996, 2007). Zinc (Zn) and Manganese (Mn) stay within safe limits, though elevated Mn in strawberries and salad suggests increased uptake from soil. This contamination disrupts more than health—it alters the sensory and cultural experience of local food (Thibaud 2014). Vegetables, tied to regional identity and daily life, become carriers of invisible risk, causing "ambient estrangement" (Bille and Simonsen 2021), where consuming local produce evokes subtle environmental anxiety. Thus, Ni and Cr pollution transforms not just safety but the very atmosphere of everyday life, calling for remediation that blends environmental and cultural care.

Nickel Phytomining and Ambiance Regeneration at the Former Elbasan Metallurgical Site

Phytomining with *Odontarrhena chalcidica* on contaminated Elbasan soils showed promising results: biomass ranged from 6,000 to 9,000 kg/ha, with nickel concentrations up to 2,400 mg/kg, yielding 12.6–18.0 kg Ni/ha (Table 1). Although lower than yields on natural serpentine soils (up to 145 kg/ha), this confirms effective phytomining under polluted conditions (Kidd et al. 2018; Osmani et al. 2015; Bani et al. 2024a). DTPA analysis revealed a clear reduction in bioavailable nickel following phytomining, with concentrations decreasing across various crop soils: onion soil from 3.6 to 2.0 mg/kg, salad soil from 4.0 to 2.4 mg/kg, potato soil from 3.2 to 1.6 mg/kg, strawberry soil from 4.5 to 2.9 mg/kg, and pepper soil from 3.8 to 3.2 mg/kg. This reduction significantly lowers the risks for food crops and nearby ecosystems such as the Shkumbini River. By removing nickel, O. chalcidica shifts the soil's toxic metal balance, fostering a safer, restored environment. This process transforms the site's degraded, metal-stressed ambiance. The plant actively reshapes the chemical and ecological atmosphere, renewing the relationship between land and community through a dynamic interaction that moves beyond remediation to ambiance regeneration (Thibaud 2011, 2014; Bille and Simonsen 2021).

Phytomining plots	Biomas production kg/ ha	mgNi /kg	Nickel yield kg/ha
Plot 1	7000	2000	14
Plot 2	6000	2100	12.6
Plot 3	9000	2010	18
Plot 4	8000	1980	15.8
Plot 5	7500	2400	18

Table 1. Phytomining outcomes from five plots in former metallurgical plant in Elbasan using Odontarrhena chalcidica:

Conclusions

Phytomining with *Odontarrhena chalcidica* on industrial soils achieves moderate nickel recovery, limited by metal bioavailability, yet effectively reduces bioavailable nickel and lowers risks to food crops. With further optimization, it holds strong potential for sustainable soil remediation. Beyond technical benefits, phytomining acts as a practice of ambiance renewal—softening the industrial legacy by transforming the soil's chemical and ecological atmosphere. This process helps restore the land's health and agricultural viability, making *O. chalcidica* both a metal harvester and an ecological healer, contributing to sustainable land management and ambiance regeneration.

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194

Sensory Experience as a Method of Mapping a Cultural City

Aslihan OZTURK[1], Deniz BAYRAK[2]
1. Karadeniz Technical University, Department of Architecture, Turkiye, ozturkaslihan5@gmail.com
2. Karadeniz Technical University, Department of Architecture, Turkiye, denizbayrak@ktu.edu.tr

Abstract.
This study explores the urban experience through sensory perception, emphasizing how space acquires meaning when engaged through intentional sensory awareness. By focusing on sensory-based mapping, the research investigates how urban spaces can be interpreted through lived experiences. Building on methods applied in the undergraduate course "Sensory Atmosphere in Spatial Experience" conducted in Trabzon, the study will be implemented in Bayburt, a Turkish city rich in history, architectural heritage, and cultural tourism. The project involves a two-phase workshop at Baksı Museum with architecture students and local residents. The first phase includes interviews and investigations of culturally significant sites such as traditional workshops, parks, and orally transmitted customs. In the second phase, participants experience selected urban routes through specific senses and produce sensory maps. Ten students will create five maps, which will be synthesized into a "Cultural Space, Sense, and Experience Map." This output aims to enhance Bayburt's visibility and contribute to its cultural tourism potential through an interdisciplinary, community-oriented approach.

Keywords:

Design, Cultural Heritage, Mapping, Emotional Mapping, Bayburt

195

Introduction

A space is a formation limited by physical elements, but at the same time, it is a field of experience offered to individuals. Therefore, individuals' sensory and bodily interaction with space also plays a role in shaping it. In this context, Gibson (1966) emphasizes that the individual's perception process is an active experience intertwined with the environment. He states that space is a dynamic environment offering possibilities for action. Similarly, Lefebvre (1991) extends this interpretation to the urban scale, emphasizing that cities are not only designed and used spaces but also living environments shaped and transformed by social relations. According to him, urban spaces are reflections of collective life. In this reflection process, the individual's experience of urban areas parallels their sensory perception and emotional processes. Since sensory experience also has a temporal dimension, the spatial bond deepens as individuals experience the city at different times. For example, walking through a street from childhood during adulthood provides a different experience and increases emotional intensity through features like smell, sound, and texture associated with the physical environment. Consequently, spatial experience gains meaning and variety (Degen & Rose, 2012).

Similarly, it directly affects cultural diversity and the sense of spatial belonging in the city. Quercia et al. (2015) found that food aromas frequently mentioned in social media posts in the Camden district of London were associated with the area's cultural diversity, strengthening feelings of familiarity and attachment to space. Similarly, the smells of fruits and flowers in street markets in Barcelona were associated with nostalgia and positive past memories in user comments. Depending on the cultural values of different regions, different sensory characteristics emerge, shaping the form of

the space accordingly (Howes, 2005, p.1981). Thus, the sensory experience of a city contributes directly to its memory and the formation of mental maps.

When a city is experienced in a touristic context, similar sensory experiences allow it to be imprinted in the visitors' memories quickly. Therefore, in addition to visually stimulating areas, physical elements enriched with smells, sounds, textures, and tastes become significant components of the city. These experiences emotionally affect tourists, supporting the formation of mental routes and orientation within the city. They enable certain elements of the city to be encoded in memory. For instance, in their study based on Gaziantep's famous baklava, Balıkoğlu, Kılıç, and Bozok (2020) discussed the impact of tourists' sensory experiences on their urban memory. Similarly, in their scent walk study conducted in Kastamonu, Ayan Çeven and Belkayalı (2023) examined the role of street smells in the urban memory of the public. Participants noted that local smells such as "old tomb" or "oven-baked bread" reactivated past events and social connections during their walks. These findings emphasized that sensory factors may significantly influence memory, even in the context of a touristic route. As can be understood from this, the sensory effects of spaces carry cultural ties and play a crucial role in how tourists recognize and remember a city.

Architecture is closely intertwined with the concepts of culture and tourism. Architectural tourism, in its broadest sense, refers to the phenomenon where visitors come to a specific place or region to experience its architecture, which in turn fosters familiarity with the area and raises cultural awareness among the visitors (İncedayı, 2007; Kahvecioğlu & Ciravoğlu, 2007). For this purpose, mapping studies are conducted by identifying routes that incorporate architectural, cultural, and social data.

The first initiative on "cultural routes" at a universal level was launched by the Council of Europe. Institutions such as UNESCO and ICOMOS have also continued to contribute to the field of cultural routes through their respective efforts. While the Council of Europe had 31 certified cultural routes in 2017, this number has increased to 48 as of today (Council of Europe, 2025). The first cultural route in Turkey is the Lycian Way, which was designated in 1999 (Kuruç, 2018).

In the literature, there are workshops and academic studies that employ mapping methods based on routes. For instance, the study by Hirsch and Gabrielian (2018), which involved identifying key locations through mapping in New York, and the work of Yorgancıoğlu and Çalak (2020), which describes how the Vefa–Zeyrek–Fener–Balat district of Istanbul was mapped through a workshop, are particularly noteworthy.

In the context of Turkey, the Ministry of Culture and Tourism has identified seven tourism routes within the framework of specific themes—such as olive, winter, faith, Silk Road, and highland tourism—in line with its 2023 strategic goals. The city of Bayburt, where the fieldwork will be conducted, is included among the "proposed tourism cities" and is located along the "highland tourism route" within these goals. For this reason, it has been deemed an appropriate site for the study.

In the second stage, ten student participants will be divided into five pairs, each expected to carry out a mapping study. This mapping process will not only visually represent space but will also include sensory traces, allowing for a subjective representation of the environment. Based on the qualitative data obtained, the individual maps created by the groups will be combined to form a comprehensive "Cultural Space, Sense, and Experience Map" reflecting the city's collective memory and identity. The ultimate aim is to offer visitors a cultural route through which they can experience the city via multiple senses.

Results

In line with the participatory and sensory-oriented methodology of this study, several key outcomes are anticipated. Firstly, semi-structured interviews with local residents are expected to reveal that sensory experiences—such as smell, texture, and ambient sounds—play a significant role in shaping individuals' emotional connections with spatial memory.

These sensory elements are likely to be strongly associated with culturally meaningful places such as bakeries, marketplaces, religious buildings, and artisan workshops, which hold important positions in both individual and collective memory. Secondly, the mapping activities carried out by student participants are expected to generate layered representations that reflect the abstract and subjective qualities of space. These maps are anticipated to provide valuable examples that enrich architectural and touristic mapping practices by illustrating how memory, identity, and sensory perception intersect with everyday urban environments. The "Cultural Space, Sense, and Experience Map," which will be created by integrating these individual maps, is expected to visually and narratively reflect the dynamic relationship between people and the city.

Furthermore, the study is expected to demonstrate that participatory design processes can serve not only as effective methods of data collection but also as meaningful tools for preserving and experiencing cultural heritage. This approach is anticipated to contribute to the development of locally grounded, sustainable, and inclusive tourism strategies.

Ultimately, the study aims to highlight the potential contributions of sensory mapping to the fields of architectural research, urban memory studies, and tourism planning, offering both academic and practical value.

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199

Toward a paradigm shift in neighborhood evaluation: Exploring the Relationship Between Spatial Geometry, Spatial Performance, and Quality of Space

Dalit Shach Pinsly[1], Inês Lima Rodrigues[2], Idan Porat[3], Or Amir[4]

1. NB School of Design, University of Haifa, Haifa 3498838, Israel
   dshach-pi@staff.haifa.ac.il
2. Iscte University Institute of Lisbon – Dinâmia'Cet Research Group, Portugal,
   ines.rodrigues@iscte-iul.pt
3. Faculty of Architecture and Town Planning, Technion IIT, Haifa 3200003, Israel,
   idanpo@technion.ac.il
4. New Environmental School, Tel Aviv University,
   oramir646@gmail.com

Abstract.

This paper presents a quantitative and qualitative analysis of middle-class mass housing (MCMH) neighborhoods constructed in Europe between the 1950s and 1970s. Drawing on over 110 case studies documented across 30 countries. The research leverages a structured data collection template and GIS-based spatial analysis to develop a comparative framework for evaluating spatial quality and neighborhood performance. The paper demonstrates how spatial geometry correlates with walkability, accessibility, environmental quality, and the perception of ambiance. It argues that integrating quantitative spatial indicators with qualitative social insights can lead to a more holistic paradigm for assessing urban ambiances in mass housing contexts.

Keywords:

Mass Housing, Urban Morphology, Middle Class, Spatial Analysis, Urban Ambiances

200

Introduction: Applying MCMH-EU Methods within the CitySenZ Framework

The legacy of post-war middle-class mass housing neighborhoods remains a central theme in contemporary European urbanism. These developments, constructed between the 1950s and 1970s, shaped the spatial and social fabric of countless cities. While their historical and architectural significance has long been acknowledged, their present and future relevance is increasingly assessed in light of sustainability, livability, and adaptability. The COST Action CA18137 "European Middle-Class Mass Housing" (MCMHEU) offered a rare opportunity to reframe these neighborhoods as subjects of comparative and multidisciplinary analysis.

This paper emerges from the methodological and analytical work conducted by Working Group 1 (WG1) of that COST Action European Middle-Class Mass housing (CA18137) and is now being expanded and applied within Working Group 2 (WG2) of the ongoing COST Action CA23145 "CitySenZ." It seeks to demonstrate how a hybrid methodology—based on a common data collection template and morphometric spatial analysis—can be used to evaluate ambiance and quality of space across varied urban and cultural contexts. Rather than treating ambiance as an abstract or purely subjective concept, we explore how it can be understood through observable and mappable relationships between built form, open space, and perceived urban experience.

Methodology: Transferring Knowledge to CitySenZ through Spatial and Qualitative Tools

Central to our approach is a template developed collaboratively by the MCMH-EU network to standardize data collection across more than 110 case studies. The template included both fixed parameters (location, scale, typology, density, conservation status) and interpretive fields (descriptions of social structure, connectivity, urban policies, material qualities). It was designed to be flexible enough to accommodate national differences while consistent enough to allow for comparative analysis.
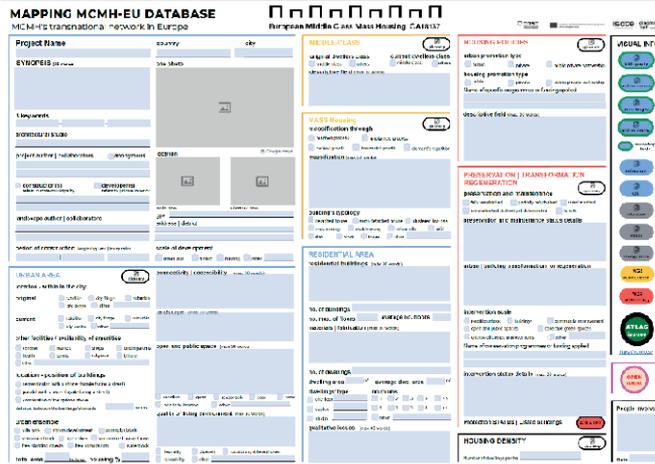
Figure 1. MCMH-EU Template. Source: Rodrigues et al., 2023

The data was further processed through GIS tools to enable spatial visualization and morphometric analysis. As a result of the template data collection method, various characteristics of the MCMH neighborhoods can be analyzed and evaluated. In this article, we focus on four indicators we identified: building geometry, built/open space ratio, spatial distribution typology (clustered, dispersed, or random), and street connectivity. In parallel, qualitative descriptors such as landscape integration, accessibility, public facilities, and socio-demographic shifts were analyzed for patterns. The experience of using the template across diverse national contexts revealed how countries emphasized different themes depending on their planning history and cultural framing of the middle class. For example, while Eastern European case studies often foregrounded transformation and adaptation processes following the fall of socialism, Nordic contributions tended to highlight environmental integration and long-term public management. This flexibility reinforced the value of the template as a shared but adaptable tool, not only for standardizing data but for surfacing cultural nuances in how space is used and evaluated (Rodrigues et al., 2023).

Figure 2. European Middle-Class Mass-Housing. Source: Rodrigues et al., 2023

Likewise, one of the major insights from the broader project was the understanding that spatial porosity, a consistent feature in mass housing estates with high open-to-built ratios, was not simply a product of modernist ideology, but a deliberate attempt to spatialize middle-class values such as light, air, and privacy. This design logic often contrasts with current urban development models emphasizing density and compactness. By recovering this design heritage and connecting it to contemporary notions of ambiance, the CitySenZ project is able to foreground the latent potential of these neighborhoods as models for equitable and sensory-rich urban environments. By integrating these two analytical layers, we were able to identify correlations between spatial structure and perceived quality of life. The methodology facilitated an investigation of ambiance as both a measurable and experiential phenomenon, reflecting the interplay between form and use, structure and atmosphere.

Analysis: Spatial Patterns and Urban Ambiances Across Europe

The database includes neighborhoods from over 30 countries, spanning various political regimes, planning ideologies, and socio-economic models. Despite this diversity, several recurring spatial configurations were observed. Most notably, approximately 66% of the neighborhoods displayed dispersed spatial arrangements, with consistent ratios of built to open space averaging around 22% built and 78% open. These figures reflect the modernist planning ethos that prioritized light, air, and green areas.

This spatial porosity often translates into qualitative indicators of high environmental quality (Scott and Storper, 2015), for instance, the prevalence of trees, playgrounds, pedestrian paths, and semi-public courtyards. In many cases, green areas were not merely decorative but played a structural role in organizing circulation and fostering a sense of community. Connectivity varied widely, from grid-integrated layouts to balloon-style cul-de-sacs, but the degree of street permeability often corresponded with perceived walkability and access to services.

Built vs Open

Histogram of built area percent
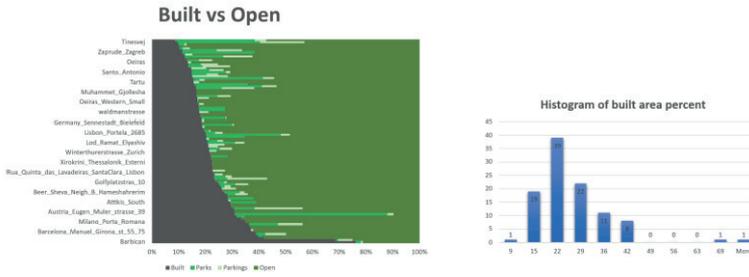
Figure 3. Nearest Neighbor (GIS) Analysis. Source: Shach-Pinsly, et, al., (2023).

The morphometric analysis also revealed recurring building typologies, including slab blocks, H- and L-shaped forms, and hybrid arrangements. These forms influenced not only spatial rhythms but also visibility, security, and the microclimate of the urban fabric. Their distribution and orientation frequently responded to topography and sun exposure, showing a nuanced consideration of environmental conditions within standardized frameworks.

Analysis: Built-Up Area Versus Open Space
The public housing neighborhoods in the case studies are characterized by a unique ratio between built-up and open space. The literature review highlighted the importance that architects and planners attributed to extensive open spaces in public housing neighborhoods, aiming to strengthen values of local identity and community. The planning emphasized relatively large distances between buildings and shared open spaces (Ewing & Cervero, 2010).

203

The results of the built-to-open space ratio analysis reveal a fairly consistent pattern in the form of a classic bell curve, with an average of approximately 22% built-up area and 78% open spaces of various types. This is a distinctive pattern of public housing neighborhoods, whereas in more modern neighborhoods characterized by block development, the ratio is typically around 60% built-up area and only 40% open space designated for various uses. Accordingly, the limited built-up area alongside the extensive open space is a defining feature of the vast majority of public housing neighborhoods.
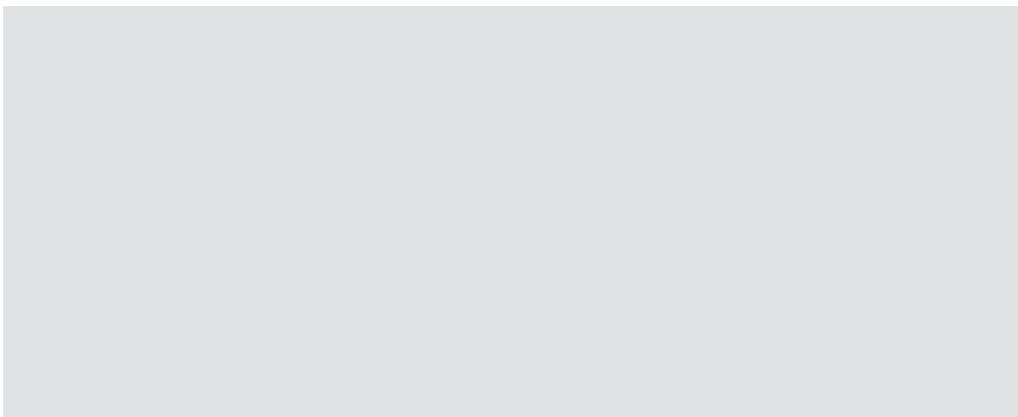
Figure 4. Open-Built Analysis. Source: Shach-Pinsly, et, al., (2023).

Analysis: Homogeneous and Diversity Analysis Results

This typological analysis is characterized by differences between survey neighborhoods in Eastern Europe and neighborhoods in Western Europe. The neighborhoods in the east are characterized by the standard model of a multitude of rectangular buildings, while the neighborhoods in Western Europe are more diverse in their construction typologies.
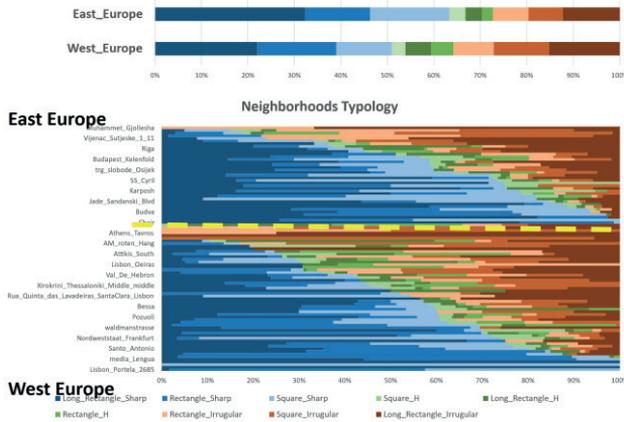
Figure 5. Homogeneous and Diversity Analysis, Shach-Pinsly, et, al., (2023)

CitySenZ Contributions: Linking Geometry and Sensory Experience

The concept of ambiance, though inherently multi-sensory and situated, can be partially modeled through spatial indicators. In our analysis, neighborhoods with higher connectivity, diverse public spaces, and multi-scalar transitions between private and public tended to display more favorable perceptions of ambiance. Conversely, monofunctional, poorly integrated areas were more likely to be perceived as alienating or fragmented. Particularly illustrative are the findings related to landscape integration. In numerous cases, the presence of rivers, elevation shifts, and viewsheds was amplified through design choices, suggesting a conscious engagement with ambiance at the planning stage. Likewise, the organization of residential clusters around shared amenities or symbolic centers contributed to a collective identity. Moreover, our qualitative analysis underscored the importance of user perception. Residents consistently referenced feelings of belonging, safety, and identity in connection with the design of open spaces and architectural form. Ambiance, in this sense, emerges not only from form but from the dynamic interaction between space, time, and lived experience.

Conclusion: CitySenZ and the Future of Ambiance-Driven Evaluation

This study advocates for a new paradigm in neighborhood evaluation—one that bridges spatial geometry with experiential quality. By combining template-based documentation, GIS analysis, and qualitative descriptors, we were able to reveal how spatial patterns influence ambiance in middle-class mass housing across Europe.

Our findings support the claim that ambiance is not solely a subjective or ephemeral quality but can be partially quantified and systematically compared. Recognizing this opens up new avenues for policy-making, heritage conservation, and urban renewal strategies that prioritize human-centered design. Rather than dismissing MCMH neighborhoods as obsolete, this research—transferred from MCMH-EU to CitySenZ—invites planners and designers to reassess their latent value and to engage more critically with the spatial foundations of urban ambiance.

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URBAN AMBIANCES AND SPATIAL AFFORDANCES: A PHENOMENOLOGICAL STUDY OF SPACES UNDERNEATH BRIDGES IN ISTANBUL

Kübra BIYUK ÖKSÜZ[1]

1. Istanbul University, Department of Architecture kubrabiyuk@istanbul.edu.tr.

Abstract.

Grounded in embodied and enactive theory, this study examines the relationship between Gibson's action-oriented affordances and Griffero's atmospheric affordances in urban spaces. The study explores how perceived action-oriented affordances relate to atmospheric evaluations. Three under- bridge spaces in Istanbul—Galata Bridge, Söğütlüçeşme Viaduct, and Golden Horn Bridge—were selected as case studies. Perceived affordances and atmospheric evaluations were gathered from 62 participants using video-based surveys and analyzed through qualitative content analysis. The findings demonstrate that a space's perceived atmosphere is not only shaped by its physical and functional affordances but is also significantly influenced by the user's past experiences and, crucially, the observable actions of other people present in the space, highlighting the social dimension of atmospheric perception.

Keywords:

Atmosphere, Affordances, Under-bridge Spaces

Introduction

206

Urban ambiance is a complex and ambiguous concept in architectural discourse, making it difficult to define and study with repeatable methods. This study explores ambiance through perceived action-oriented affordances, grounded in embodied cognition. The central hypothesis is that urban ambiances are closely related to the action-based affordances perceived through embodied cognition. This perspective shifts the understanding of ambiance from vague descriptions toward action-oriented interpretations of what a space enables. In the multilayered fabric of the city, bridges act as key transportation nodes, generating intense movement. In dense urban settings like Istanbul, spatial layering tends to expand inwardly, resulting in the occupation of under- bridge zones. These can be conceptualized as "spandrels,"[1] following Žižek's (2010) adaptation of the term to describe unintentionally formed urban voids. In this context, bridges and viaducts produce inevitable secondary spaces, which are rapidly functionalized in high-demand urban areas. Within this layered metropolis, the study asks: What actional and affective affordances do under-bridge spandrel spaces generate, and how can their relational dynamics be interpreted?

1.The Relationship Between Affordances and Atmosphere

Human existence is grounded in the relationality of body, mind, and environment. The interpretation of urban space is built upon this foundation; spatial meaning emerges not as an abstract representation, but as an enactive process. James Gibson's theory of "direct perception" and "affordances" provides a framework for this interaction. He argues that perception is not mediated by mental processing but occurs directly within an ecological whole. Space reveals itself through

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1. In architecture, a spandrel is a residual space formed as an inevitable by-product of a structure, such as the void between an arch and its frame. For Žižek, urban spandrels reveal their true potential when repurposed for new social uses, showing possibilities beyond the original design's intent.

action potentials rather than physical properties. This view opposes Cartesian dualism and traditional cognitivism, which models cognition as disembodied and computational. According to Gibson (1979), affordances emerge through 'attunement' to the environment, shaped by bodily capacities, past experiences, and cultural context. For Gibson, affordances represent "a process of perceiving a value- rich ecological object"(Griffero, 2014). Rooted in William James's functionalist psychology and the ecological psychology tradition, this approach is also supported by recent neuroscience findings (Mallgrave, 2013). Studies on mirror neurons show that we perceive a space's action possibilities by internally simulating the observed actions. Griffero (2014) argues that spaces offer not only action-based affordance but also atmospheric affordance. According to Griffero, elements such as a space's light, materials, or form collectively produce a specific atmosphere, which, like actional affordances, is perceived largely objectively by experiencing subjects. For instance, a hospital may be perceived as "cold" due to its materials as well as the memories it evokes, revealing its own atmospheric dominance. This raises the question: Where does subjective experience stand in the perception of actional and atmospheric affordances? As emphasized by thinkers like Böhme (2013), and Wang (2017), atmospheres are neither entirely subjective emotional states nor fully objective things; rather, they are "quasi-objects" formed between the perceiving subject and the perceived object (Wang, 2017). How, then, can perceived-affordances function as a medium in the subject-object relationship when defining such a quasi-object condition?

1.Methodology

1.1. Case Study: Under-Bridge Spaces in Istanbul

Bridges and viaducts, as key components of transportation networks, have a strong visual and spatial impact on the urban landscape due to their substantial scale. While their upper levels serve rational, mobility-oriented functions, their undersides—often acting as spandrel spaces—tend to become residual or underused areas. These spaces can disrupt the urban fabric and turn into unsafe, inactive zones. Their sheltered nature also makes them prone to informal or uncontrolled uses. Such "parasitic" developments pose challenges for urban management. In response, municipalities aim to reclaim these problematic zones to enhance safety and transform them into new centers of consumption or public attraction. This study focuses on three under-bridge spaces in Istanbul with distinct spatial and social features.
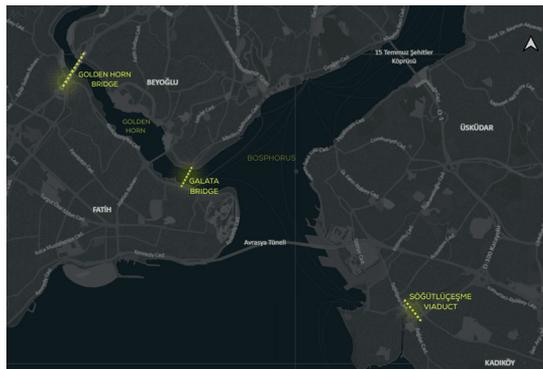
Figure 1. Locations of the three bridges (Author).

The Galata Bridge, rebuilt five times since 1845, is both a physical link between Eminönü and Karaköy and a social-commercial hub. Its upper-level hosts transit and local fishing, while the

lower level serves as a touristic dining area, making it a vibrant meeting point for diverse groups. Söğütlüçeşme Viaduct, located in Kadıköy and surrounded by key landmarks, is one of Istanbul's busiest transit hubs, connecting various local and intercity transport lines and forming a dense urban node. The space beneath the elevated railway viaduct remained unused for years, but the 2025 "Terminal Kadıköy" project transformed it into a food hall. The Golden Horn, once a harbor and industrial zone, became disconnected from urban life due to landfill and the relocation of industry. In 2023, a competition-winning project reactivated the waterfront. Using the bridge as an urban canopy, the project introduced outdoor sports fields, a skate park, and public gathering areas beneath.
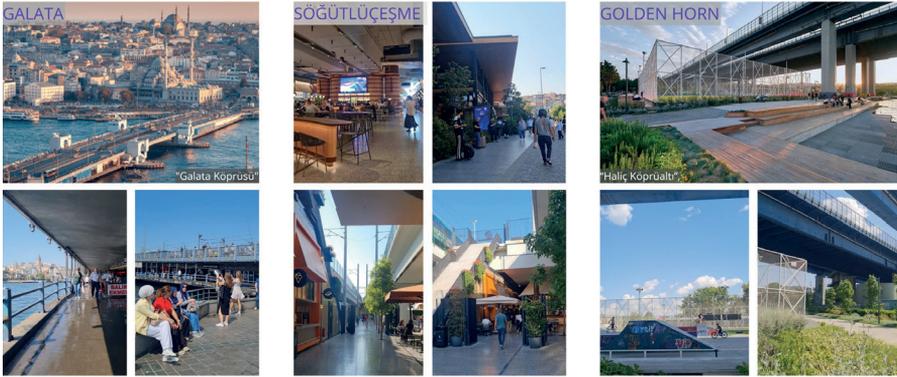
Figure 2. Pictures of the three bridges2[2] (Author).

1.2. Case Study Methodology

This study adopts a mixed-methods design to test its central hypothesis: that urban ambiances are closely related to the action-oriented affordances perceived through embodied cognition. As a data collection tool, an online survey was designed using ~2- minute first-person walking videos recorded in three selected under-bridge spaces. The survey explored participant experience on two levels: Participants described perceived atmospheres and actional affordances in their own words through open-ended phenomenological questions. A total of 62 Istanbul residents with diverse demographics participated in the study.

2.Findings

This section presents the relationships between participants' demographic data, atmospheric evaluations, and perceived actional affordances. Data were analyzed using inductive content analysis. Among the participants, 77.4% were female and 22.6% male. Most were in the 35–44(40.3%) and 25–34(37.1%) age groups. In terms of education, 43.5% held a bachelor's degree. While 41.9% had lived in the city for over 21 years, 33.9% were newcomers (0–5 years). When asked which space felt most integrated with urban life, 46% chose the Galata Bridge.

2.1. Analysis of Atmospheric Affordances

Participants were asked to describe the atmosphere of each site using words. Responses were categorized as *Situational, Affective, and Actional.* Actional affordances were also assessed through

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2. "Galata Köprüsü". Accessed May 25, 2025. https://www.galatahub.com/bugun- galata/sokaklar/galata-koprusu-istanbulun-tarihi-ve-kulturel-simgesi/ "Haliç Köprüaltı". Accessed May 25, 2025. https://www.arkitera.com/proje/halic- koprualti-spor-odagi-ve-kiyi-baglantisi/.

specific follow-up questions. For affective analysis, concepts were interpreted using Russell's (1980) Arousal–Valence model. The frequency and intensity of affective terms were visualized through a diagram (Figure 3).
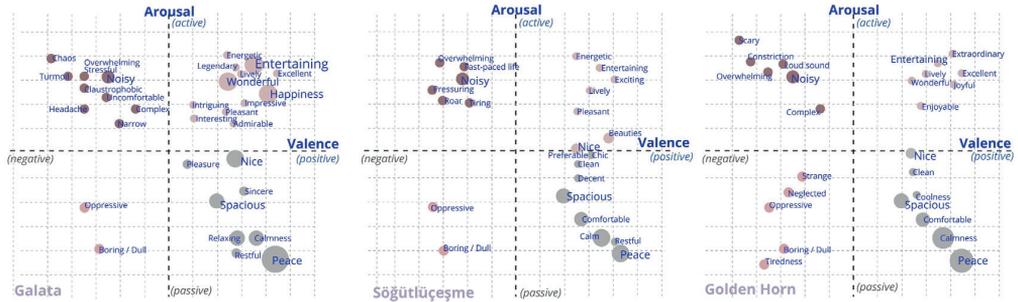
Figure 3. Affective terms for each bridge were mapped by frequency on the Arousal–Valence diagram (Author).

Atmospheric evaluations of the Galata Bridge were mostly described using *Affective* (n=48) and *Situational* (n=46) terms, with fewer *Actional* references (n=22). Arousal–Valence analysis indicates a predominantly positive emotional profile, led by passive- energy positive feelings like "peace," followed by high-energy positives like "fun." However, terms such as "stressful" and "noisy" suggest a layered atmosphere combining calmness with tension. In the analysis of Söğütlüçeşme, Situational descriptors (n=31) were most common, followed by *Affective* (n=28) and *Actional* (n=24) terms. Its affective profile reveals a dual character: Dominant passive-energy positive feelings such as "calm" and "peace" coexist with nearly equal mentions of high-energy negative feelings like "noisy" and "overwhelming" This suggests that the space offers both restorative potential and urban tension. In the analysis of the Golden Horn Bridge, *Actional* (n=35), *Situational* (n=37), and *Affective* (n=37) descriptors appeared in nearly equal measure. This suggests that the site's identity is shaped more by its recreational affordances and natural context than by emotional responses alone. The atmosphere is defined by passive-energy positive terms like "peace" and "calmness" Notably, negative feelings were associated not with urban stress (e.g., noise), but with passive-energy terms such as "boring" and "tiredness," reflecting neglect and stillness. This indicates a tension between a sense of serenity and subtle discomfort.

2.1. Action-Based Affordance Analysis

Participants' descriptions of actional affordances were analyzed using inductive coding. Actions were categorized into three themes: *Individual–Physical, Social,* and *Consumption-Oriented*. This framework enabled comparison of the spaces' actional properties.

Action Category	Galata Bridge	Söğütlüçeşme Viaduct	Golden Horn Bridge
Individual-Physical Actions *walking, viewing, resting, etc.*	51.4%	37.9%	59.3%
Social Actions *meeting, conversing, spending time with others, etc.*	16.2%	13.8%	29.6%
Consumption-Oriented Actions *dining, shopping, etc.*	32.4%	48.3%	11.1%

Table 1. Distribution of perceived action categories (%) (Author).

Perceived actional affordances at the Galata Bridge were mostly categorized as Individual–Physical Actions, indicating a focus on views, atmosphere, and solitary activity. Consumption-Oriented Actions ranked second, reflecting the area's strong commercial aspect, while Social Actions

were less prominent. At Söğütlüçeşme, Consumption- Oriented Actions were the most frequent, comprising nearly half of all responses. This indicates a space primarily shaped by shopping and paid services. Individual–Physical Actions ranked second, while Social Actions were minimal. The actional profile of the space under the Golden Horn Bridge stands out from the other two sites. Individual- Physical Actions were most frequent, reflecting a focus on sports, rest, and individual activities. Social Actions were notably higher (29.6%) compared to the others, while Consumption-Oriented Actions were low (11.1%).

GALATA		
Watching the view / The sea relaxed me / Daydreaming / Wandering / Strolling / Walking / Sitting and resting / Observing the surroundings / Feeling peaceful and calm / Reading a book / Listening to music / Running / Taking photos / Feeling the open air and the breeze / Wanting to sit alone / Walking with the sound of the sea in the evening / Feeling peaceful / Stopping and watching the sea for hours / The need to wander to get some fresh air / Smelling the clean sea air / Dancing **Individual-Physical Actions**	*Spending time with a loved one / Meeting friends and having fun / I want to go again with my family / Socializing / Chatting / Conversing / Having a good conversation with a cold drink against the view* **Social Actions**	*Eating a meal / Eating fish / The desire to eat seafood / Eating a fish sandwich / Going into a shop and eating / Eating with a sea view / Craving a fish sandwich / Eating a fish sandwich with a Bosphorus view / Drinking tea against the sea / Drinking coffee against the view / Sitting down for tea and a book (in a cafe)* **Consumption-Oriented Actions**
SÖĞÜTLÜÇEŞME		
Wandering / Strolling / Walking / Feeling calm / Resting / To clear one's head / To rest one's mind / To take one's mind off things / To unwind / Walking with calm steps / Observing the surroundings / Its layout was interesting, I'd like to explore it all in detail / Spending time / Feeling peaceful **Individual-Physical Actions**	*Spending time with my children or friends / A friendly chat / Conversation with friends / Eating with friends Socializing* **Social Actions**	*Shopping / Shopping like crazy / Frantic shopping / Shopping a lot / Non-stop shopping / The desire to eat and drink something Eating a meal / I'd like to sit somewhere and eat / Observing the surroundings while drinking coffee / Drinking coffee / Sitting down to eat a nice meal, drink tea and coffee / I was curious about the shops The ease of covering distances quickly / Sitting (in a commercial establishment) / "A waste of money"* **Consumption-Oriented Actions**
GOLDEN HORN		
Doing sports / Exercise / Walking / Strolling / Resting / Clearing one's head / Watching the view / Wandering / Roaming / Sitting / Running Listening to music / I can read a book / Sitting down to rest only if I'm tired / Breathing / Getting fresh air / Gazing into the distance and getting lost in deep thoughts / Fishing / Watching the surroundings / Lying down / Passing through quickly **Individual-Physical Actions**	*Meeting and playing with my friends / It felt like a meeting point / Strolling for hours hand-in-hand with my loved one / Having a picnic / Meeting with my girlfriend (Nostalgic memory) / It feels peaceful to be in the same place again with my family / I can meet my friends and eat/drink something* **Social Actions**	*Shopping / Eating a fish sandwich / Sipping my coffee against the bridge view* **Consumption-Oriented Actions**

Figure 4. Participants' descriptions (Author).

3.Conclusion

This study shows that urban atmosphere and actional affordances are shaped not only by physical design but also by social dynamics and co-presence. While Griffero's notion of atmospheric affordances is supported, the study shows that the perception of affordances is strongly influenced by the visible actions of others (co-presence). This suggests a mimetic dimension, where participants interpret atmospheric affordances by observing others. This interpretation stems from participants frequently describing the actions of people visible in the videos when interpreting affordances. It points to potential for future research on the role of mirror neurons and mimetic perception in understanding urban atmosphere. The three case studies reflect this dynamic in different ways.

Among the three areas, Galata Bridge demonstrated the richest action potential and evoked the strongest active–positive emotions. It was also perceived as the most integrated with urban life. A clear link was found between the diversity of actional affordances and a strong positive atmosphere. In contrast, the Golden Horn case revealed the opposite: despite its design offering rich natural affordances, limited user presence and perceived insecurity weakened the affective impact, reducing the sense of excitement. Söğütlüçeşme illustrated how the dominance of consumption-oriented actions, particularly food-related activities, tended to generate a more passive–positive emotional atmosphere.

A key finding is that personal memories enrich atmospheric perception and emotional intensity. However, due to individual differences, a fully shared atmosphere remains unlikely. The study highlights that urban atmosphere emerges through enactive cognitive interaction, shaped by the presence, actions, and past experiences of both the individual and others in the environment.

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212

LISTENING TO THE AMBIANCEES: ACOUSTIC APPROACHES

"Posture d'écoute", How listening becomes more than a sonic posture.
Immersive devices in question

Théo MARCHAL[1]
1. Univ. Grenoble Alpes, CNRS, ENSAG*, AAU-CRESSON, 38000 Grenoble, France,
   * School of Architecture Univ. Grenoble Alpes

Abstract.

The "listening posture" (posture d'écoute) designates an active and situated mode of attention, rooted in sonic experience yet extending to a broader multisensory awareness. In French, 'être à l'écoute' implies both listening and being attentive - not only to sound, but to the surrounding environment in its full sensory richness. This posture focus on more immersive, affective, and relational modes of engaging with space. Based on that assumption, we will explore how sonic immersive devices can serve as methodological tools to activate and share this perceptual shift. Focusing on a recent research project in Grenoble - conducted collaboratively by architects, bioacousticians, anthropologists, and improvising musicians - and other prior experiences, we explore how multichannel installations can enable new forms of collective listening and listening posture. These dispositifs do not aim to reproduce a place but to reshape our ways of inhabiting it, making audible another composition of sound and space. Through these experiments, we reflect on how listening can support in-situ, multi-modal observation and maybe contribute to speculative forms of 'modeling' ambiances. We propose the listening posture as an attitude that uses sound to question our ways of being in the world more broadly.

Keywords:

213

Introduction : Ambiances and listening

The study of ambiances has emerged over the past decades as a critical field for understanding the ways we inhabit, perceive, and transform our environments. Defined as the sensitive quality of space - always present, even when perceptual stimuli are minimal or diffuse - an ambiance emerges from the dynamic interplay between physical phenomena (light, sound, texture, temperature), bodies in motion, and the cultural, emotional, and social frameworks through which they are interpreted. Far from being a backdrop, ambiance actively shapes the way we experience, act, and imagine space. Within this perspective, this article proposes to explore *the listening posture (posture d'écoute)* as a transversal mode of attention, offering a way to engage with the multiple dimensions of urban and architectural ambiances. We will then present and explore how listening, understood as an active posture, can serve as both a research tool and a perceptual shift for sensing and interpreting the complex, more-than-human ecologies of urban life.

The listening posture

The notion of listening posture refers to a mode of attention that is both active and situated, grounded in sonic experience but extending toward a broader engagement with the environment. In French, être à l'écoute means not only to listen, but to be open and available to what emerges - a voice, a presence, a situation. This double meaning positions listening as a perceptual stance: a way of being in relation with the world that reorganizes sensory priorities and invites spatial and

temporal awareness. Sound, with its diffuse, yet enveloping character, acts here as a medium for de-framing habitual modes of attention by being within the sensitive modality itself (Barbanti 2023). It introduces rhythm and depth into the experience of place through polyphonic complexity.

This posture enables a form of perception that is embodied, situated, and porous. It invites attention to light, temperature, density, and affective charges carried by space. It also has methodological implications for how we investigate and interpret urban environments.

Prior research has noted the specificity of listening (Schaeffer 1966) and its transformative potential (Torgue 2014). For us, this shift is crucial for ambiance research and urban design, as it allows us to attend to what is often difficult to perceive: overlapping scales, embodiment, and direct or diffuse relations of the living - what we later call sonic (and sensible) convivialities. We present here new methodological explorations of this idea.

1 - Listening to urban life through immersive devices

Over the past several years, a series of research and creation-based experiments have explored how immersive sonic dispositifs can act as tools for perceptual displacement, spatial investigation, and shared attention. These projects, conducted across different contexts, do not aim to produce perfectly realistic and/or contractually binding representations of sound environments. Rather, they function as situated tools for engaging with the sensitive qualities of space, exploring how listening - especially in reconfigured or transposed conditions - allows us to perceive and cohabit environments differently.

Figure 1. Immersive Performances ÓN. Tixier, T. Marchal, J. McOisans, 2023

1.1 - Listening as spatial practice : previous case study

In earlier projects, we tried to articulate the listening posture through immersive audio practices in which sound is more than just a sensory layer but is used to provoke shifts in attention, embodiment, and/or spatial relation.

• **Esquis'sons, digital tool:**

Developed as part of our doctoral project, this tool for 3D auralisation enabled spatial designers to work with sound in virtual architectural models. Through the different uses and workshop with the tool it became clear that listening in simulated environments prompted users to reconsider space not only through forms or functions but through temporal flows, acoustic texture, and affective presence - reconfiguring their approach to design from a distanced visualization to a situated, exploratory process (Marchal 2021).

• Immersive performances:

This site-specific performances were part of an european research seeking to explore new theoretical, methodological and practical tools to promote sound creation for and with more vulnerable audiences (Milosavljević et al. 2024). It then explored multi-sources / multi-speakers recursive loops inspired by Alvin Lucier's work. The 'dispositif' - echoic, slowly mutating - invited participants to inhabit a temporally extended acoustic space where listening became a way of encountering both architecture and time differently.

• Ringing territory:

This project (When the fault-lines of a Territory Ring Out) compressed into one listening room a vast river territory of the industrial hinterland in the south of Grenoble. The 'sonic' territory is there marked by emergency sirens that run every three months and then make tangible (through sound) a series of 'fault-lines' linked to both the industry there and the risks of flooding (De Pertat et al. 2023). For this project we used multi-microphone capture and a spatial diffusion system. Rather than mapping the territory, the installations allowed participants to engage with overlapping atmospheres, and presences of the landscape - merging scales, density, and attention. It made it possible to 'listen' this territory through those fault-lines without being in it.

Across these diverse contexts quickly exposed there, we find elements that intersect in the potential of listening through an immersive device : first, the use of sound not as an illustrative layer but as a medium of attention reconfiguration - enabling a shift from visual or functional readings of space toward a more situated, temporal, and affective perception. Second, these experiences promote a form of bodily and spatial engagement, where listening unfolds not from a fixed point but through movement and/or interaction (in both physical space and simulated models).

Third, they open the possibility of accessing or composing other layers of presence (extended acoustic space and time, overlapping, different temporal flows or affective presences) revealing how listening becomes a way of sensing the tensions, rhythms, or convivialities.

Figure 2. Workshops with the Esquissons tool: exploring space through sound, as designers model and compose via acoustic textures and temporal flows OT. Marchal, 2021

215

In all these cases, immersive audio practices function less as tools of representation than as experimental situations, where listening enables the emergence of alternative spatial relations and ecological sensitivities. They foreground the listening posture not only as a perceptual attitude, but as a way to reconfigure our relations to space, time, and presence - allowing other layers of experience to surface. These different experiments gradually led us to explore further how immersive listening situations could become tools for sensing and thinking the sonic convivialities of the living - both human and more-than-human (Puig de la Bellacasa 2017). This is precisely what we set out to investigate more deliberately in the ECOSON project, by designing a dispositif that stages listening as a mode of attention capable of revealing and composing new forms of shared urban life.

1.2 – ECOSON and the "convivial" city

The ECOSON project, conducted in an urban park in Grenoble, extended this line of inquiry by offering a new experimental situation - staged within a custom-built black box1 - in which immersive listening became a means to explore and give form to the sonic convivialities. Designed in collaboration with researchers in architecture, bioacoustics, and anthropology, and with the participation of musicians skilled in improvisation with environmental sound, this project aimed to explore how listening - and especially *immersive, decoupled listening* - could help us understand urban ambiances beyond human-centered frames.

The dispositif consisted of a spatialized multichannel installation built inside a 'black-box' environment. Field recordings captured across the park - including animal presence, human use, wind, water, and infrastructural sound - were diffused in a system designed not to reproduce the real space, but to activate it differently. The space also hosted ex-situ musical interventions, where performers responded in real time to the pre-recorded soundscape, creating a hybrid environment of attuned co-presence.

This immersive setup allowed for a type of listening that neither mimicked *in situ* presence nor created a purely abstract experience. Instead, it produced a condition of attention, enabling participants to hear what they might not have heard on-site: latent rhythms, non-human agencies, acoustic thresholds, and entangled temporalities.

What was explored here was not a simulation, but a recomposition of presence through listening. The dispositif became a perceptual tool - a filter, a multiplier, and a refractor of lived space. In doing so, it helped us to explore, through sound, the *convivialities* that already exist between humans, animals, infrastructures, and rhythms in the city - yet often remain unrepresented or uncaptured.

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1. The room, named the 'Live Arts Lab', is a 300m² university research facility designed as a technological platform for experimentation in the humanities and social sciences. It is located on the Université Grenoble Alpes campus, within the 'Maison de la Création et de l'Innovation'

Figure 3. Musicians improvising live in the field and at the Live Arts Lab. ÓC.Pichat, T. Marchal, 2024

Conclusion - Listening as method, toward a perceptual ecology
Listening and immersion, situated method and sharing

Across the projects presented, listening appears as more than a sensory activity: it operates as a method - embodied, relational, and situated. The notion of listening posture offers a tool to cultivate this attentiveness. It shifts perception from representation toward involvement.

Immersive dispositifs, when designed as perceptual situations rather than simulations, enable new spatial inquiries. They entangle perception with environments, allowing us to sense what is usually diffuse or unnoticed. They also support transdisciplinary collaboration, offering a common ground where different ways of listening - architectural, acoustic, musical, or ethnographic - can intersect and inform one another.

Urban 'convivialities'

The ECOSON project explores how such dispositifs can unframe our habitual understanding of place. Rather than representing reality, they open possibilities for hearing the city - as a site of latent convivialities between humans, non-humans, infrastructures, and rhythms.

Toward a perceptual Ecology

From this perspective, the listening posture becomes central to a perceptual ecology - one that values attention over control, and relation over separation. Listening is ecological not only by content, but by method: it opens space for coexistence, for sensing the city through living and affective ambiances.

These explorations open up avenues for further development at the intersection of design and research, but also between disciplines concerned with sensing and thinking the city through the living. How might immersive dispositifs be integrated into participatory urban design processes? How could they contribute to architectural, ecological, or planning practices? Future work may test these hypotheses through more systematic methodologies, but also invent new tools - such as mobile or adaptable immersive listening environments - to embed these approaches within broader urban narratives and collective imaginaries.

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Opera in the Bathhouse
An Acoustically Led Approach to Dramaturgy and Scenography

Pedro NOVO1, Rosalind PARKER²
1. unshout, pedro_alves_novo@outlook.com
2. _underscore collective, rosalindparker00@gmail.com

Abstract.
This paper investigates the concept of acoustic intimacy through a project at the Gala Pool in Moseley Road Baths, Birmingham, UK examining the pool's acoustic characteristics from both intuitive experiences and technical analyses. The project begins with public workshops to explore the space's natural acoustic qualities, revealing how sound shapes occupants' experiences and emotional responses. Progressing these insights, a multidisciplinary team engaged in the creative potential of the space, pinpointed early reflections (i.e., sound reflections arriving shortly after the direct sound) as eliciting acoustic intimacy, as evidenced by precise 3D impulse response measurements. The research demonstrates the significant role of acoustic intimacy in enhancing the spatial experience of large, reverberant environments, challenging conventional understandings of intimacy and engagement in such spaces. By blending artistic exploration with scientific inquiry, the study offers new perspectives on opera direction and architectural acoustics, showing how sound can create a sense of closeness and interaction. This interdisciplinary approach enriches both theoretical understanding and practical applications in performance arts, highlighting innovative ways to integrate acoustic properties into the creative process. This paper is based on the chapter with the above title published in 'The Routledge Companion to the Sound of Space' edited By Emma-Kate Matthews, Jane Burry, Mark Burry, Routledge, 2025.

Keywords:
Acoustic Intimacy, Opera performance, Reverberant space, Early sound reflections

Introduction

The Gala Pool at Moseley Road Baths in Birmingham, UK, is a striking Edwardian space. With its expansive dimensions (31m x 17m x 10m, approximately 5,270 m³) and highly reflective surfaces, including ceramic tiles and wooden panelling, one would naturally expect a long reverberation time. Yet, initial observations revealed a surprising sense of acoustic intimacy, with sounds perceived as close and distinct even when the source was located tens of metres away.

This paper explores the phenomenon of acoustic intimacy within the Gala Pool, drawing on both subjective listening experiences and detailed acoustic measurements to examine the space's unique sound behaviour.

Community-Led Acoustic Exploration

In Phase 1, the team engaged the local community through workshops titled *"Discovering Acoustics through Intuitive Play"*. The participants used vocal sounds and physical movement to explore how the space reacted. They instinctively gravitated to certain "acoustic hot spots," while avoiding others. Community feedback highlighted how the reverberation didn't alienate but instead amplified their presence: "It feels daunting at first... but becomes really welcoming." These early interactions revealed how acoustics not only influence spatial movement but also emotional response.

Multidisciplinary Acoustic Investigations

In Phase 2, a research team—including a sound recordist, acoustic engineer, architect-composer, soprano singer, trumpet player, and movement director—undertook a dual approach: intuitive creative testing and scientific acoustic analysis. They staged performances in various pool areas, analysing how spatial configurations and materials shaped sonic responses.

The soprano and trumpet were tested in different positions—balcony, corners, and pool basin—to examine how sounds travelled and were perceived. The acousticians captured Impulse Responses (IRs) at four source/receiver pairs using an ambisonics microphone (Rode NT-SF1) and sine sweep signals to gather 3D spatial acoustic data.

Defining Acoustic Intimacy

Acoustic intimacy, originally described by Beranek (1962), is the aural perception of closeness of communication (e.g., between the listener and the orchestra). Beranek linked this to the Initial Time Delay Gap (ITDG): strong reflections arriving within 20-30 milliseconds of the direct sound increase intimacy. More recent research, such as that by Kuusinen (2015), suggest that dynamic spatial cues—such as changes in perceived auditory distance and/or direction—also enhance this sensation.

In the Gala Pool, the team found that despite long reverberation times, early reflections and cascading sound fields seemed to evoke a sense of proximity. Sounds originating from the balcony, for example, appeared to "cascade" downwards into the basin, producing intimacy despite spatial separation between performers and audience.

Acoustic Measurements: Analysis of Gala Pool

Acoustic measurements were undertaken with the sound source (loudspeaker) located at four positions around the pool and with the microphone at approximately the centre of the pool tank – see Figure 1. Key acoustic parameters recorded include:
- C50 (Speech Clarity)
- C80 (Musical Clarity)
- Early Decay Time / EDT (perceived reverberance)
- Reverberation Time / T20 (late reverberation time)
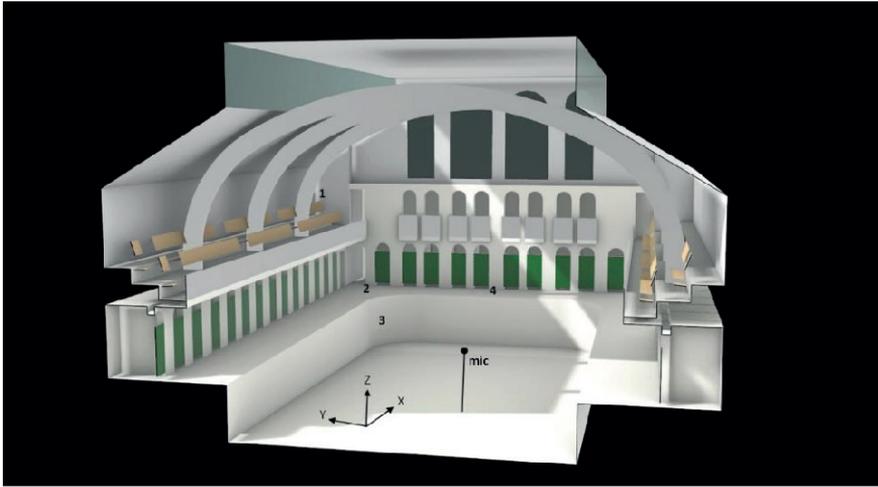
Figure 1 - Gala Pool, showing the location of the Ambisonics microphone, and loudspeaker measurement locations (1-4), (Model created by Emma-Kate Mathews, 2024).

An analysis of the measured data revealed, for example, that out of the four measurement locations (1-4):

• Measurement Location 1 (source at balcony) had the lowest clarity (C80) and highest EDT (3.2s), the latter correlated with higher perceived reverberance.

• Measurement Location 3 (source at pool corner) had the highest clarity (C80 = 6.0 dB) and lowest EDT (2.0s), suggesting that this location provides better support for intimate musical expression.

Spatial Acoustic Analysis with 3D Impulse Responses

Using CATT Acoustic software, the 3D IR data revealed, for example (see Figure 2 and Figure 3): • At Measurement Location 1, strong reflections arrived from above and from the sides at 5ms and 25ms— both within Beranek (2025) intimacy threshold. The variation in direction and timing further contributes to a dynamic and immersive experience as per Kuusinen (2015) suggestion

• At Measurement Location 3, strong reflections at 17ms met Beranek's (2025) criteria for intimacy.
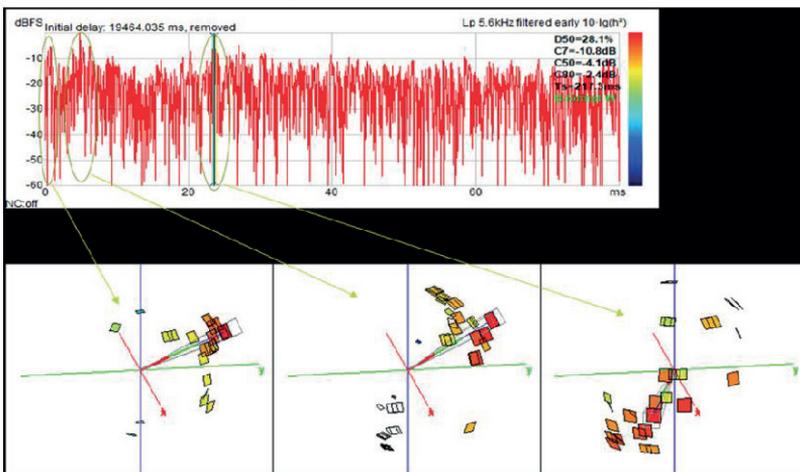
Figure 2 - Measurement 1 - Upper Graph - Early impulse response, W component. Lower graph – direction of incidence of 3 sets of strong reflections identified on the upper graph (CATT Acoustic software).
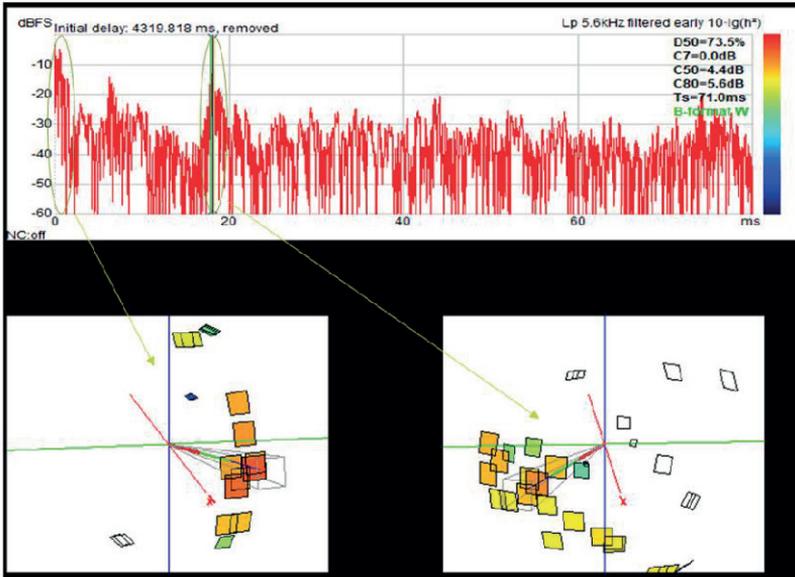
Figure 3 - Measurement 3 - Upper Graph - Early impulse response, W component. Lower graph – direction of incidence of 2 sets of strong reflections identified on the upper graph (CATT Acoustic software).

Dramaturgy Shaped by Acoustics

The acoustics of the Gala Pool directly shaped staging and dramaturgical choices. For example, placing the soprano on the balcony and having her sing into a corner (rather than toward the audience) created a deliberate tension between visual privacy and auditory intimacy. The audience, felt as if the singer was next to them, even though she appeared distant and visually withdrawn. This dissonance created a haunting, uncanny effect—both aesthetically and emotionally powerful.

Such strategies pushed the boundaries of traditional operatic direction by allowing sound to dictate spatial and emotional relationships. This resulted in moments where sound exposure and visual concealment created a profound sense of vulnerability and presence.

The Cascade Effect and Acoustic Dynamics

The phenomenon of sound cascading—moving downward from the balcony—emerged as a key concept. Both soprano vocals and recorded classical guitar created the illusion of proximity and fluidity, despite physical stillness. This highlighted the potential to use static staging with acoustically dynamic content to create emotional movement and spatial narrative.

The changing rooms lining the pool also contributed to this dynamic. Though visually private, their acoustic permeability projected sounds outward, allowing hidden performers to be audibly "present". This contrast of seen vs. heard and private vs. public became central to the emerging dramaturgy.

Future Directions

Recognizing the potential of their findings, the team proposes to further explore:

- Relation between amplitude / direction / timing of early reflections and their impact on acoustic intimacy.
- Use of sound reflectors installed close to sound sources.
- Use of virtual sound reflectors (e.g., microphone-amplifier-loudspeaker units) to simulate the effect of sound reflectors.

A sample of the 3D IR data measured at the Gala Pool can be found at https://earlyreflections. weebly.com/

Conclusion: Acoustic Intimacy as Creative Framework

In summary, the project proposes that acoustic conditions—especially early reflections and spatial dynamics—may contribute to evoke a strong sense of intimacy even in vast, reverberant spaces. These properties reshape how performers and audiences relate, emotionally and spatially. The Gala Pool becomes not merely a stage but a co-creative partner, where acoustic properties guide dramaturgy, movement, and meaning.

This acoustically led approach challenges traditional hierarchies in theatre-making, centring sound as an active agent rather than a byproduct. Through scientific measurement and intuitive experimentation, this project shows how acoustics can drive artistic vision, opening-up new frontiers for opera, performance, and spatial storytelling.

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Exploring Atmospheres of Noise through Text-Based Methods

Towards just and sustainable sonic ambiances

Ayşegül YILDIRIM[1]

1. Gaziantep University - Sociology Department, Faculty of Arts and Sciences, 27310, Gaziantep, Turkey, aysegulyildirim@gantep.edu.tr

Abstract.

Atmospheres of noise are characterised by a complex relationship between the embodied experience and noise governance in the urban space. Noise creates particular effects that are felt on the body, which are not necessarily captured or expressed in common medical terms or acoustic measurements. However, capturing and expressing the lived experiences of such atmospheres are crucial to confront environmental injustices and give direction to studies on sonic urban ambiances. This paper suggests that text-based methods are well-placed to capture the intimate and embodied aspects of the urban noise atmospheres. Methods based on diary, creative writing and auto-ethnography, I argue, provide a safe and liberal space to produce insights which may go unnoticed and may not be readily available in the daily language or contexts due to their complexity or social and political dynamics of noise.

Keywords:

Atmosphere, noise, diary, creative writing, poetry, methods

Atmospheric noise

Environmental noise persists to be an urgent environmental issue in the urban context. Despite increasing recognition in the relevant academic fields, transportation noise is still a detriment to the health and well-being of humans (SheikhMozafari et al., 2025) and more-than-human beings (Dixit et al., 2025). The persistence of the issue can be linked to numerous tropes. First, common understandings of noise as an overly subjective issue, as reflected in its widespread definition of "unwanted sound" (DEFRA, 2010), generally fail to grasp the effects that are directly felt on the body. As a result, noise (as sound) is conceived as too elusive and relative a phenomenon to fit into the mainstream conceptions of pollution and harm which can be subjected to measurement and prevention. Second, and relatedly, transportation noise may not be endowed with sufficient recognition in legal contexts. For example, aircraft noise is excluded from the definition of noise nuisance and is subjected to corporate management in England (Environmental Protection Act, 1990; DEFRA, 2013). Similar to air pollution, noise became a negotiable entity between the state and corporations, whereby policies are concerned rather with the regulation of the pollutant instead of stricter prevention (Walters, 2009). Third, noise pollution receives relatively little attention in media outlets and public debates. This makes noise victimisation and lived experiences unable to emerge as an actual social and ecological issue (Yıldırım, 2024). They become further out of sight, and out of mind.

The concept of atmosphere grasps this multidimensionality of noise as an ecological issue well. As it encompasses the opposing, merging and overlapping concepts of objective and subjective at the same time (Böhme, 1993), the sonic, legal, political, social and individual aspects of noise can be unpacked and analysed further. Atmospheres move bodies through affects, inducing feelings,

emotions and perceptions. The material conditions that accompany noise create particular effects on individuals. However, these combinations of senses and materials may not be felt the same across populations. There will be an inevitable diversity based on gender, neurodiversity, ethnicity, and class even when the sensory conditions, or the atmosphere, are held constant. The vocabulary in communicating the noise effects, especially those intimate, sensory and embodied ones, will also be unique depending on such conditions. Understanding environmental noise as atmospheric therefore means examining the material and immaterial, objective and subjective, personal and political in order to get closer to the lived experience that which would be made invisible.

For the qualitative researcher who would like to obtain a deeper understanding of the lived experience of noise, the data may not be readily available due to such complexities. Descriptions of the material and other sensory aspects of the atmosphere aside, the bodily impressions, evocative emotions, emerging behaviours as well as social interactions affected and moved by noise will have an intimate, and sometimes intangible, link to the tangible aspects. Sonic experience has always included these aspects in an intertwined fashion (Augoyard and Torgue, 2005). The intentional design aspect of the experiences of aesthetic ambiances may make it a less complicated task to define the relationships between sensory variables and emerging affects. Unpacking the atmospheric experience of noise, I argue, may be more daunting partly because of the degree of intangibility of noise as a social issue. This may affect language, thinking and reflection processes even as as researchers who would like to analyse our own experiences. At this point, the intimate space that text-based methods provide may offer a suitable way to externalise such elusive feelings and thinking processes.

225

Text-based methods

Although underlining how text-based methods can highlight the "insightful and evocative" side of the sonic experience, Gallagher and Prior (2013, 270-273) caution against the written format's silencing of the very sonic qualities of research. However, text-based methods have still much to offer, particularly in contexts where the atmosphere is laden with injustice, struggle and suffering, rather than aesthetic pleasure. Writing can attune us to the unheard, beyond what is obvious and tangible, which also needs interpretation.

Noise diaries

A noise diary is typically a journal whereby the individual keeps personal impressions on the daily experience of noise in written format (Paquette, 2004). One particular example from my recent aircraft noise diary highlights the utility of text-based methods (Yildirim, 2026). As mentioned above, noise can manifest itself through the affective and the embodied, beyond the mainstream conceptions and definitions. Typical feelings including space and time are suspended under the atmosphere of noise. The affects which may not be expressed in acoustic or common terms, like loudness, became crystallised in the diaries in the form of bodily tension. They particularly made it possible to unpick the entanglement of the social, political and the embodied. Feelings of hopelessness, breathlessness and tension, as well as details about adverse mental states, could be expressed in much clarity and honesty. The diary also revealed deteriorating relationships due to disagreements over noise. It allowed me as a researcher to reflect, analyse, and reveal aspects of noise which had so far escaped my daily language and conversations about the issue. This was

part of an autoethnographic inquiry, whereby the researcher was the only participant.

In addition to autoethnography, the researcher can also use solicited diaries. In both cases, informed consent and confidentiality are of high importance, however, the latter can be problematic in the autoethnographic research. In such cases, it becomes crucial to self-reflect on the experience of writing itself, ask ourselves whether we are still ready to share our vulnerability with the wider audiences in each step, and check with people we mention in the diaries for explicit consent (Ellis, 2009).

As non-fictional prose, the diary can prove a therapeutic experience (Lapadat, 2017). Since the experience can involve details about health issues and suffering that the participant may not feel comfortable talking about with someone else, the diary provides a safe space whereby the individual is able to sit down with their own thoughts, without the presence of an interlocutor. Therefore, the tension that may arise during a social interaction can be eliminated.

Creative writing

While diaries provide both contextual and intimate details about the lived experience of noise, creative writing has the potential to evoke even more feelings and affects that can emerge beyond everyday language. Experimental forms like poetry "can be an effective way to reconstruct and confirm the lived experience of others while challenging researchers to learn about their abilities to communicate qualitative inquiry in a different way" (Poindexter, 2002, 1330). One example from ambiance research has been carried out by academic Phil Jones and poet Chris Jam (2016) whereby they have used poetry to explore the sense of belonging in Cardiff Bay. Prompting passers-by to recite phrases of poetry and to talk about the place, Jones and Jam were able to create through these encounters a temporary ambiance which is different from "that of the passive, touristic consumption" (2016, 320). Although this research was more about co-creating ambiances, similar logic of poetic thinking can also be applied to atmospheres of noise, in generating both insight and therapeutic reflection.

Creative writing forms like poetry naturally make us feel fully in the world, and force us to be even more clear, without any "masks" (Glenn, 2016, 100). The power of the poetic language lies in its infinite possibilities of expression, suspending the social and political restraints (or making them even more visible and questionable). This is particularly relevant in environmental harms like noise which is rendered intangible. Poetic language can reveal, therefore, the material, immaterial, sensory, subjective and meaningful at the same time. It can create or co-create ambiances, but also describe and reveal restricting and anxiety-inducing atmospheres.

Conclusion

Noise as an environmental issue can be understood under the umbrella term of atmosphere due to its multifarious nature. Atmospheres of noise include social, political, environmental, as well as sensory and embodied aspects at the same time. Revealing the lived experience under such atmospheres, I argued, can be a daunting task in the face of the multitude of variables that make up the context. However, highlighting the embodied and affective aspects is particularly salient as they are made intangible by the current culture of silence around pollutants. I have suggested a few text-based methods for better analysing such aspects of noise. Diary methods can explore

intimate aspects of noise experience in a safe space, while poetic language opens up even deeper levels in expressing the many other dimensions. As such, text-based methods contribute to the repertoire of methods for accessing the lived experiences of ambiances and atmospheres. They also facilitate clearer expression of affects, as well as the accessibility of such accounts to wider audiences.

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DIGITAL, INCLUSIVE
AND POLITICAL AMBIANCES

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Virtualization as Digital Ambiance: Toward a Theory of Immersive Historiography in Architecture

Nicola D'Addario[1]
1. PhD Student, Faculty of Architecture - University of Porto, Portugal, nic.daddario@gmail.com

Abstract.

This paper reframes virtualization within architectural and urban ambiance studies. Drawing on architectural phenomenology, media epistemology, and digital humanities, it introduces the concept of historiographic ambiance: immersive reconstructions that enable situated, affective, and temporal engagement with erased, speculative, or inaccessible architectures. Building on ambiance theorists such as Norberg-Schulz, Böhme, and Thibaud, the paper explores how immersive virtual environments can complement in-situ methods by fostering situated cognition. A case study of Giuseppe Terragni's unbuilt Danteum demonstrates how virtual environments can function as epistemic media, staging spatial and temporal experiences that enrich ambiance theory. The paper advocates a critical, reflexive use of immersive technologies within an expanded ecology of ambiance research.

Keywords:

Virtual ambiance, Immersive historiography, Digital media, Architectural phenomenology, Situated cognition, Digital heritage

Introduction

In architectural and urban ambiance studies, the direct, situated observation of environments has long served as a foundation for understanding how sensory, spatial, and cultural dynamics shape experience. Influential methodologies—such as *parcours commentés* (Thibaud 2001), sensory ethnographies (Amphoux 2004), and affective cartographies (Augoyard and Torgue 2005)—have foregrounded the relational and embodied nature of ambiance. This empirical tradition has profoundly enriched our comprehension of how ambiances emerge and are perceived in physical space.

The rise of immersive digital technologies invites reconsideration of how spatial mediation complements in-situ methods. Crucially, *digitization* flattens physical data into static formats, while virtualization constructs extended digital objects capable of staging spatial, sensory, and epistemic experience — key to ambiance as situated cognition.

This paper argues that such environments can be productively integrated into ambiance studies when conceptualized not as simulacra, but as epistemic media capable of staging what I will term *virtual in-situ* experiences.

I introduce here the concept of *historiographic ambiance*: immersive reconstructions that enable situated, affective, and temporal engagement with architectures that are erased, speculative, or otherwise inaccessible. This notion extends the scope of ambiance inquiry beyond the material present, opening new possibilities for the critical exploration of spatial and temporal layers of experience. While virtual environments cannot substitute for the richness of physical co-presence, they can enact specific modes of situated cognition that enrich our understanding of ambiance as

both an embodied and interpretive phenomenon.
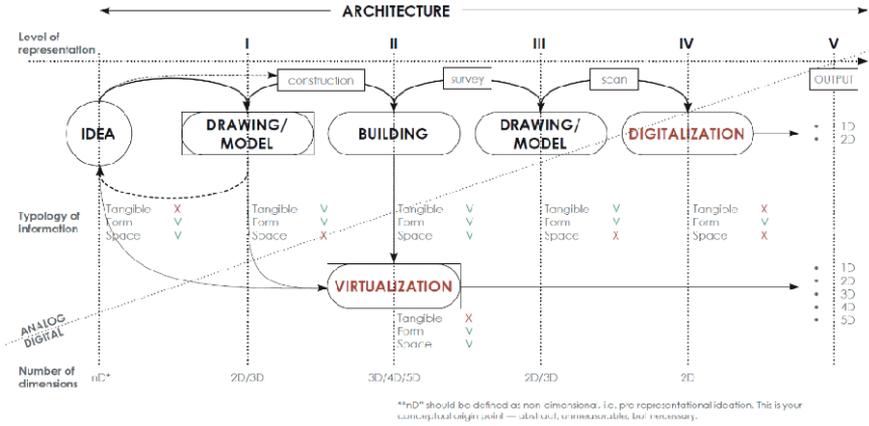
Figure 1. Diagram of representational logics in architecture: from ideation to virtualization. Nicola D'Addario, 2025.

This paper thus seeks to bridge ambiance theory and digital epistemology. This contribution is situated within the broader discourse of ambiance studies as articulated by the CRESSON tradition and the COST Action CA23145 initiative, which foregrounds insitu, multisensory, and culturally embedded methodologies for understanding architectural and urban ambiance (Thibaud 2001; Amphoux 2004; Augoyard and Torgue 2005). Rather than proposing virtualization as an alternative to these empirical approaches, this paper offers a complementary theoretical and historiographic perspective: it investigates how immersive environments might function as epistemic media capable of expanding the temporal and conceptual scope of ambiance inquiry. While the methodological core of ambiance research remains rooted in embodied, situated observation, I argue that virtualization can introduce new forms of critical historiographic engagement with erased, imagined, or inaccessible architectures — thus contributing to an expanded ecology of ambiance studies in the digital age. It will engage current debates on ambiance and situated cognition, propose methodological reflections on the design of virtual ambiances, and illustrate these ideas through a case study. The aim is to contribute to the ongoing dialogue within ambiance studies by articulating how immersive technologies might expand—not displace—the practices of in-situ observation and situated engagement

From Representation to Virtual Presence: A Genealogy

Architectural theorists have long questioned how experience can be mediated through representation. Robin Evans (1997) argued that representation not only transmits architectural ideas but transforms them, conditioning both conception and reception. Architectural drawing, as Evans showed, introduces a structural distance between idea and embodied experience—an insight that resonates with contemporary concerns about digital mediation.

Johanna Drucker (2014) similarly warns that data visualizations risk substituting abstract patterns for the richness of embodied spatial experience—a concern shared by ambiance theorists, who emphasize the relational, performative dimensions of space (Thibaud 2001; Amphoux 2004; Augoyard and Torgue 2005). Practices such as *parcours commentés* foreground the active, situated character of ambiance, resisting reductive representation. Yet, as Thibaud notes, all

ambiance research necessarily involves *mise en forme*: structuring sensory knowledge through selected media. This critique echoes earlier concerns raised by Bruno Zevi, who famously argued that orthographic and pictorial representations suppress the experiential and sequential essence of architecture (Zevi 1948). For Zevi, the true language of architecture is narrative and spatial — a conviction that anticipates the epistemic role immersive simulations now begin to assume. His later work (Zevi 1978) further advocated for a performative and anti-classical code, underscoring the need for embodied navigation over static form.

Virtualization can be understood as a further evolution of spatial mediation—not a transparent reproduction of space, but a staging of presence, temporality, and embodied cognition. Unlike digitization, which often flattens phenomenological richness, virtualization constructs extended digital objects capable of complex, multi-sensory experience. Today, virtual environments are increasingly ubiquitous—whether in cinema, games, or interactive media. Their design engages users through embodied navigation and temporal immersion—aligning with Böhme's (1995) concept of ambiance as a tuned space. Yet immersive simulations also risk technological spectacle if not critically framed. To contribute meaningfully to ambiance research, virtualization must enable *virtual in-situ experiences* that foster reflexive, embodied engagement with space.

Ambiance and Situated Cognition: From In-situ to Virtual In-situ

Ambiance can be understood as a mode of situated cognition—a process through which the body, in its sensory, affective, and motor capacities, makes sense of space (Griffero 2014; Böhme 1995). Architecture engages the full sensorium: tactile, auditory, proprioceptive, and visual dimensions together shape spatial experience (Pallasmaa 1996). Ambiance, in this sense, is not a static property of space but an emergent phenomenon that modulates perception and mood (Böhme 1995), is enacted through bodily movement and attention (Thibaud 2015), and shapes pre-reflective modes of embodied sense-making (Griffero 2014).

Yet this embodied quality introduces a key methodological tension. Ambiance research traditionally relies on in-situ observation and participation, while digital mediation risks flattening or abstracting the richness of lived spatial experience. The challenge is to expand methodological repertoires to address this tension without sacrificing the phenomenological core of architectural experience.

As Benjamin's (1940) concept of *Jetztzeit* suggests, such environments engage users in layered temporal realities, complementing in-situ methods when designed reflexively within an expanded experiential ecology. As Mario Carpo (2011) has noted, the advent of algorithmic and digital design technologies destabilizes the long-standing dominance of orthographic projection. Virtual environments, particularly when informed by immersive logic, fulfil what Carpo describes as the potential for "variability" and "real-time performativity" in architectural representation. Rather than codifying form, these tools become epistemic engines for staging interpretive and temporal depth.

Methodological Reflections: Designing Virtual Ambiances

If immersive virtual environments are to contribute meaningfully to ambiance research, they must be designed with epistemic rigor and critical awareness. Every representational medium imposes

its own logics (Evans 1997; Drucker 2014), and VR is no exception. Without careful framing, it risks devolving into technological spectacle, reducing ambiance to superficial visual simulation. Three core principles should guide the design of virtual ambiances:

"Embodied multisensory engagement": A virtual ambiance must engage more than vision. As Pallasmaa (1996) and Böhme (1995) emphasize, ambiance operates through the full sensorium. Even when technological constraints limit certain channels, VR environments should prioritize auditory spatialization, embodied interaction, and peripheral awareness—resisting the temptation to equate visual realism with experiential depth. "Temporal layering and critical reflexivity": Following Benjamin's (1940) concept of *Jetztzeit,* virtual ambiances should foreground the temporal dimensions of experience. Rather than offering seamless illusion, they should enable users to engage with constructed, layered temporalities through movement and interaction. Reflexive design elements can help foreground the simulation's interpretive nature, inviting critical engagement rather than passive immersion.

"Methodological complementarity": Designed reflexively, virtual ambiances complement empirical tools: in-situ insights inform their construction, while immersive simulations generate affective and cognitive data. This bidirectional exchange supports a hybrid methodology, enriching our grasp of how ambiance emerges, modulates, and is critically reimagined. When approached in this way, virtualization becomes a critical extension of ambiance studies—offering new tools for situated cognition and interdisciplinary inquiry.

233

Case Study: Staging Virtual In-Situ Experience — The Danteum Prototype

To concretely explore how immersive environments might complement in-situ ambiance methodologies, this project developed a virtual prototype of an unbuilt architectural work: Giuseppe Terragni's Danteum (1938). Conceived as a spatial allegory of Dante's *Commedia,* the *Danteum* survives only in fragmentary drawings and textual sources. Its status as an erased architecture makes it an ideal candidate for testing how *virtual in-situ* experiences might extend ambiance inquiry beyond the limits of physical co-presence. This approach is most valuable for architectures that are lost, unbuilt, or exist only in fragmentary archives—what Riegl might call "accidental monuments," preserved in cultural memory rather than material form. The prototype integrates Heritage Building Information Modelling (HBIM) with narrative-driven simulation. Geometry, scale, and the interaction with light—what Le Corbusier called the fundamental material of architecture—remain central. The design process followed critical principles aligned with ambiance theory:

The design process prioritized semantic transparency (encoding architectural elements with metadata indicating archival certainty), phenomenological staging (carefully calibrated sensory cues to evoke the intended atmospheric progression), and reflexive design (foregrounding the simulation's interpretive nature through visual and interactive cues). A key feature of the project was its explicit engagement with narrative temporality and embodied movement. Users navigated the Danteum sequentially, their experience modulated through sensory contrasts and spatial thresholds—a performative translation of ambiance concepts such as *Jetztzeit* (Benjamin 1940) and *tuned space* (Böhme 1995). Crucially, the prototype was not designed to simulate physical

materiality per se, but to stage a situated cognitive encounter with lost architectural space. It exemplifies how virtual environments can function as critical historiographic media—not only visualizing speculative architectures but enabling embodied inquiry into their affective and spatial logics. This approach also highlights the potential for hybrid methodologies in ambiance research. The *Danteum* prototype was informed by prior in-situ methods (sensory mapping, *parcours* analysis), and conversely, user interactions within the virtual space generated new data on spatial perception and narrative engagement.

By foregrounding epistemic transparency, multi-sensory engagement, and historiographic reflexivity, this case study demonstrates how *virtual in-situ* experiences can enrich ambiance theory— particularly in contexts where physical presence is impossible. It invites further experimentation with immersive tools as complements, not substitutes, for established in-situ methodologies.

Conclusion

This initial exploration of immersive historiographic ambiance remains primarily conceptual and prototypical. It does not yet offer an operational methodology for mapping or validating ambiance in virtual environments—a task that will require integrating VR-based experiences with established in-situ methods such as sensory ethnography, *parcours commentés,* and affective cartographies. The prototype has not yet undergone systematic empirical evaluation. Addressing these limitations is a priority for future work: developing hybrid methodological frameworks that combine the reflexive, historiographic potentials of virtualization with the embodied, relational insights of traditional ambiance research.

This paper has argued that immersive environments, when critically designed, can serve as epistemic extensions of ambiance studies. By staging *virtual in-situ experiences,* such environments enable embodied and temporally modulated engagements with erased, speculative, or inaccessible architectures. They thereby expand the temporal and conceptual scope of ambiance inquiry— without displacing the primacy of physical co-presence.

Figure 2. Comparative sequence: Terragni's original perspectives and immersive Danteum reconstruction. Nicola D'Addario, 2025.

Building on architectural phenomenology, media epistemology, and the empirical traditions of ambiance research, I introduced the concept of *historiographic ambiance* as a mode of situated cognition and critical historiographic exploration. The Danteum prototype exemplifies how this approach can be operationalized through transparent, reflexive design.

Looking forward, cross-methodological studies and interdisciplinary collaborations will be essential to advancing this line of inquiry. Virtualization should not aim to simulate ambiance in any reductive sense, but to foster critical, creative engagements with the layered temporalities and affective logics of architectural space. This effort resonates with recent calls for reflexive uses of immersive technologies in cultural heritage and ambiance research (Champion 2015; Anderson 2009), emphasizing complementarity rather than substitution.

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Not built for all senses: Identifying environmental triggers and challenging spaces for sensory-sensitive individuals

Alice Price[1], Rebecca Oates[1], Petroc Sumner[1], and Georgina Powell[1]

1. School of Psychology [Cardiff University] – United Kingdom

Abstract.

Ambiences are not universally shared; for individuals with heightened sensory sensitivities, the urban and architectural environment can become a source of overwhelm rather than cohesion. Visual information, sounds, smells, and textures can cause discomfort, distraction or aversion in those affected.

This study used template thematic analysis to understand how individuals with sensory sensitivities experience everyday spaces, including which environ- ments or features they find challenging, how they react to this, and how they cope. Analysis of 765 participants' written responses found that supermarkets, education and work set- tings, and public event spaces were among the most identified as challenging. Differences in noise, brightness, lighting, movement, and smells were described as disrupting participants' ability to inhabit these spaces socially and functionally. Coping mechanisms ranged from modulating the environment (e.g., controlling lighting or sound exposure) to withdrawal or avoidance of the situation entirely. Impacts on quality of life were clearly described, with sensory features of the built environment cited as limiting participants' social and functional capabilities and being experienced as effortful and exhausting. By highlighting how people with sensory sensitivities experience and navigate these spaces, this study draws attention to the often- overlooked sensory dimensions of urban and architectural space. It shows that ambient conditions (e.g., noise, light, and crowding) are not neutral, but can be exclud- ing or overwhelming for some individuals. This work invites a collaborative approach from architects, designers, policy makers and researchers to consider how we can make built envi- ronments both functional and accessible to diverse needs.

Keywords:

Sensory overload, Sensitivity, Qualitative, Inclusion, Neurodiversity

Tipping Points – Indicators of Atmospheric Efficacy

Bea Dieker[1]

1. Designer, Artist, Author, Independent Researcher, Steinlestraße 1, D-60596 Frankfurt am Main, bd@beadieker.cm

Abstract.

Atmospheres surround us. And yet they are elusive and notoriously difficult to shape intentionally. This contribution explores whether there are universal forces that determine how atmospheres emerge—independent of cultural or disciplinary context. Developed from a practice-based, trans-disciplinary perspective, it presents the Atmospheric Efficacy Model—a hands-on conceptual tool for describing, reflecting on, and shaping atmospheres. By examining atmospheric tipping points, the model identifies five spatially effective forces that constitute atmospheres: Place, Relational Beings, Occurrences, Sensory Qualities, and Culture. Here, Culture is not viewed as an external condition for atmospheric effects, but as an intrinsic force. The model draws on linguistic, conceptual, and experiential correspondences. It offers a framework for atmospheric practice—toward more livable spaces in education, healthcare, urban development, and beyond.

Keywords:

Atmospheres, Spatiality, Transdisciplinary, Transcultural

Motivation

Why is it so difficult to shape atmospheres intentionally? Why does bleakness take hold where liveliness was planned? Can we explain what atmospheres consist of? Do we understand their inner workings? What vocabulary do we have to discuss them?

As a designer, artist, and author, I have spent four decades exploring atmospheres. My approach is rooted in experience and spans disciplines. The existing theoretical discourse on atmospheres reveals a range of divergent perspectives—philosophical vs. pragmatic, Western vs. Eastern, aesthetic vs. social. The academic approaches are diverse, which reflects the complexity of the phenomenon, but also risks fragmenting atmospheres into countless isolated facets.

Can we identify general forces that constitute the universal phenomenon of atmospheres?

Methodology

To explore this question, I aim to build bridges between different cultural and disciplinary viewpoints. The result is the *Atmospheric Efficacy Model,* which does not claim to be a fully developed academic theory. Rather, it positions itself as a tool for mutual understanding, reflection, and practical application. The model approaches the subject on linguistic, conceptual, and experiential levels.

Resonances
Linguistic Correspondences

One reason atmospheres are so hard to grasp is linguistic[1]. In German, many abstractions that end in *-heit* or *-keit*—such as *Gemütlichkeit* (cosiness), *Geborgenheit* (safety), *Einsamkeit* (loneliness), *Verkommenheit* (neglect), or *Trostlosigkeit* (bleakness)—denote states, relations, or qualities. They describe something atmospheric: something that can be bodily sensed but not objectified. Equivalent terms in English include those ending in *-ness, -ity,* -ence, or -ance.

Conceptual Correspondences
Spatiality

Griffero writes, "[…] atmospheres are spatialised feelings: that is to say, they are the specific emotional quality of a given 'lived space'" (Griffero, 2014: 36). The spatiality of atmospheres is widely acknowledged across disciplines and cultures[2]. Following Hermann Schmitz, spatiality manifests as either *constriction* or *expansiveness*. It is bodily sensed. Yet interpretations of spatiality within atmospheres vary greatly. From an aesthetic perspective, it is "the way in which things and surroundings present themselves" (Böhme, 2019: 96 ; author's translation). In another view, atmospheric spatiality appears as a "social phenomenon" (Löw, 2010: 263; author's translation)— or as a synthesis of disparate aspects: "how living cities feel as they are atmospherically constituted by relations between affective spaces, attuned bodies, time, weather, and other material phenomena" (Bille & Schwabe, 2023: 34).

Despite these varied interpretations, spatiality always works in the same way within atmospheres: as something that is bodily sensed. This holds true regardless of its nature. A windowless, low-ceilinged room can evoke a sense of constriction. The same feeling can arise when someone is consistently ignored within a group. A wide-open landscape can evoke a sense of freedom—just as mastering a language or a skill can. The scale of atmospherically sensed spatiality spans from *constriction* to *expansiveness*. We are exquisitely attuned to it.

I wish to draw attention to an often overlooked connection: coming into the world is an experience we all share. It is existential. It is thoroughly spatial and, thus, also atmospheric. Our first contact with the world is a transition from *constriction* to *expansiveness*—from the womb into the void. Michel Serres offers a vivid, metaphorical description of this fundamental experience (Serres, 1989: 11–16). Is it any wonder, then, that we are so sensitive to spatiality? That spatiality is so decisive for the efficacy of atmospheres?

Situations and Surroundings

Situations and surroundings are consistently seen as relevant in the context of atmospheres. Both are spatial—because we are always *in* them. However, their philosophical interpretation differs greatly from everyday language. From a practical standpoint, I consider as "surroundings" that which concretely, materially, and objectively surrounds us, and as "situations" that which envelops us abstractly, ideationally, psychologically, or socially. Surroundings and situations interact in their spatiality.

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1. In German, we rarely speak about atmospheres, even though the vocabulary exists. Because they are felt, they are often framed as subjective—making them unsuitable for professional discourse and thus marginalizing them. Establishing atmospheric terminology can help raise their visibility and relevance.

2. Schmitz, Böhme, Hasse, Griffero, Thibaud, Löw, Hisayama, and others agree on this point.

Bodily Sensing vs. Perceiving

Hermann Schmitz focused on the concept of *bodily sensing*. It's often conflated with *perception*—but the two must be distinguished. The colour red can be perceived, but not bodily sensed. A car can be perceived, but not bodily sensed. We can only bodily sense either when we are immersed in them—when dressed head to toe in red, or seated inside the car. Only that which envelops us spatially becomes atmospherically tangible and effective.

Omnisubjectivity

"Atmospheres in shared situations [...] are similarly perceived within and through shared situations." (Julmi, 2020: 283; author's translation). This idea is broadly accepted in New Phenomenology. I call this shared sensing of atmospheres *omnisubjective*—as we experience ourselves as being immersed in something, together with all others present. When multiple people share an atmosphere (a funeral, concert, exam, or sports event), its conditions, states, and qualities can be experienced as collective and shared. Omnisubjectivity is not the exception, but the rule—as we are rarely entirely alone in our everyday environments and situations. This challenges the common assumption that atmospheres are subjective. More often, the opposite is true.

To summarize:
- Spatiality is key to the efficacy of atmospheres.
- Surroundings and situations interact spatially.
- Only what spatially envelops us becomes atmospherically effective.
- Atmospheres connect us—they are rarely individually subjective.

239

Experiential Access

As a child, I was fascinated by atmospheres. I remember standing in my parents' shop, watching as passersby took refuge in the entrance when it started to rain. Each time, a sudden sense of togetherness emerged—as if by magic.

This small moment illustrates the four preceding points. Spatiality—being caught in the rain and stepping *into* the entrance—is decisive. The *surprise* of the rain (situation) and the physical presence of the entrance (surrounding) interact. The entrance becomes a *place of shelter.* The shared experience gives rise to a feeling of *togetherness*.

Since spatiality is crucial to how atmospheres take effect, they cannot be fully understood from within any single discipline. Yet the question remains: what, exactly, constitutes atmospheres?

Here it is helpful to focus on atmospheric tipping points—because anything capable of transforming an atmosphere must be a force within it. Through reflection, testing, and experiential analysis, I have identified five such atmospheric forces. They are always co-present in any atmosphere. Each of the five can become so dominant that it transforms an atmosphere. The countless particulars that shape atmospheres can be grouped under these forces. The forces are: **Place, Relational Beings, Occurrences, Sensory Qualities,** and **Culture**. Each will now be introduced in turn.
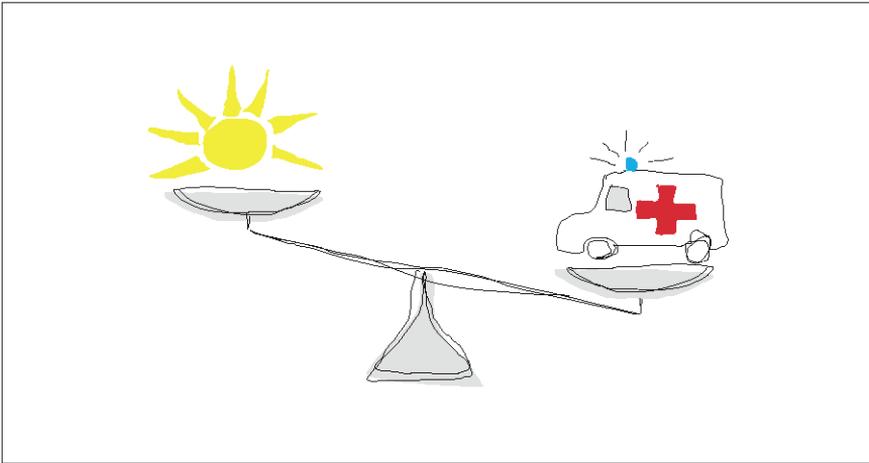
Figure 1. Atmospheric Tipping Point (Occurrence), Bea Dieker, 2025

Place

If we are at a party with someone, and leave the kitchen for another room, the conversation immediately changes—it intensifies, fades, or comes to a halt. A place need not be material or concrete. Where we are—geographically, physically, emotionally, or socially—is always sensed spatially. This is reflected in expressions like "I've been backed into a corner," or "I hit rock bottom." Whether we have room to move in a certain matter or setting, or not, is bodily sensed as either *constriction* or expansiveness. Where we are, is always atmospherically relevant. I conclude that **Place is an atmospheric force**.

Relational Beings

When another person—or even a dog—enters a room, the atmosphere changes instantly. Not only living beings can be Relational Beings, but also anything that can become a counterpart or companion. This includes governments, political parties, corporations, agencies, but also inanimate systems or devices such as a smartphone, or technologies like AI. Regardless of their nature, Relational Beings have an immediate effect on an atmosphere. If my hands are tied by a supervisor, if my GPS sends me the wrong way, or if I'm surrounded by machines in a hospital, this leaves a bodily sensed impression of spatial *constriction*. On the other hand, if I'm embedded in a broad network of colleagues, if I can make productive use of AI, or if I'm skilled in dealing with technology, I bodily sense *expansiveness* in the form of being supported, confident, or capable. Who or what is present is always atmospherically relevant. I conclude that **Relational Beings are an atmospheric force**.

Occurrences

A sudden change in the weather, an accident, a trip, a celebration, an illness, or a geopolitical incident—all of these can instantly transform an atmosphere. Occurrences are the most overlooked and underestimated force in atmospheres. That's hardly surprising, since no academic discipline is dedicated solely to them. Occurrences can be atmospherically accompanied by spatial feelings of *constriction* or *expansiveness*—as we all bodily experienced during the COVID-19 pandemic. What occurs is always atmospherically relevant. I conclude that **Occurrences are an atmospheric force**.

Sensory Qualities

Unbearable noise or stench can instantly destroy the peaceful atmosphere of a balmy summer evening. Colors, smells, sounds, light, material, form, and more belong to the atmospheric force of sensory qualities. Sensory qualities are perceivable—but once they surround us spatially, they are bodily sensed. They can evoke coziness and cheerfulness, but also feelings of constriction (cold) or expansiveness (fresh air). **When they envelop us, Sensory Qualities constitute an atmospheric force.**

Culture

In an unfamiliar situation or surrounding—in a foreign country, or a new social setting or workplace—there are rules, codes, and concepts that we may not know or have mastered. Conforming to or violating such rules, codes, and concepts can cause an atmosphere to transform in an instant. This is bodily sensed—it produces spatial feelings of being enveloped by safety, intimacy, certainty, or, conversely, by insecurity, disorientation, and forlornness. Every culture, be it food culture, corporate culture, or clan culture, has this effect. **I conclude that Culture is an atmospheric force.**

These five forces always interact. Their interplay determines the nature of an atmosphere. They offer powerful levers for understanding and intentionally shaping atmospheres in everyday life.
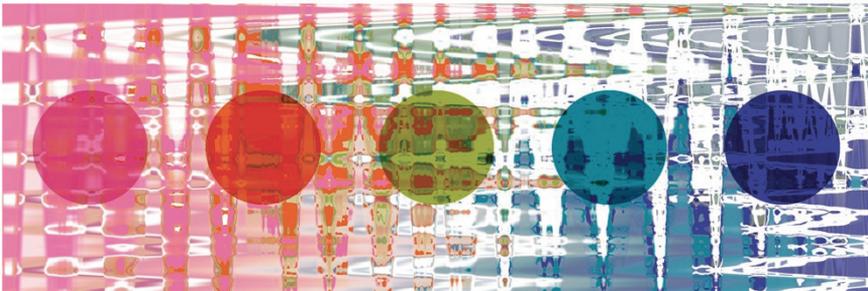
Figure 2. All 5 Atmospheric Forces interact, Bea Dieker, 2025

Outlook

Although I do not present a formal academic theory, the *Atmospheric Efficacy Model* is suited to practical application. Since Culture is not treated as an external condition, but as an intrinsic force within atmospheres, the model is open to intercultural discourse.

With the help of this model, we may consciously shape the atmospheres of everyday life— whether in cities, schools, public institutions, hospitals, or corporations—for a tangibly more livable future.

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Atmospheres of Anti-Surveillance
Tactics, Maps, and Affects of Urban Space Under Control

Alberta PISELLI[1]

1. Sapienza, University of Rome – PhD in Landscape and Environment, Department of Architecture and Design alberta.piselli@uniroma1.it

Abstract.

Surveillance, like atmosphere, is a pervasive and elusive force— diffuse, invisible, and capable of shaping how urban environments are sensed and experienced. Drawing on the concepts of atmosphere (Böhme, 2001) and affective atmospheres (Anderson, 2009), this paper explores the presence of surveillance in public space through anti-surveillance tactics. According to Steve Mann's theory of "sousveillance" (also referred to as reflexive surveillance) (2003), these tactics rely on explicitly visual practices that aim to expose and challenge surveillance, which would otherwise remain unnoticed and unthreatening. Based on these premises, we examine artistic practices such as counter-mapping, installations or performances – such as the Surveillance Camera Players, Maarten Inghels's poetic mapping, and James Bridle's Drone Shadows. These practices operate through paradigms of visibility and theatricality, staging affect and making atmospheres tangible. The hypothesis is that by externalizing feelings and rendering invisible structures visible, they reshape the atmospheric dimension of surveillance in contemporary urban space.

Keywords:

Atmospheres, Surveillance, Tactics, Countermapping

243

Introduction

"States, long obsessed with maintaining visibility of its cities and citizen have developed new methods for surveillance including mobile phone tracking, CCTV cameras and facial recognition, and big data analysis" (Stokols, 2023, 1170). Faced with the implementation of technological surveillance tools, we aim to discuss how they are transforming not only the physical landscape of our cities, but also their atmosphere. Many scholars argue that these developments foster greater inequality and exclusion in urban public spaces. In fact, smart cities are often seen as part of a broader neoliberal project of entrepreneurial city management (Harvey, 1989, 11).

Today, however, in light of the "atmospheric turn" in contemporary thought[1], the landscape can no longer be conceptualized solely in physical terms, but must be understood in constant relation to its atmospheric dimension.[2] Geographer Ben Andensor (2009) is among the first to introduce the concept of "affective atmospheres" into disciplines dealing with space: shared bodily phenomena, i.e., spatially diffuse affects that shape a given spatial situation. Today, studying the atmospheric quality of a space means asking which affective forces inhabit it: security, inhibition, fear, and so on. In this regard, it remains unclear how surveillance alters urban atmospheres.

1. "No doubt we are engaged in a historical moment of transformation of our sensory conditions of existence. In other words, we are witnessing the birth of an atmospheric sensitivity of the world. Perceptions and affects regain their own rights, involving the diversity of sensory modalities and recognizing the importance of bodily experience".

See: J-P. Thibaud, on the definition of "Ambiance", International Lexicon of Aesthetics, May 2022.

2. The concept, originally derived from the philosophy of the new phenomenology by Hermann Schmitz, was explicitly introduced with the term "atmosphere" by Gernot Böhme. It has since been adopted by other humanistic disciplines such as architecture, geography, and sociology, which also work on this issue. See: F. De Matteis, "Atmosphere in Architecture," *International Lexicon of Aesthetics*, May 2020.

According to Graham and Wood (2003), today's surveillance implemented through algorithmic and digital systems approaches the concept of the Super-panopticon. "Contemporary communication circuits and the databases they generate constitute a Super-panopticon, a surveillance system without walls, windows, towers, or guards. Quantitative advances in surveillance technologies result in a qualitative change in the microphysics of power" (Poster, 1990, 93). Surveillance, understood in this way, shares the ontological condition of fundamental indefiniteness and elusiveness characteristic of atmospheres, defined as that "certain something felt in the air". Both surveillance and atmosphere are omnipresent yet abstract entities, difficult to grasp and mostly invisible. Like atmosphere, surveillance, being "spatially diffuse" (Böhme, 2001), can only manifest indirectly, that is, through clues. These indicators – such as cameras, control devices, and counter-surveillance tactics – suggest, for example, that a specific atmosphere of surveillance prevails in a given spatial situation.

My thesis is that counter-surveillance tactics specifically modify urban atmospheres, based on Mann's (2003) concept of "sousveillance" or "reflexive surveillance": an explicitly visual strategy aimed at making surveillance visible, which would otherwise remain an invisible and pervasive force within the fabric of urban environments. Following this approach, Ullrich and Knopp (2018) identify six anti-surveillance strategies; among these are awareness of cameras, disguises such as masks and umbrellas to protect against facial recognition devices, and active attacks – such as breaking camera lenses or using lasers to disrupt their functioning.

On this basis, we compare several artistic and tactical counter-surveillance experiences to demonstrate how they operate according to the paradigm of creating visibility and "staging." These experiences include the walking tours of the group Surveillance Camera Players (SCP) and their counter-mapping practices, which have inspired several contemporary artists and activists, including Maarten Inghels. To discuss the technique of "staging," we refer instead to the urban performances or plays in front of the cameras by the same artists, as well as to the most recent installations by the artist James Bridle involving drones in public spaces.

Production of Visibility

We have argued that counter-surveillance tactics work to problematize surveillance according to the paradigm of producing visibility. In fact, a "tactic" (De Certeau, 1980), by definition – such as counter-mapping – works to "subvert the established order," to challenge, and sometimes to denounce certain phenomena. Within this framework, the Surveillance Camera Players (SCP) represent a paradigmatic case through which the mechanisms and implications of counter-surveillance can be critically examined.

The group, founded by Bill Brown, Susan Hull, and other Situationist-inspired activists in New York in November 1996, works specifically to challenge the indiscriminate use of cameras installed in public spaces through various actions. From 2000 to 2007, the SCP organized walking tours through the most surveilled neighborhoods of NYC in order to raise public awareness. The outcome of these tours was a series of maps that reveal the spatial dimension of surveillance and its distribution. The operation is simple: in the field, observe with the naked eye the presence of cameras, classify them according to their type, and record them on paper. The tour is then repeated a year later to monitor the growth of surveillance. The method could therefore be

described as "phenomenological," based on direct, embodied experience of the space. In this way, the phenomenon becomes traceable and mapped – translated into a series of "eyes" that appear along the streets on the map. From an examination of the various tours[3] – ranging from Chelsea and City Hall to Times Square and the Lower East Side – it is interesting to note that surveillance devices tend to concentrate in specific types of places: tourist areas, institutional centers of power, gentrified neighborhoods, and, finally, locations where protests or events occur – what we might call "crowdscapes." This observation immediately reveals not only the spatial dimension of surveillance, but also its qualitative, atmospheric presence. By working to create visibility, these maps also foster awareness of the cameras and their function. Hence their political nature as "tactics" and exercises in "counter-mapping." They demonstrate that cameras are not necessarily tools for promoting public safety but are often used to advance private insurance interests or serve as instruments of surveillance and control[4].

Following in the footsteps of this experience, Maarten Inghels[5]'s artistic practice similarly seeks to render the intangible phenomenon of surveillance into a tangible and mappable spatial configuration. Inheriting much from the work of the SCP, the artist sets out in search of the "invisible route" – that is, the possibility, however temporary, of taking a still-anonymous way through his city. "Antwerp's Invisible Route starts on the southeast side of the city, near the modern art museum. It heads north, cuts through a small park, and crosses a railroad track. It then sneaks into the city proper, where it begins doubling back, dodging cameras left and right. (Inghels has drawn individual cameras as black circles with dots in them, so that the whole map looks alive with cartoon eyes.) It ends about six miles after it began, up on the city's northeast side"[6].

The artist's map, like the maps of the SCPs, aims to articulate the qualitative and affective dimensions inherent in contemporary surveillance landscapes, now based on symbolic and iconic places, now of an exquisitely private kind destined for wealthy neighbourhoods. In this case, he reveals the latent atmospheres embedded in marginal and residual urban spaces, often concealed from mainstream visual regimes. What he calls "the back doors of the city". Again, the map has to do with the production of visibility, but this time of the negative of surveillance: it gives us a picture of the corners, still, hidden, of the city of Antwerp.
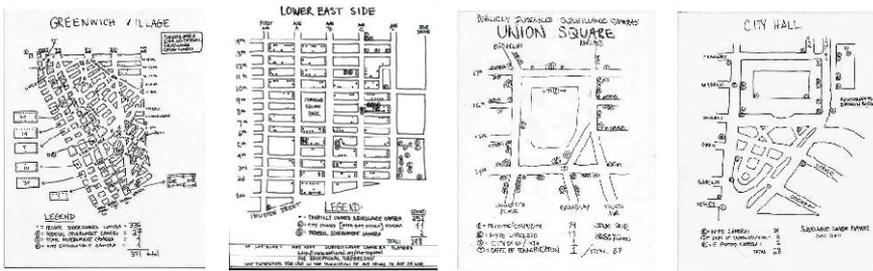
Figure 1. SCP NYC Maps. From right to left: Greenwich Village, January–March 2004; Lower East Side, May 2005; Union Square, June 2015; City Hall, July 2011.

3. https://notbored.org/scp-maps.html.

4. See, for example, the article "Surveillance Cameras in Manhattan's Lower East Side" on the SCP website.

5. https://inghels.com/The-Invisible-Route.

6. See the interview with the artist: https://www.atlasobscura.com/articles/antwerp-invisible- route-map-surveillance-cameras

Staging

"By installing a camera, you make a definitive statement, sure; but it is a theatrical statement, a rhetorical affectation, and nothing more, a mere bluff waiting to be exposed."[7] Indeed, the CPS argue, surveillance itself is a "staging": sometimes, for the purposes of crime prevention, more important than the operation of the control device itself is its signalling, that is, the direction of its staging. Thus, fighting the enemy with the same weapons, the situationist-derived group modelled their anti-surveillance strategies. In fact, before walking tours, they worked on performances - short theatrical pieces to be performed in front of surveillance cameras, small sketches aimed at reclaiming public space as a space of free expression. Since the cameras do not record sound, the artists rediscover the language of gestures and silent film: these are silent performances. Their stage is of course the underground stations and the most transited spaces in Manhattan, where the presence of the device can be detected, but what is interesting to note is that the "staging" is twofold, since the actors address a double audience: the controlled and the controllers - the sole beneficiaries of the spectacle on screen.

If the actor is not someone who imitates another but "the one who makes something appear", then "to stage something or someone means to compose things in such a way as to make possible the appearance of this something or someone and to intensify this appearance through various forms of correspondence" (Böhme, 2001, 180). In this sense, their performances are true "enactments" or new atmospheres, in Böhme's sense: the SCPs act to intensify the presence of surveillance at certain nerve points of public space, such as underground interchanges, squares and transit points. Thanks to these performances, the phenomenon is enhanced in its spatial, atmospheric presence and dimension.

Following the same model of staging in order to make the presence of surveillance in public space real and appreciable a comparable approach can be observed in the work of artist James Bridle. His "Drone Shadows" project[8] works to reveal the impact and enhance the presence of remotely piloted aerial vehicles in urban space. The installations or staging function as an alarm in urban public space, where the 1:1 scale silhouette of the device is drawn. Here again we are faced with an attempt to present the phenomenon of surveillance through the transformation of the atmosphere. Specifically, we would say that these ground traces function according to the paradigm of "ingression" of the atmosphere. The atmosphere, in fact, is a space into which one enters: not a metric space but a space whose presence one can feel, by which one can be enveloped. "We intend to define experiences of ingression as those situations in which you perceive something the moment you enter it. As happens, typically, when one enters a space dominated by a certain atmosphere." (ivi, 83) James Bridle, by tracing these silhouettes-devices in urban space, marks a boundary, crossed which, we are able to feel the presence of something. We are under the shadow, the control, the sphere of interference of the military device. Public space is threatened by surveillance.
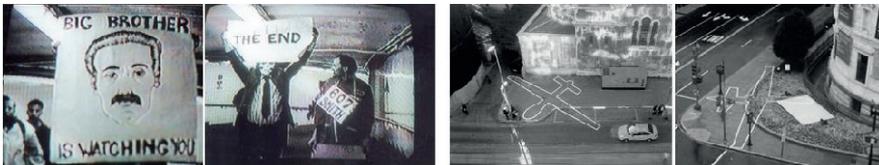

Figure 2. Right: SCP, *1984* by George Orwell, 14th Street/Seventh Avenue subway station, November 9, 1998. Left: James Bridle, *Drone Shadow 002*, *Drone Shadow 004*, 2012–2013.

7. https://notbored.org

8. https://jamesbridle.com/works/category:drone

Externalisation of feelings

We have seen how anti-surveillance tactics work to expose the presence of an elusive phenomenon in public space through the model of visibility creation and staging. Artists' projects working through installations, performances and mapping use precisely these devices to denounce certain dynamics. But what is interesting to note is that these practices work on the perception of an environment, transforming affective atmospheres.

The guarded space mapped by the SCPs become atmospheres of overtourism, hyper gentrification, environments of power, etc.; the invisible street mapped by Inghels restores interstitial, hidden, disturbing, alternative atmospheres. Again: the spaces performed by theatrical pieces and animated by the silhouettes of drones become neuralgic points subject to control, where public space is threatened by surveillance.

These experiences are staged first of all because they work through the paradigm of an externalisation of feelings. The very idea of atmosphere, in fact, is based on overcoming the archaic idea of feelings as states of mind internal to the individual. "In this sense instead in the theatre feelings must be externally perceptible, it must be possible to feel them atmospherically". (ivi, 179) To stage presence is always also to stage feeling.

The artist James Bridle himself, in his project "Dronestagram"[9], collects a series of aerial photographs of places subject to drone attacks, the latest in a long line of military technologies that enhance the process of spreading death. They are towns, villages, junctions and roads. They are the names of places most of us will never see. We do not know these landscapes and we cannot visit them. The geography outlined here is an affective geography in which feelings of destruction, loss, disappearance are externalised.

247

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249

METHODS AND DEVICES
FOR DESIGNING THE ATMOSPHERE

Inhabited Atmospheres: Philippe Rahm's Climatic Ambiances through the Lens of Care

Alessandra BRUNO[1]

1. Politecnico of Milan, Italy – DAStU Department, alessandra.bruno@polimi.it

Abstract.

The research aims to orient design and theoretical thinking towards the production of ambiances through a design-driven approach, critically analyzing the oeuvre of Philippe Rahm as a milieu where ethical and environmental concerns intersect with implicit spatial manipulations. The contribution delves into interior designs, specifically crafted through climatic variations to generate inhabitable atmospheres. These spaces foreground bodily perception as a tool of care to disrupt the conventional passivity of occupants, while aligning with Swiss energy standards. The paper adopts a comparative methodology, confronting the trajectories of normative and revising these processes through the care theory. Therefore, the research addresses political implications of designing an ambiance—or an atmosphere—when it seeks to adhere to normative standards of sustainability. How would the architectural microclimates designed by Rahm help redefine comfort normative standards? The outcome is a formalization of a Use-Ambiance paradigm as a design tool, which claims architects' role as ethical and environmental caretakers.

Keywords:

Atmospheric Design, Philippe Rahm, Climatic Architecture

On a Climatic Architecture

Architecture is atmosphere, atmosphere is climate; a paradigm guiding the work of Philippe Rahm that could also be condensed into *climatic architecture.*

In the aftermath of the Atmospheric turn (Soentgen, 1998), Rahm's architecture stands as a manifesto of intentionality, explicitly uncovering design production as a manipulative tool for moulding environmental perception.

Rahm's work aligns architectural practice with individuals' bodily perception, as not accidental or subjective, but rather intentionally crafted. Hence, by acknowledging the role of architects as craftsmen of atmosphere—fine-tuning its climatic conditions—he unveils the often-overlooked political responsibility inherent in spatial manipulation, reframing awareness of inhabitants as active perceivers of the space.

His work is slightly shifting in the realm of thermodynamics, as primary design actions are read in terms of radiation, conduction, convection, pressure, evaporation, or digestion (Rahm, 2009), orchestrating environmental parameters—air, light, temperature, pressure, humidity.

In his experimental projects, specifically when dealing with interiors, the aim is to address physiological needs by allowing movement across a multitude of microclimates.

Thus, functions are not identified by confinement but as a set of basic conditions supporting uses. At stake is, indeed, mutual adaptation with the setting—as an open thermodynamic system—while dissipation is mediated by technical devices.

This approach is applied across scales—from interior to landscape—to alert and disrupt habitual living patterns, moving from fixed to unstable, from homogeneous to scattered, towards a nomadic appropriation of space both in private and public realms alike.

This shift might be seen as anticipatory, as it enables individuals to grasp continuous transformations, which are otherwise implicit in normative standards or marketing objectives.

Therefore, by subverting traditional tools of built design, he dissects the most intangible phenomenon—atmosphere—into its physical components, to reach an ultimate bodyarchitecture combine, where the environment, soma, and senses form a whole, whilst the architect is conscious of the neuronal processes involved in body-atmosphere exchanges (Vincent, 1990; Givoni, 1969).

Ambiance-Use: an astronomy of vapours

The experiment of Domestic Astronomy and its later actualization in the Evaporated Rooms, explicitly articulates atmospheric variations while addressing normative requirements for energy efficiency. By relocating functions as volumetric clouds, Rahm redefines canonical composition from plan to planes of section. These spatial manipulations exploit air's physical behaviour to arrange furniture across heights, allowing a free-floating use of space. The latter apartment for a doctor in Lyon functions as a thermal Raumplan where volumes of air are distributed within a 240 cubic meter space, and inhabitants move to find their preferred tone.

The resulting space balances the sensorial richness of *exterieur intériorisé* of XIX century apartments—where rooms were confined by distinct uses to avoid heat loss—and the modern *plan libre*—where temperatures mingled indistinctly into energy-intensive wholes.

A rational organization is achieved by working on the physiological condition of use: furniture are situated according to Archimedes' principle, defining a natural scape of meteorological moments, where the shower is above for the lack of clothing, and the bed lies in the coldest zone with almost 10°C of disparity from the ceiling.

The design complies with the Swiss Standard for Construction (SIA) recommendations on differentiated heating within the domestic environment, without sealing off compartments. Within this framework, spatial manipulation is approached through the lens of care, considering the occupant's body as a responsive organism situated within a range of atmospheric gradations as an indoor natural landscape—a climatic, atmospheric ecosystem of astronomical and biological forces.

Despite the bare appearance, bodily experience is enriched by climatic phenomena, and digested without confinements as in a natural geography. And in this home for a doctor, science intersects architecture and calcifies its structure with medicine and physiology, admitting mutual relationships among bodies and space.

Thus, invisibilities are materialized within fields of delicate gradients where one is guided by the metabolic core. This methodology defines an ambiance—or many in one—and offers a sustainable

response to modernist spatial continuity, which often resulted in inefficient and inhabitable environments according to a Form-Function logic (Sullivan, 1896), proposing instead a model grounded on a relation Ambiance-Use.

Similarly, it transcends contemporary, redundant air-conditioned interiors, which arose alongside the development of physiological comfort models. Among these, the one framed by Willis H. Carrier, sought to improve indoor well-being by inflating volumes of air to establish a constant condition of 21°C and 50% humidity, regardless of location, program, age, or gender (Carrier, 1911).

Counterfactually, Rahm's approach negotiates the limits of modern architecture as it often deprives humans of their natural climatic, geographic, and temporal conditions (Hegel, 1835–1837), and embraces *Dasein* as an acceptance of specificities.
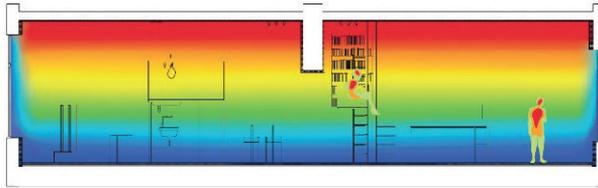
Figure 1. Philippe Rahm architects. Appartement Louis M. Lyon, France, 2012
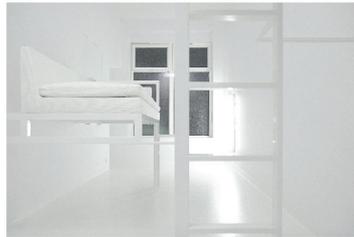
Figure 2. Philippe Rahm architects. Appartement Louis M. Lyon, France, 2012 photos: © Nicolas Pauly

From prescriptive to adaptive: mapping thermal standards

According to technical notes and isotherm maps, the research scope is to cross-read this practice by reviewing changes in normative standards, to define a comprehensive outlook on the expected trajectories in future ambiance production. In Evaporated Rooms, Rahm diversifies three primary micro-climatic zones, whose fluctuations are registered in vertical isotherms by employing two metal planes as heat conditioners. At the time of the project, the Swiss regulatory framework was governed by the SIA 384/2 and Minergie-P standards. The first was providing a prescriptive approach to design, without any explicit physiological model of thermal perception. The latter, similarly, would favour zones with a reduced temperature, yet for energy-saving objectives. Contrarily, Rahm reinterprets these prescriptions as a design tool, where gradients become central, anticipating later shifts toward climate-responsive comfort.

Starting from the 2015 revision, the SIA standard integrated the ISO 7730 norm and introduced comfort as a regulatory category. In particular, the ISO model target is to limit dissatisfaction to 10% of inhabitants, operating on two parameters: the PMV (Predicted Mean Vote) and the PPD

(Predicted Percentage of Dissatisfied)—factors depending on the values of air temperature, radiant temperature, air velocity, humidity, clothing insulation (clo), and metabolic rate (met). To balance out energy consumption and individual wellbeing, the Swiss framework defines acceptable thresholds within which exposure is considered physiologically tolerable, with appropriate clothing or activity level. Therefore, temperature variation is endorsed mainly as a concession to energy efficiency, while local variations are recorded as discomfort sources.

Evaporated Rooms instead foresees an idea of comfort as negotiated and embodied. The ISO 17772-1:2017, which complements ISO 7730, indicates then a change towards an adaptive model by recognizing a broader set of contextual and behavioural factors— previous thermal experiences, seasonal variation, cultural expectations, and individuals' perceived control. It legitimizes a range of acceptable variables in thermal conditions, although relying on climate management to avoid local discomforts, such as draughts, radiant temperature asymmetry, or vertical air temperature differences. In other words, comfort values range is widened—accepting a discard of $\pm3°C$ from setpoints, depending on seasonal and personal factors—yet remains a tolerance margin. The novelty of Rahm's work lies instead in the perceptive autonomy, where the body is to consciously adapt by moving, and modulations are reframed as active design tools.

Architecture as Critical Care

A dozen years after the project, questions arise as to whether, at some point, thermal comfort regulation will be able to account for singular corporeal parameters. Through diversification, Rahm validates a matrix by which it is Use to follow Ambiance, rather than Function shaping the Form of space.

A critical reading through care theory is endorsed to cease separation between physiological needs and climatic conditions, and to ultimately reject a sensorial standardization which targets one ideal Corp only. At stake is what would be a future in the normative of comfort management, to reduce leaks and uniformization while embracing discomfort as an ethical act of care.

A theoretical formalization of a Use-Ambiance binomial is already somewhat foreshadowed by ISO 7730, as its calculations are consistent with the intended uses. Hence, it envisions regions deprived of functions and valid across the program, related to the activity and clothing. This approach, though, starts from the Use to later derive the required Ambiance, still echoing a Form-Function dogma. Similarly, while Theory gradually admits Atmospheric design tools, it refuses to address the political implications beneath its construction.

Contrarily, this research suggests a reversed approach, which first defines the Ambiance and then accepts its Uses, as free exploratory processes of bodily appropriation. Instead of pre-setting an atmosphere to predict behaviours, architects shall design a stage-set of atmospheric tones, acknowledging that ambiance is co-produced by its inhabitants.

In conclusion, whereas current practice relies on seamless climatization that impoverishes intellectual processes and, more crucially, depletes resources, Rahm challenges commonalities and advances a Critical Care where science is reengaged with climatic and physiological issues.

The user is given freedom of use within both comfort and discomfort, in a meteorology of habitation that brings environmental questions into the architectural limits. He fluidifies relations in adherence to individual elective affinities and advocates for making an atmospheric toolkit explicit for the designer. What would be the implications of an Ambiance-Use perspective?

As Architecture is a form of care (Fitz & Krasny, 2017), I argue that the scalability of this process, beyond providing a body-centred design, would embrace an ethics that addresses the challenge of living amid ecological ruination (Tsing, 2016).

And as for its definition, care « includes everything we do to maintain, continue, and repair our 'world' so that we can live in it as well as possible.» (Tronto & Fisher, 1990), architecture is central for caring about the habitat and its inhabitation at all scales, in condition of interdependency, for which we urge to consider more than human entanglements (Puig de la Bellacasa, 2017, 70). Thus, by broadening the practice towards spatial enrichment, architecture should provide for mutable processes of trade, widening the scope and targets of design.

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Enhancing Ethnographic Research on Urban Ambience and Affective Geography

Transdisciplinary Explorations in the Urban Peripheries of Helsinki, Finland

Pekka TUOMINEN[1]
1. University of Helsinki, Finland, Snellmaninkatu 10, 00014 Helsinki, pekka.tuominen@helsinki.fi

Abstract:
This paper explores the everyday realities of urban ambiences using ethnographic methods. My anthropological study concentrates on spatially ordered differences in the affective geography of Helsinki, Finland. It examines how various imaginaries and materialities shape our understanding of urban ambience in a city undergoing rapid transformation. I particularly emphasise the experiential dimensions of everyday life in the urban peripheries of Helsinki. I have conducted long-term ethnographic fieldwork in a marginalised district of Kontula, which has been widely stigmatised since its construction beginning in the 1960s, associated with poverty, social problems, and, more recently, issues related to immigration. However, many of these prejudices do not reflect the experiences of its residents. Contrary to the representations of chaos and lawlessness, many residents find the district as vivid, curious, and welcoming. Nonetheless, Its urban ambience stands in stark contrast to that of the central districts. In this paper, I introduce the temporal dimension to the study of ambience in Kontula, establishing a comparative perspective on the future expectations in the district.

Keywords:
Urban anthropology, Ethnography, Affect, Affective geography, Ambience

Enhancing Ethnographic Research on Urban Ambience and Affective Geography: Transdisciplinary Explorations in the Urban Peripheries of Helsinki, Finland

Introduction

The residents tend to recognise the urban districts with a notorious reputation in their cities even though there are no shared definitions of these areas. Some of the district names, such as Brixton or The Bronx, are widely known around the globe, while others, like Rinkeby in Stockholm and Nørrebro in Copenhagen represent stigmatised urban areas primarily recognised in the Nordic countries. In Helsinki, Finland, the district of Kontula, located just a 15-minute metro ride from the city centre, has been the representative case of the urban problems since the beginning of its construction in the 1960s. The stigma associated with Kontula has carried various designations throughout its history, reflecting the most topical societal issues, such as unemployment or integration policies.

Currently, the dynamics of segregation and gentrification are at the heart of the discussions of its urban future. While the mainstream conversations often revolve around political solutions and economic trends, typically addressing these issues at an abstract level, the everyday realities of the residents in the stigmatised urban peripheries often go unacknowledged. In this brief sketch of affective geography in Kontula, I concentrate on how the ambience of a particular place relates to its residents' imaginations of the district's future. More specifically, I am interested in what does

change in ambience mean to those living in the stigmatised urban periphery. I have previously studied the dynamics of stigmatisation (Tuominen 2020) and the spatial contrasts between the urban centre and periphery (Tuominen 2024) in Kontula. Here, I will introduce a temporal dimension to the study to better understand the changing dynamics of urban ambience in this stigmatised space. I argue that the categories of belonging and exclusion, along with senses of security and uncertainty are crucial for understanding sociocultural realities in urban contexts. Furthermore, I argue that the ethnographic study of ambience can facilitate new insights into the affective geographies of contemporary cities.

Theory, Methods and the Context of the Study

My understanding of urban ambiences is rooted in my background in social and cultural anthropology. My preferred research method is long-term ethnographic fieldwork that focuses on the conventions of the everyday, intimately tied into the lifeworld of the local inhabitants. To better grasp the role of ambience I have been influenced by the work of Yael Navaro (Navaro-Yashin 2012), particularly her notion of affective geography. The concept points towards understanding of affect that refers to "cartography, at one and the same time, of the affects of an outer environment and those of interior human selves, as they are interrelated" (Navaro-Yashin 2012, 24). It offers a way to transcend the rigid boundary between the individual self and the external environment, or, in the context of the research traditions, the social constructionist and new materialist theories, and shift focus to what lies in-between or cannot be unambiguously classified or located within theconfines of this divide.

256

For an ethnographer, this framework presents a compelling approach to understand urban ambiences. In the everyday practices of the residents there are numerous instances where words clearly fail in capturing the surrounding phenomena. By shifting focus to geography organised around affect rather than measurable space, we gain new tools to study ambience. This is particularly useful for a study that has been conducted primarily relying on participant observation: a comprehensive and systematic mapping of quotidian practices of the local residents in their daily encounters.

The most significant place for my research has been the open-air shopping centre of Kontula (Figure 1.). Located right next to a busy metro station, it hosts most of the services in the district. At the same time, it has become an infamous urban space that exemplifies Kontula's notorious reputation. There are over ten were affordable bars in its small area and the atmosphere is often noisy and disorderly. However, many of the locals have learned to tolerate and even celebrate the somewhat chaotic ambience of Kontula, associating its absurdity with a sense of homeliness and belonging. The urban ambience of the shopping-centre is characterised by the bleak surroundings of dreary concrete walls which lack officially recognised history, paradoxically coupled with overbearing liveliness and diversity that is difficult to categorise coherently (Tuominen 2024).

Figure 1. Kontula Shopping Centre, Jakob Johannsen, 2019 Source: Jakob Johannsen, reproduced with permission.

During my extended periods of fieldwork – 12 months in 2017, followed by 3 months in 2018, and continuing as short-term visits – I was frequently struck by the centrality of belonging and exclusion, as well as feelings of security and uncertainty, that the residents expressed. They emphasised conviviality as the foundation of relationships within this diverse urban context (Gilroy 2005; Hall 2012). People were living together, more or less voluntarily, not always in harmony but striving to maintain their convivial relations with one another. What I found particularly interesting was the role of urban ambience as the facilitating factor between the individual experiences of the people and their material environment. In the following vignettes, I highlight the situations where the expectations for the future were linked to Kontula's stigmatised ambience.

Data & Analysis

Kontula has been stigmatised since its construction in the 1960s, but the framing of the stigma has varied significantly over time. From the 1960s to the 1980s the focus was on the supposed rootlessness of the residents in this newly constructed area. In the 1990s, the blame shifted to the unemployment and substance abuse prevalent in the area. After 2000s the ill reputation of Kontula has rested primarily on narratives of segregation and failed integration of the immigrants (Kokkonen 2002; Tuominen 2020). However, in recent years, the biggest concern among residents has been the proposed urban renewal project, that would crucially alter the ambience and affective geography of the area. An architecture competition for a large-scale renewal of the shopping-centre area was launched in 2020, but the work has not began yet.

Figure 2. is an illustration from the winning proposal by OPUS architects. Figure 2. Vaellus,
Architecture Competition, OPUS, 2020 Source: City of Helsinki,
https://www.hel.fi/static/liitteet/kaupunkiymparisto/kerrokantasi/kontu lan-ostari/kontulan-ostari-kilpailutyo-VAELLUS.pdf
- reproduced with permission.

While the residents generally agreed that the buildings need a large-scale renovation, the feelings toward the actual renewal plans were mixed. Interestingly, much of the criticism centred on the ambience of Kontula. The residents referred to a 'feel' (*fiilis*)of the place, sometimes elaborated as the 'atmosphere" (*ilmapiiri*) or 'ambience' (*tunnelma*). The exact translation of these words is difficult, as their meanings vary significantly depending on the context and the manner of expression.

The following quotes illustrate on how the residents of Kontula referred to the urban ambience of their district:

This might not be the prettiest place in Helsinki but its atmosphere [ilmapiiri] is unique. Something important will be lost in the sterile new place. (Mikko, 50 years)

Let's see if the feel [fiilis] of the shopping centre changes with the renovation. You would need to change the people here in order to change that. Perhaps they will manage to scare the usual suspects away from here with the bright lights and shiny surfaces (Helmi, 40 years)

Kontula is not like the rest of Helsinki but I immediately felt at home here. The ambience [tunnelma] is often a bit messy but I don't mind. In a way it makes me feel safe, rather than the quiet and spotlessly clean places. (Ahmed, 25 years)

(Note: all names of the informants have been changed to protect their privacy)

In their comments, the residents pointed at the fragility of Kontula's unique ambience. While their reflections were often semantically ambiguous, they referred to something that was significant for them. It was not solely the people or their environment, but rather something in between that was at risk due to the urban renewal. They expressed concerns that the affective geography of the place in the future would be radically different from what it had been.

Conclusions

The future of the district, especially its vibrant open-air shopping centre, has been, and continues to be, at the heart of everyday discussions. While there are informed analyses regarding the impacts of architectural solutions, they often fail to address many of the residents' concerns. The urban renewal of Kontula was not merely about changing the materiality of the area or catering to individual preferences. It poses a threat to the delicate ambience to the entire stigmatised district, endangering the gradually cultivated and fragile conviviality that is unique to Kontula. The future urban transformation touches the residents' sense of belonging and exclusion in ways that are difficult to measure. Kontula suffers from a strong residential stigma, yet it is home to many individuals who feel more at home in its sometimes chaotic surroundings than in the more sought-after districts near the city centre. Especially, many residents with immigrant backgrounds found their sense of belonging much easier to attain to Kontula, in comparison to Helsinki or Finland (Tuominen 2022).

The residents of Kontula frequently refer to the unique ambience of their district, although they struggle to define it precisely. Despite this ambiguity, it conveys a powerful sense of sharing the ambience of the district together and cherishing it. During my fieldwork I attempted to explain my notion of affective geography to Mikko, a very practical-oriented long-time resident of Kontula. He admitted that he did not fully understand what I was trying to say but suggested that a widely used phrase "You can take a man the man out of Kontula but you cannot take Kontula out of the man" might capture the essence of my message. I think there is some truth in that sentiment.

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Towards the Atmospheric City
Psychogeographic Interactions between Humans, Plants, and Urban Form in Outdoor Ambiences of Barcelona

Cristian SUAU IBANEZ[1]
1. University of Barcelona, PhD in Architecture, cristian@cristiansuau.com

Abstract

This study examines how micro-greenspaces shape emotional perception in dense Mediterranean cities, focusing on Barcelona's Ciutat Vella. It reconceptualises outdoor ambiance as an experiential urban category shaped by microclimates, geo-mobility, and sensory design. Moving beyond viewing vegetation as mere aesthetics, the research establishes plants as active place-animators shaping urban atmospheres and affective spaces. The city is seen as a heterogeneous archipelago of "ambiance units" where micro-greenspaces and plant communities influence people's perceptions and emotions. Using a mixed-methods approach, the study combines psychogeographic tools inspired mapping and spatial storytelling—with ambient–proxemics metrics to explore how vegetation shapes spatial narratives. Findings identify four ambiances: authentic, spectacular, alienated, and reanimated. An integrated design framework for "atmospheric cities" connects proxemics, psychogeography, and ambience theory through six indicators: appropriation, spacing, ambient, fabric, context, and bio-climate. This framework aims to improve urban design, sensory experience, and emotional well-being in dense, gentrified, climate-stressed environments.

Keywords:

Psychogeography; Atmospheric Urbanism; Reanimated Ambiences; Ambience Units; Micro-Greenspaces.

Animating Urban Ambiences through Micro-Greenspaces

Ambience Theory (Debord, 1956; Böhme, 1993; Pallasmaa, 2005; Thibaud, 2011) and Social Sciences (Hall, 1966; Bourdieu, 1984; Augé, 1992) explores the complex atmospheric interactions between people and places, highlighting how sensory experience shapes spatial perception. Ambience refers to the immediate and multisensory environment surrounding the body, produced by a confluence of environmental conditions such as light, sound, temperature, and material textures. This concept captures the overall atmospheric quality of a space, mediated through embodied perception, materiality, and affective responses.

Ambience profoundly shapes how residents and tourists differently perceive and inhabit urban environments, often giving rise to an *'alienating atmosphere'* in which spectacle colonises sensory experience (Debord, 1967). This condition is deeply influenced by processes of commodification, particularly through gentrification (Glass, 1964; Smith, 1996; Zukin, 2010), where the aesthetic and atmospheric qualities of urban spaces are spatially reconfigured, often at the expense of local social fabric.

Consequently, we can distinguish four types of urban ambiences: (a) **authentic ambience** is an emergent and live atmospheres co-created by everyday social practices, local culture, and informal uses of space; (b) **spectacular ambience** is a space engineered to reinforce consumerism or spectacle, where sensory design is subordinated to branding, gentrification, and image-control

(Glass, 1964; Debord, 1967); (c) **alienated ambience** is an atmosphere that feel oppressive, isolating, or disconnected due to symbolic violence, or urban neglect (Bourdieu, 1984; Augé, 1992); and (d) **Reanimated ambience** is a urban space that arises from the synergy between ecological vitality, inclusive design, and community engagement (Böhme,1993; Pallasmaa, 2005; Suau, 2017, 2019).

Ambience types	Traits	Shaping forces	Related concepts
Authentic	Lived Sensorial Embodied	Local use Vernacular Material culture	Atmosphere of senses Experiential Weathering
Spectacular	Engineered Branded Gentrified	Commodification Real estate marketing Dysneyfication	Spectacle & event- like Visual dominance Gentrification
Alienated	Oppressive Disconnected Isolating	Neglectfulness Top-bottom control Smart cities	No-place Surveillance space Atmosphere of exclusion
Reanimated	Regenerative Restorative Sensory-affluent	Ecological services Co-design Collective agency	Architecture of enjoyment Healthy greenspace Urban commons

Table 1. Urban ambience types from author's street observations (C. Suau, 2024).

Urban form plays a pivotal role in shaping microclimates, directly affecting thermal comfort and the sensory experience of the built environment. However, in dense and impermeable urban contexts, it often fails to ensure consistently comfortable outdoor conditions. As author underscores (Suau, 2017), microclimatic and sensory designs are fundamental to the production of atmospheric urban spaces. Within this framework, vegetation emerges as a key modulator of urban ambience. Plant communities— including urban forests, parks, street trees, and pocket gardens—act as ambient agents, offering shade, enhancing surface moisture, and reducing ambient temperatures. These contributions are critical to mitigating the urban heat island effect whilst enhancing the experiential and affective quality of public space.

Rooted in sensory and affect theory, ambience encompasses both the physical characteristics of place and the emotional, embodied responses they evoke. For Böhme (1993), ambience is the *"felt space"* generated through atmospheres; similarly, Suau (2017, 2019) and Thibaud (2017) extend this thinking into urban design, focusing on how microclimates and ephemeral interventions animate the lived experience of cities.

The concept of ambience units as defined by Debord (1956) and Constant (1960) provides a somatic approach to sensing and experiencing the city. Complementing this, Lefebvre's Architecture of Enjoyment (1973) offers a design support rooted in the playful and anarchic qualities of urban life. Together, these perspectives deepen in ecological urbanism by highlighting how micro-interventions function as spatial catalysts that foster emotional resonance and sensory transformation within the urban fabric.

The city as transformative ambiences

The city is a fluid, lived, and anarchic space (Sennett, 1970), continuously reshaped by social, climatic, and ecological interactions. A site is not necessarily a place. Unitary ambience is profoundly influenced by the surrounding urban environment. Non-places, as defined by Augé (1992), are spatial configurations that lack a strong sense of identity, memory, or social connection: spectacular and alienated ambiences.

Conversely, ambience is central to psychogeography (Debord, 1957; Constant, 1959, 1960), where it refers to the emotional and sensory atmosphere of a place as experienced through dérive, an unstructured exploration of urban spaces shaped by sensory inputs from climate, architecture, and vegetation. Plants function as *'urban animators and enablers'* within ambience units by (i) reclaiming neglected spaces (e.g. vagabond weeds growing in cracks and interstices); (ii) creating pauses or intimacy within the urban flow; and (iii) transforming outdoor impermeable surfaces with biotextures and porous pavings.

Research questions

1. What are the spatial interactions between psychogeography drifts (Debord, 1956), the anarchic city (Sennett, 1970), and proxemics (Hall, 1966) that nourish urban ambience theories?
2. How do micro-greenspaces modulate emotional perception in dense urban fabrics, particularly regarding authentic and reanimated outdoor ambiences?
3. How do 'ambience units' (Debord, 1956; Constant, 1960) interact to shape public spaces in ways that foster an architecture of enjoyment (Lefebvre, 1973)?

Assumption

The hypothesis is twofold: (a) Plant-based ambiences can be used to animate the sensory experience in grey infrastructure, particularly urban voids, transforming them from *'no-places'* (alienated and spectacular ambiences) to 'places' (authentic and reanimated ambiences) and (b) the presence of authentic and reanimated ambiences significantly enhances the perceived sense of placeness.

Research objective

To critically examine how micro-greenspaces influence individual emotional responses and behavioral patterns within dense urban fabrics, particularly in the context of a gentrified urban fabric in Barcelona, by investigating 'ambience units' both with and without vegetation. This study aims to uncover the role of plant communities as active agents in shaping urban atmospheres and affective spatial experiences, thereby advancing a nuanced understanding of how greenery modulates sensory perception and social interaction in Mediterranean city contexts.

Methods for atmospheric urbanism

The mapping method of the *dérive* (drift) was conducted individually between June 2023 and December 2024 through intentional yet unstructured walks. Barcelona's old town presents a diverse range of ambiences, and this study focuses on three quarters: Ciutat Vella's El Raval, Barri Gòtic, and El Born. These areas differ in street layout, population density, and vegetation types, providing contrasting psychogeographic textures and varied psychological experiences.

The primary task was to identify and select *unites d'ambiance,* which operates like *'atmospheric islands'* distinguished by their unique affective qualities, meaning the emotional and sensory responses they evoke in individuals, including feelings of comfort, tension, vitality, or alienation.

Qualitative approach to psychogeographic excursions

Inspired by the ephemeral movements of a fly that defy conventional perceptions of time and space, Walter Marchetti's artwork *"Observation of the Movements of a Fly on a Window Pane from 7 in the Morning to 8 at Night on a Lovely Day in May 1967"* proposes a *'psychogeographic tecnique of mapping wandering'* applicable to urban travellers to navigate the city by attuning to its ambient-dots—rather than relying on predefined grid-routes suggested by El Corte Inglés, Instagram, or Google Maps.

Focusing on movement, spatial perception, and resistance to structured order, the piece draws from Situationist ideas, favouring intuitive exploration over instrumental navigation. The method is simple: switch off your mobile device to stay fully present. Avoid landmarks and let sensory curiosity guide you. (a) Timing: Take spontaneous walks with breaks in plazas or cafés, lasting about three hours. (b) Routes: Choose unfamiliar areas with ambiguous spatial identities. (c) Objectives: (i) Explore spatial tensions; (ii) identify atmospheric thresholds; (iii) observe 'ambience units'; (iv) sketch micro-climates, textures, vegetation, and emotions like joy, comfort, or boredom; (v) note uses of spontaneous or pop-up greening. (d) Participants: Solo experimenter only, to avoid consensus bias. (e) Tools: Sketchpad and pens—no digital devices. (f) Key questions: Proxemics: How close did I feel to others? Zones of intimacy or avoidance? Placeness: Which spaces felt grounded, generic, or alienating? Urban Form: What features shaped openness or enclosure? Ambience: What emotions arose—rest, tension, or transition?

Drift-focused itineraries	Ambient thresholds linked through motion
1. El Raval	(a) spatial transitions, (b) sensory shifts, (c) material and textural boundaries, (d) social behavioural nodes, (e) bioclimatic boundaries, and (f) visual framing.
2. Barri Gòtic	
3. El Born	

Table 2. Ambient thresholds experienced in drift-focus itineraries. Source: C. Suau, 2025.

A. Design framework for ambience-responsive urban environments: Integrating psychogeography, proxemics, and ambience theory offers a strong toolkit for decoding human experience in outdoor spaces. This interdisciplinary approach blends subjective, cultural, and empirical perspectives to inform designs that are functional, emotionally resonant, and socially engaging. To assess 'placeness' in selected cases, the author uses a structured method combining qualitative perception with quantitative scoring.

B. Quantitative ambient-proxemics metrics: This analytics framework integrates proxemics, psychogeography, ambience theory, and placeness to measure how authentic and reanimated ambiences emerge in urban micro-greenspaces. It reveals sensory dynamics through onsite observation, sketch journaling, and live mapping.

C. Evaluation matrix of outdoor ambiences (scoring tool): To support the comparative appraisal of outdoor ambiences, the author developed a scoring tool based on radial diagram layouts (spiderweb charts) using a 1-to-5 scale. This evaluation matrix is grounded in an integrated

framework for experiencing or exploring placeness, structured around the interconnection of three key dimensions and six indicators: (1) **proxemics**, including **appropriation** (spatial occupancy) and **spacing** (social proximity); (2) **psychogeography**, comprising **ambient** (site-specific sensory atmosphere) and **fabric** (urban form); and (3) **ambience theory**, encompassing **context** (identity) and **bio-climate** (environmental comfort and green cover). Total scores range from 0–6 (very low) to 26–30 (very high), offering a nuanced gradient for interpreting spatial quality.

The assessment was applied to three comparative cases: **Case 1 Interstice**, a bookshop courtyard in El Raval, scored 21, indicating a moderately high ambient performance actively used, engaging, comfortable, and well-defined space. **Case 2 Plaza**, George Orwell square in the Barri Gòtic, scored 17, indicating moderate but less integrated placeness but ambient (2), fabric (3), and bio-climate (2) are weaker. **Case 3 Corner** in Santa Caterina Market (El Born) scored lowest at 14, with critical weaknesses in appropriation, ambient, fabric, and bio-climate, signaling a significant loss of placeness and bio-climate.

Fig 1. Plan of urban voids in Barcelona's Old Town: a comparative evaluation matrix with spiderweb scoring charts for three selected ambience units.
Source: C. Suau 2024.

D. The Botanical Drifter©: a dérive guide for urban travellers

The city is not just a map of destinations, but a living archipelago of ambiences shaped by plants, spatial voids carved out of the urban mass, and emotional resonances. Creating a multi-layered ambience map based on overlapping atmospheric units requires deviating from fixed paths. This guide uses self-journaling with sketches, spontaneous routing, and cultivated curiosity. The route unfolds through a sequential stepping-stone method involving sensory immersion, spatial proxemics, atmospheric reflection, sketch journaling, and emotional cartography. It integrates three dimensions: (a) spatial perception as emotional constructs, (b) movement through space, and (c) lived spatial experiences.

Conclusion

This assessment confirms that balanced performance across the indicators of appropriation, spacing, ambient, fabric, context, and bio-climate is crucial for sustaining vibrant, meaningful urban spaces. Case 1 excels with strong scores in bio-climate, fabric, context, appropriation, and ambient qualities. In contrast, Cases 2 and 3 exhibit significant weaknesses, particularly in ambient and bio-climate, reducing sensory experience.

These findings highlight the need for integrated design strategies that improve environmental comfort, support social appropriation, and enrich atmospheres to revitalise outdoor ambiences in Barcelona. Drawing from comparative tables, sketches, maps, and spiderwebs, the study proposes a conceptual framework for atmospheric cities, where plant-based interventions shape sensory experience. This approach encourages intuitive, open-ended spatial engagement while resisting commodified ambiences shaped by gentrification. The research rethinks ambience theory and methods, offering an alternative for ambience-responsive urban design with relevance to architecture, urbanism, and geography by bridging ecological and experiential dimensions.

Aligned with COST Action CA23145, the study proposes future research into: (i) links between environmental psychology and outdoor ambience; (ii) sketch journaling as spatial method; (iii) temporal dynamics of urban voids; and (iv) critiques of the Disneyfication of public space. Ultimately, it challenges the divide between authentic and reanimated versus commodified and alienated ambiences, showing how vegetation and spatial looseness can reanimate the architecture of enjoyment.

Research ethics statement

This study declares no conflict of interest and constitutes an independent, selffunded contribution by the author to the COST Action CA23145 (CitySenZ) research network. It fully complies with ethical standards and the EU GDPR. IP and copyright laws are rigorously upheld, with the author retaining full rights to original data and outputs.

266

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267

Augmented Landscapes.
ICT and the Narrative Dimension of Landscape Design to Enhance Urban Ambiences

Matteo CLEMENTE[1]

1. Researcher in Landscape Architecture, Department for Innovation in Biological, Agro-food and Forest Systems (DIBAF), Tuscia University, via S. Camillo de Lellis, 01100, Viterbo, Italy. e-mail: m.clemente@unitus.it.

Abstract.

This paper explores how Information and Communication Technologies (ICT) can enhance the narrative and sensory dimensions of urban landscapes. Moving beyond the ecological and morphological, landscapes are seen as palimpsests of human actions, memories, and emotions—shaping unique urban atmospheres. Drawing on theories by Corner, Pallasmaa, Böhme, and others, the study argues for multisensory design that engages the body and senses. ICT tools such as augmented reality, interactive installations, and sensor-based systems are presented as means to layer new narratives onto existing spaces—creating "augmented landscapes" that are immersive and emotionally resonant. However, the paper also warns of potential pitfalls, such as digital noise, symbolic colonization, and exclusion, stressing the need for context-aware and participatory approaches. Ultimately, ICT should not replace but complement physical design, reinforcing cultural identity and fostering engagement. By harmonizing technology with spatial storytelling, landscape design can create responsive environments that are both meaningful and inclusive.

Keywords:

Augmented Landscapes, Narrative Landscapes, ICT, Urban Ambience.

Urban Landscape between Human Action and Narrative

The urban landscape, beyond its ecological and morphological dimensions, takes shape as a narrative and performative device. It is not merely a passive backdrop, but a living and ever-changing stage where human actions intertwine with memory, identity, and emotion. As James Corner notes, the landscape is a palimpsest in constant transformation—a dynamic archive layering cultural values, collective memories, and social practices (Corner, 1999). From this semiotic perspective, the urban landscape tells the stories of the city and the people who have shaped it. It is not only a matter of building features, the relationship between morphology of the urban fabric and spatiality, or architectural language. The dominant colors of building facades, the materials of sidewalk pavements, street trees, signage accessories, urban furniture, shop windows, city sounds, smells, and even the moods of people inhabiting public spaces all contribute unique connotations to places, shaping their atmosphere.

There is a certain *mood* in urban landscapes that, when distinctive, makes a place recognizable or even identifiable from a single image. Through cognitive processes that begin with the perception of space, an attentive observer can decode the connotative linguistic elements of an urban scene and retrieve memory patterns that enable recognition. Some places exude a high sensory charge that makes an atmosphere palpable, aligning with Peter Zumthor's (2006) notion of architectural atmospheres as emotional resonances shaped by materials, light, and sound. The concept of atmosphere, as broadly defined by theorists like Gernot Böhme (1993) and Tonino Griffero (2013),

effectively incorporates the idea of the urban landscape not just as a backdrop for human action, but as a multisensory environment that is bodily inhabited and perceived through vision, hearing, smell, touch, taste, and movement. It is not about measuring environmental characteristics, but about *feeling* situations and experiencing the sensory texture of social life (Thibaud 2022).

This phenomenological perspective echoes Merleau-Ponty's view of perception as an embodied and pre-reflective engagement with the world (Merleau-Ponty, 2005 [1945]). Similarly, Finnish architect Juhani Pallasmaa conceives built space as an extension of the body and the senses. In *The Eyes of the Skin* (1996), he critiques the hegemony of vision in modern architecture and advocates for multisensory design, in which touch, hearing, smell, and bodily memory play a central role in shaping spatial experience. His later reflections further explore how peripheral perception shapes existential experience of space and place palpable (Pallasmaa, 2014). An emblematic example of an immersive, multisensory public space is the *Garden of the Five Senses* on the Île de Beaulieu in Nantes. Rehabilitated in 2015 (30 years after its initial creation), this garden is organized into thematic areas that stimulate hearing, smell, touch, taste, and sight through musical water features, aromatic vegetation, textured pavements, edible plants, and vibrant seasonal changes. A similar approach can be found in the sensory garden designed by **mt**studio in 2013 at the Parco delle Rupicole in Rome, where native plantings, tactile surfaces, and carefully orchestrated spatial sequences invite an active, embodied experience of the landscape.

Figure 1. Sensory Garden at Parco delle Rupicole, Rome (mtstudio, 2013), designed for inclusive, multisensory engagement.

In urban contexts, to create atmosphere means designing not only for the eyes, but for all the senses—engaging users in the action. The urban landscape—strengthened by the increasingly desired and needed presence of greenery, and animated by the choreography of people moving through space—directly engages the body. Lawrence Halprin, in his writings (Cities, 1963; *The RSVP Cycles*, 1969), emphasizes the active role of the body in shaping the urban experience, highlighting the importance of movement and rhythm in spatial perception. As Annalisa Metta (2021) observes, the city, even before being a place in a topological sense, can be understood as a relational field shaped by triangulations between bodies, whose movement is both cognitive and configurative. A compelling example is the Ira Keller Fountain in Portland, completed in 1970 by Halprin, which offers a spatial experience in which users can walk through and interact with the water scenography—engaging in an immersive encounter that activates all the senses.

Landscape design thus operates on two intertwined levels: the physical and material components of the context—such as topography, vegetation, and spatial organization— and the immaterial and narrative components, including the cultural, semantic, and identity-based values tied to place. In this sense, landscape design enacts a "light-handed" overwriting of the place, adding only a few new signs that allow already-written stories to emerge. Sometimes, when spatial reconfiguration

is not feasible, the project acts on the semiotic level, through narration, communication, and storytelling, superimposing additional content and layers to recreate atmosphere.

Augmented Narratives through ICT

There are various areas within landscape design where narrative and communication techniques can be used to promote public engagement, particularly through Information and Communication Technologies (ICT). These are contexts we might call "augmented landscapes," where the design overlays cultural, communicative, or multimedia layers onto the physical and material environment. For example, augmented reality (AR) applications can overlay historical narratives or visual reconstructions onto archaeological landscapes, enabling users to interact with different temporal layers of a site. Using a smartphone equipped with a dedicated app, one might view scenes from ancient Pompeii or the Circus Maximus in Rome projected onto the present-day setting—or access contextual information about city monuments via virtual signage. Similar digital enhancements can enrich nature trails, rural areas, and historical villages.

Art installations and temporary pavilions have long served as experimental arenas in which multimedia tools are used to communicate meaning and elicit emotional engagement. The *breathe Austria* pavilion at Expo Milano 2015, for example, recreated the atmosphere of a dense forest using misting water jets and ambient forest sounds to simulate a humid, immersive environment. Even a decade later, it remains a vivid memory for many visitors. Carlo Ratti, with his MIT Senseable City Lab, has explored the intersection of technology and nature through a series of interactive micro-gardens developed for ENI during Milan Design Week. These installations align with the vision laid out in *The City of Tomorrow* (Ratti, 2016), where cities are conceived as responsive, sensor-rich environments. In 2022, the pavilion *Feeling the Energy*, located in Milan's Botanical Garden, presented a sequence of garden spaces animated by light and responsive systems to illustrate how energy can be produced from the sun, wind, and human movement. The 2021 project *Natural Capital* instead visualized the capacity of various tree species to absorb and store CO_2, emphasizing the ecological role of urban vegetation. Similarly, OFL Architecture has experimented with multisensory design through the *Zighizaghi* garden - where sound, smell, and interactivity shape the spatial experience - and the *Wunderbugs* installation (Rome 2014), an interactive wooden pavilion equipped with environmental sensors. These devices capture variations in the surrounding landscape and enable insects to modulate a generative sound composition, creating a dynamic interplay between nature, technology, and sound.

Figure 2. On the left, **Natural Capital** by Carlo Ratti Associati (Brera Botanical Garden, Milan, 2022); on the right, **Wunderbugs** installation by OFL Architecture (Rome, 2014).

In today's hybrid physical-digital urban condition, ICT offers unprecedented opportunities to expand the narrative and sensory dimensions of landscape. AR, VR, environmental sensors, interactive projections, multimedia installations, and participatory platforms can all superimpose emotional, informative, and interactive layers onto built environments (Manovich, 2006). ICT does not merely deliver data: it enables situated storytelling, transforming ordinary spaces into responsive environments that react and adapt to human presence, stimulating emotional engagement, memory, and imagination. Sensor-based systems can respond to changes in light, sound, or air quality and adjust public space components such as lighting or soundscapes, thus enhancing the experiential quality of place. Harvard's Responsive Environments and Artifacts Lab (REAL) has conducted experimental research for years on technological applications in urban environments. Pulsus (2017), developed in collaboration with INVIVIA and the REAL Lab, is an ambient, interactive bench that collects real-time city data and translates it into immersive soundscapes.

These tools create new forms of user interaction, fostering deeper public engagement and revitalizing urban space through meaningful, technology-mediated experiences.

Responsive Environments and the Storytelling of Landscape: Critical Reflections

The concept of the responsive environment is rooted in the dynamic interaction between humans and space, mediated by technology. Unlike static settings, responsive environments possess a relational dimension: they are designed to detect external stimuli—whether visual, auditory, thermal, or behavioral—and to react through tangible or symbolic transformations, such as changes in lighting, soundscapes, or narrative cues.

Within urban landscapes, Information and Communication Technologies (ICT) can amplify the narrative and sensory dimensions of space in multiple and integrated ways. They make it possible, for instance, to superimpose stories, memories, and contextual information onto physical places through tools such as augmented reality—accessible via smartphones, AR glasses, or site-specific installations. At the same time, they enable direct sensory interaction, where the environment responds to users' presence and movement through light, sound, or digital animations, thereby enhancing the immersive quality of space. Another important potential lies in actively involving citizens in the narration of the landscape through participatory platforms that gather images, memories, and individual contributions. The playful dimension of public space can also be enriched through gamification strategies that stimulate emotional exploration and cognitive mapping of the city. Finally, ambient intelligence systems allow spatial features—such as lighting, acoustics, or information displays—to be modulated in real time based on environmental conditions and user behavior.

Despite their potential, these technologies also present risks when applied without contextual sensitivity. Digital overlays may oversimplify or commodify cultural meanings, diluting the specific historical and emotional resonances embedded in a place and fostering effects of spectacularization or even Disneyfication. As Pérez-Gómez (2015) emphasizes, architectural meaning is inseparable from mood and embodied experience, dimensions that cannot be fully captured through informational layers alone. To mitigate these risks, technological interventions

271

must be grounded in a careful and situated reading of the local context, with full respect for the landscape's environmental, cultural, and historical complexity. When such awareness is lacking, several critical issues may emerge. One is information overload—the saturation of space with stimuli, or "digital noise," which can disrupt contemplative and bodily engagement with the environment. Another is digital exclusion, whereby unequal access to technologies creates new forms of social marginalization. A third concern is symbolic colonization, in which pre-packaged, top-down narratives override local memory and erase the plural voices of residents.

For ICT to serve as meaningful tools in landscape design, they must be developed through a participatory and attentive engagement with place. Responsive technologies should not replace the material dimension of design, but rather act as complementary instruments— enhancing atmosphere through the integration of corporeality, memory, technology, and co-creation. In this sense, ICT-enhanced landscapes are most effective when they foster a deeper sensory and emotional relationship with place. By enriching the storytelling capacity of the urban environment, such responsive interventions can contribute to collective well-being, reinforce local identity, and cultivate a shared responsibility toward environmental and cultural heritage.

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273

274

WATER HERITAGE
& SENSITIVE MEMORIES

Affective materialities in the sensory urban environment of Istanbul's memory spaces

Ayşe EREK[1]

1. Kadir Has University, Faculty of Art and Design, Turkey, ayse@erek@khas.edu.tr.

Abstract.

This paper explores Istanbul's urban space through oppositions, disturbances, and dispersions, using the KarDes mobile walking application as both a research tool and narrative medium. KarDes acts as a virtual guide to the city's multicultural heritage, facilitating sensory and participatory engagement with memory spaces, people, and objects. By combining critical reflection and storytelling, the app encourages users to experience the city through all senses, enabling memories, associations, and aesthetic responses to emerge organically. The paper emphasizes the often-overlooked role of imagination in urban engagement, framing it as a political act that fosters diverse interpretations and co-creation. It critiques deterministic narratives of place, instead proposing a reflective, emotionally resonant approach that values estrangement, longing, and nostalgia (Boym, 2001). Drawing on Massey's concept of a "progressive sense of place," it argues for the recognition and celebration of conflicting, plural heritage narratives that resist essentialist identity constructions in the urban landscape.

Keywords:

Walking, Storytelling, Sensorial experience, Imagination, Cityscape, Istanbul

Introduction: Rethinking Heritage through Urban Walking with KarDes Application

KarDes is a mobile application developed in 2019 as a bilingual (Turkish and English) guide to Turkey's multicultural heritage. The app includes over 2,000 cultural sites— churches, synagogues, mosques, schools, hospitals, cemeteries—and presents them through curated memory tours. These tours incorporate personal narratives, archival photographs, and stories of past residents, narrated by well-known artists. KarDes brings attention to histories often excluded from dominant narratives and offers both in-person and remote engagement. It not only maps heritage sites but also encourages users to reinterpret them through storytelling, personal memory, and walking. Walking becomes a creative act—one of personal discovery and imaginative reconstruction of the city.

Aim and Methodology

The main objective is to observe how users interact with the KarDes application and explore four central aspects of user engagement, guiding our inquiry into how digital tools like KarDes can reshape urban experience, memory, and sensory practices: How KarDes fosters imagination in users' interactions with urban space, how it inspires new routes and relationships with the physical environment, how it responds to contemporary urban dynamics and how it enriches sensory engagement and shapes perception of the city.

Figure 1. Traces of a historical pavement in Galata, Ayse Erek, May 2025.

We adopted a qualitative approach using semi-structured interviews followed by focus group discussions. Participants used the KarDes application for at least one hour in the areas of Karaköy and Galata neighborhood in Istanbul. Beyond this, no specific instructions were given to preserve the openness of the experience. Participants could follow suggested routes, diverge, pause, or explore freely. This unstructured interaction allowed us to observe how users engaged with the app's stories, space, and sensory cues, and how these interactions shaped their personal experiences of memory and place.Route included the Agricultural Bank, Koca Mustafa Paşa Mosque, Kamondo Stairs and House, Ottoman Bank, Ashkenazi Synagogue, Surp Pirgiç Armenian Catholic Church and Saint Benoit High School and Church. The app suggests a tour time of 1.5 hours. Some participants preferred to linger at certain sites and take detailed notes. 10 people, 8 aged between 20-30 and 2 people over 50, all living in Istanbul, participated the tour.

Theoretical background

This research benefits from 3 main theoretical routes and concepts: Cultural heritage, cultural memory, and storytelling. Teller and Bond (2002) emphasize that the meaning of cultural heritage is closely linked to how it is identified and valued. Traditionally, heritage recognition has followed a top-down model, where experts assess and designate sites or objects for inclusion on official heritage lists, such as the World Heritage List or local registers. However, this approach often limits public involvement. In contrast, the increasing democratization of culture highlights how

Figure 2. Surp Pırgiç Church, Ayse Erek, May 2025.

local communities contribute to defining heritage values based on their own experiences, memories and attachments. Public perceptions, everyday practices, and emotional connections to places play a crucial role in shaping what is considered culturally and historically significant. As a result, more inclusive and participatory approaches are gaining importance, such as KarDes walking application, reinforcing the connection between heritage, cultural memory, place identity, and a sense of belonging. This, in turn, fosters a stronger sense of public responsibility and engagement with the preservation and interpretation of heritage.

Catalina Ortiz closely examines storytelling's role in fostering imagination, highlighting the importance of non-discursive narratives (2022). She argues that storytelling has the power to create empathy and engages with multiple actors who operate across different scales of the built environment, often within unequal power and knowledge relations (2022, 406) and stories serve as a vital means of circulating urban knowledge and bridging diverse "ecologies of knowledges" (Ortiz, 2022, 408). Storytelling is described as a non-disciplinary, everyday practice that connects emotional, intellectual, and practical experiences (de Sousa Santos, 2014, cited in Ortiz, 408). Planning scholars have variously framed storytelling as a persuasive strategy (Mäntysalo et al., 2019; Throgmorton, 2003), a way to examine power and ideology (Davoudi et al., 2019; Shepherd et al., 2020), a pedagogical tool (Baum, 2017; Forester, 1999, 2009), and a means to envision futures and inspire collective action (van Hulst, 2012). While walking with KarDes application, we've focused on storytelling mainly as a tool that related to lived experience and emotions and how the app enabled developing shared understandings of their circumstances and explore new possibilities previously unconsidered.

Figure 3. Agricultural Bank, Ayse Erek, May 2025.

Outcomes

KarDes facilitates a dual form of engagement: While it provides structured routes, it reveals hidden dimensions of the city and encourages free-form exploration. Its interactive design allows users to add favorite locations, share stops with others and expand upon existing routes. Users actively participate in reshaping their experience of urban space, rather than passively consuming information. This flexible and open-ended interaction empowers individuals to create unique, embodied journeys—turning walking into a reflective and imaginative act.

Participants' responses highlight two key themes: Contestations in urban sites and the enhancement of cultural memory within the existing urban ambience.

The historical sites of Istanbul reveal stories of loss, transformation, and contested memory. **The Koca Mustafa Paşa Mosque** no longer exists, having been destroyed during the expansion of a boulevard; in its place now lie part of the road and an empty pedestrian square. A local tale claims the mosque was lost in a shipwreck while being relocated to Kınalıada, and one participant recalled seeing its ruins as a child. **The former Ottoman Bank**, meanwhile, holds a lesser-known narrative that includes an Armenian gang raid, reflecting the politically charged atmosphere of the late nineteenth century. **Surp Pirgiç Church**, once a grand Armenian Orthodox complex with a monastery and a courtyard framed by arched colonnades, was partially demolished for street expansion. Though physical remnants—such as an arch and a blind façade—still exist, they go largely unnoticed by passersby, symbolizing the erasure of history in the city's urban fabric. **The Saint Benoit Church and High School** stands as a palimpsest of Genoese, French, and German influences; following WW1 and the founding of the Turkish Republic, the school was closed, religious symbols removed, and the structure suffered fire damage. Despite this, it saw periods of restoration, including imperial contributions like the gifted gifted, underscoring the layers of history and power embedded in the site.

Regarding the enhancement of cultural memory, the application offers a wealth of historical and everyday life details. At **the Kamondo Stairs**, the narrative tells the story of the modification of the staircase to ease a granddaughter's commute to school, revealing deeply personal connections to the space. The renaming of streets has contributed to the erasure of certain spatial markers, further complicating these connections. At **the Agricultural Bank**, sensory details—like a street musician playing during the walk, created a layered experience. At **the entrance of Bankalar Street**, two participants recalled personal memories of Karaköy—jam sessions and an old art network—demonstrating how individual experiences can evolve into collective memory. Throughout the route, the narrative unfolds, centering on a diverse array of religious and cultural landmarks—a vanished mosque, various churches, a synagogue, a Jewish-built staircase, and banks once run by British and French interests—together evoking Istanbul's cosmopolitan legacy and its fraught sociopolitical history. A recurring theme noted by participants was the post- Crimean War era, marked by increased migration, cosmopolitanism, and economic openness, which served historical backdrop for much of the tour.

Figure 4. Koca Mustafa Paşa Mosque's location, now an empty square, Ayse Erek, May 2025.

Participants' experiences with the app revealed a rich, multi-sensory engagement with the city, described as a sensorial palimpsest where layers of sight, sound, and memory overlapped, blurring the boundaries between past and present. Time was perceived as fluid rather than linear, as the app encouraged movement between historical events and personal recollections, challenging conventional narratives of history. Stories conveyed through the app often felt fragmented or selectively curated, drawing attention to certain histories while leaving others absent, underscoring the partiality of memory and representation. Despite the minimal use of actual soundscapes, participants emphasized the importance of sound in shaping spatial imagination and emotional connection to place. Storytelling emerged as the primary mode of engagement; rather than relying solely on factual information, narratives gave depth and meaning to the sites. Many participants found that intentionally tuning out the ambient city noise helped transform the urban landscape into a stage for introspective walking, enhancing immersion. The app also redirected attention from grand monuments to the subtleties of everyday life— people, movements, and overlooked architectural details—encouraging a more grounded and intimate interaction with the city's layered environment.

Heritage plays a central role in this walking tour, shaping collective memory and fostering a sense of belonging. It emerges not only from preserved material remnants but also through the interpretation of history and shared memory (Pendlebury, 2014). In this sense, as a cultural resource, heritage contributes to both individual identity and community cohesion. In this sense, KarDes disrupts conventional, expertdriven narratives by inviting users to reimagine and reinterpret historical sites.
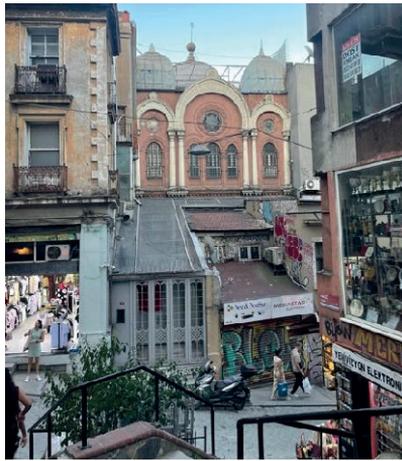
Figure 5. Ashkenazi Synagogue, Ayse Erek, May 2025.

In this study, storytelling is understood as more than a narrative technique; it is a tool for imagination and an inherently political act. Storytelling fosters alternative ways of relating to space and supports the co-creation of knowledge by engaging non-planners in the meaning-making process (Ortiz, 2014). It allows for fluid interplay between memory, association, and perception—offering a narrative-rich experience without confining the user to a linear or uniform path. Its true strength lies in how it enables detours, pauses, and personal reinterpretations of the city. This research argues that fostering imagination through digital tools like KarDes app is vital for enabling more inclusive, reflective, and participatory relationships with the urban environment and its ambience where sensorial experiences, perceived through a non-linear temporality, intersect with cultural memory, storytelling, and imagination.

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Flowing Histories: The Ambiance of Mill Races in Urban Space

Katarina KRISTIANOVA[1], Juraj ILLES[2]
1. Slovak University of Technology in Bratislava – Faculty of Architecture and Design, Slovakia, katarina.kristianova@stuba.sk
2. Slovak University of Technology in Bratislava – Faculty of Architecture and Design, Slovakia, juraj.illes@stuba.sk

Abstract.

Mill races—once integral to pre-industrial water infrastructure—persist as subtle yet evocative features in many urban landscapes. Though often overlooked, these linear waterways generate distinctive multisensory ambiances shaped by flowing water, spatial rhythm, historical memory, and ecological resonance. The paper explores the ambient qualities of urban mill races through case studies from Slovakia and the Czech Republic, revealing how their presence mediates between natural and built environments. Drawing on methods of multi-modal sensory and in-situ observations, and semi-structured interviews, we examine and capture the aspects of experiencing the presence of mill race channels in the urban fabric. The results show that the mill races are perceived not merely as nostalgic remnants but as living systems that enrich urban ambiance and identity. The sounds of flowing and falling water, the sounds of water wheels, the feelings of improved humidity and microclimate, and the re-imagination of historical memory are observed as the main features contributing to the ambiance of urban space along mill race channels. On the other hand, the lack of water quality and the smell of polluted water in cases of improper maintenance generate negative attitudes toward the presence of water in urban spaces. The work advocates for a more attentive and imaginative engagement with urban hydrological features in shaping atmospheres in urban spaces.

Keywords:

Waterscapes, Mill races, Blue infrastructure, Heritage, Ambiances

Introduction

Mill races, which enabled the use of water energy for various economic purposes, were an important infrastructural part of many urban settlements in the past. Where the natural geomorphological and hydrological conditions allowed, they were built as regulated or artificially created watercourses and served as a source of energy for driving mills. They made it possible to use the hydropower potential of the water flow to drive mechanisms that enabled grinding, sawing, crushing ore and stone, forging iron, shaking and combing flax and hemp, or beating and felting woolen fabric into cloth. They were often built in direct contact with the cores of historical towns and were part of complex water systems. With the invention of the steam engine and the expansion of the use of other energy sources, such as coal, they began to lose their importance and in many cases were buried or piped (Illéš, 2022; Illéš, Joklová, Jaszczak, 2023). Those mill races that have been preserved up to today represent a significant potential for strengthening the multiple benefits of urban blue and green infrastructure and for maintaining the specific genius loci in urban environments (Kristiánová, Gecová and Putrová, 2015).

The research on urban mill races aimed to explore the ambiance and capture the main aspects of experiencing the urban atmospheres shaped by flowing water, spatial rhythms, sounds, smells, historical memory, and ecological resonance. According to Thibaud (2011): "..., an ambiance can

be defined as a time-space qualified from a sensory point of view. It relates to the sensing and feeling of a place. Each ambiance involves a specific mood expressed in the material presence of things and embodied in the way of being of city dwellers. Thus, ambiance is both subjective and objective: it involves the lived experience of people as well as the built environment of the place." (Thibaud, 2011). The sensing and feeling of the mill race water channels in urban space are associated with a strong attachment of human societies to water. Through its direct use and avoidance of its risks, human societies have developed strong spiritual linkages towards water (Wantzen, 2022).

In the paper, we examine the ambiance of mill races through case studies from the towns in Slovakia and the Czech Republic and reveal how the presence of mill race waterways in the urban fabric generates distinctive multisensory feelings of a place.

Material and Methods

For the purposes of mill race ambiance research, two towns with a preserved mill race were selected, Prostějov in the Czech Republic and Nové Zámky in the Slovak Republic (Figure 1).

Figure 1. Location of Prostějov in Czech Republic and Nové Zámky in Slovak Republic, Juraj Illéš, 18 July, 2025.

Prostějov is a town in the Moravia part of the Czech Republic, with about 43,000 inhabitants and an area of 39.04 km2. It was promoted to a town in 1390. Cloth-making, requiring water, was its most important craft industry. The flow of the mill race called 'Čechovický náhon', which branches off from the Hloučela River and flows into the Romža River, is still preserved in the urban fabric of Prostějov (Figure 2).
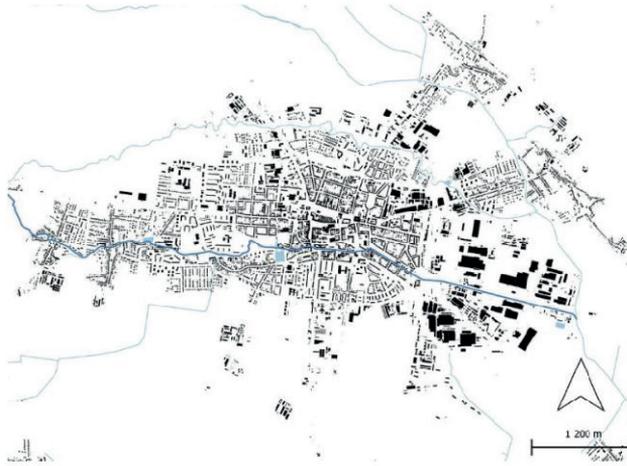
Figure 2. Mill race 'Čechovický náhon' in urban fabric of Prostějov, Juraj Illes, 18 July, 2025.

Nové Zámky is a town in the Nitra Region, with about 36,000 inhabitants and an area of 72,57 km². It developed from a star-shaped fortress built as a defense against the Ottoman Empire, in the years 1573–81 and it gained town rights in 1691. Regulation of the water flows was important for various purposes, from fortification to crafts production. The Tanners' guild, founded in 1609, was the oldest craft guild, and grain mills also had a significant importance for the town. The preserved mill race channel branches off the Nitra River and its corridor today forms a recreational zone of the town. (Figure 3).
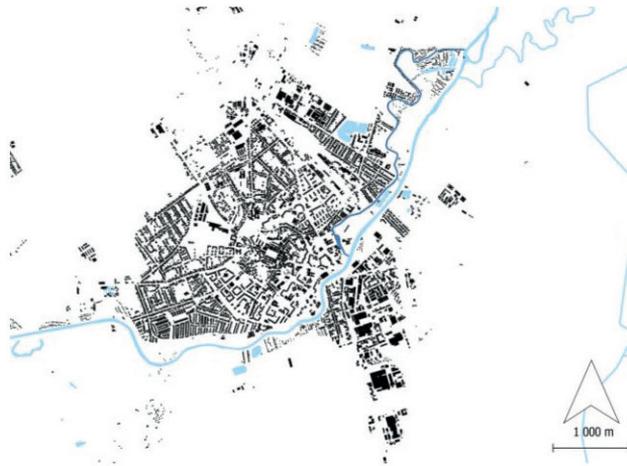
Figure 3. Mill race in Nové Zámky, Juraj Illes, 18 July, 2025.

In both towns, the methods of multi-modal sensory in-situ observation and semi-structured interviews with users and visitors of urban public spaces along the mill race channels were used to reveal the perceived ambiance of a place. The research was conducted in June 2024, and in each case, 12 respondents were interviewed. A multi-sensory approach involving a focus on multiple senses (sight, sound, touch, smell) and semi-structured interviews combining a pre-determined set of open-ended questions allow the flexibility to explore emerging aspects by follow-up questions during the conversation, including the aspects of experiencing the cultural memory of mill race

channels. This approach was used to provide a richer, more nuanced understanding of the mill race ambiance phenomenon.

Results

Experiencing the ambiance of a mill race in Prostějov

In Prostějov, the need to revitalize the mill race was conditioned by the significant dissatisfaction of the residents living near it. Before its revitalization, the bed of the mill drive was almost dry, smelled strongly, and was heavily polluted with garbage. After the revitalization, the environment around the mill race, especially in the part flowing through the park 'Kolářovy sady', is a popular relaxation and recreation place (Figure 4). Today, citizens appreciate the benefits of water flow for increasing the quality of the environment. Most respondents consider the investments required for regular maintenance of the mill race to be money well spent. Currently, guided walks are also organized along the route in the form of commented tours, sometimes the underground piped part of the mill race drive 750 m long is made accessible to the public. These activities strengthen the awareness of heritage values and citizens are proud of the mill race and its history.

Figure 4. The part of the mill race in the Park 'Kolářovy sady' in Prostějov, Juraj Illes, 23 June 2024.

Experiencing the ambiance of a mill race in Nové Zámky

In Nové Zámky, the beginning of the mill race is formed by a dam on the Nitra River. The water falling into the river creates water cascades, and the place is a popular destination for walks for its specific ambiance associated with sound. The historical name of this place, 'Zúgov,' comes from the Hungarian word "zúgó" and describes the sound of roaring, falling water. The mill race supplies water to several fish ponds and the whole area along the mill race is used for various forms of recreation, fishing, gardening in allotment gardens, or sports activities. The main football stadium, children's playgrounds, and thermal swimming pool are situated on the island between the mill race and the river (Figure 5). Respondents refer to the diverse character of individual places along the mill race, talk about quiet fishing spots, or busy places full of life around the sport and playgrounds. They also perceive the changing atmospheres of the places during the day or the seasons. Several respondents expressed their desire to soak their feet in the mill race during hot weather.

Gardeners in allotment gardens mention that when the municipality cleaned up the mill race, they were not satisfied because the extracted sediment–mud remained alongside the mill race and ruined the ambiance. They are interested in maintenance and organize self-help events to clean the mill race. The perception of the biodiversity values and ecological functions of the wildlife along the mill race is low. Observation in the allotment garden area showed that some gardens are fenced against the mill race (Figure 5), and some of the interviewed gardeners expressed that they prefer maintained spaces and feel fear of uncontrolled nature and animals.

Figure 5. The part of the mill race in the allotment garden area in Nové Zámky, Juraj Illes, 23 November 2024.

285

Discussion

The results show that the mill races in both towns are perceived not merely as nostalgic remnants but as living systems that enrich urban ambiance and identity. The sounds of flowing and falling water, the sounds of water wheels, the feelings of improved humidity and microclimate, and the re-imagination of historical memory are observed as the main features contributing to the ambiance of urban space along mill race channels. On the other hand, the lack of water quality and the smell of polluted water in cases of improper maintenance generate negative attitudes toward the presence of water in urban spaces.

Conclusion

The research on perceptions of mill races in urban space proved that the sensing and feeling of mill race places is very dynamic, it varies over time and space and reflects subjective perceptions of objective physical features of the environment through situations generated in social activities and use of space. Wantzen (2022) discusses the approaches to revitalize the socio-ecological linkages to the rhythm of the waters and characterizes its inherent dynamics: "The hydrological patterns of all natural water bodies pulse in variable rhythms of high and low water. The biodiversity of these ecosystems is driven by the changing nature of the environment, allowing different life strategies to coexist, ..." (Wantzen, 2022). In this context, an understanding of the dynamics of ambiances could contribute to the adoption of more attentive and imaginative engagement with urban hydrological features in an urban environment and shape their positive perceptions within an urban space.

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Art Nouveau and Water – Interdisciplinary investigation of the ambiance of a Spa
From the exterior green infrastructure to the interior space of blue infrastructure – contribution to well being

Maria BOSTENARU DAN[1]

1. "Ion Mincu" University of Architecture and Urbanism, Department for Research Management, Bucharest, Romania, maria.bostenaru@uauim.ro

Abstract.

This paper aims to analyse the contribution of architecture as an ambiance for the therapy in a spa. The chosen case study is an Art Nouveau (in Hungary Szecessszió) spa on the Danube shore. The multisensorial experience of a spa is outlining the well being and health contributions of the proper design of interior spaces, which is less researched than the well being and health contributions of landscape architecture. These are first introduced and the connection is drawn by the blue-green infrastructure promoted as nature-based solution. Water is common to the garden and interior space and the author has also contributed to such designs. The spa can be the winter variant of the sand and sun holiday for bathing at the sea, for rest and mental health, as winter gardens are for walk.

Keywords:

Five senses, Perception, Paradise garden, Architecture and water, Health

Introduction to a landscape of senses
Paradise garden

In frame of the landscape architecture professorship of Dieter Kienast in Karlsruhe, Germany, a seminar topic was to design the "paradise garden" in 1997. One student used the approach then: experience through all the senses, particularly by exploring different materials in complete darkness, new in Germany (pioneered by Dialogue Social Enterprise GmbH founded in 1988 by Andreas Heinecke) of "Dialogue in the Dark" exhibition. Exploring the "fully darkened environments, where sight is absent and every other sense—touch, sound, smell, and taste—is intentionally activated and heightened" (Dialogue in the Dark, 2025) is done with blind guides. The sensory exploration means eliminating the sight and "distinguishing textures, discerning ambient sounds, identifying scents, and even sampling tastes". This approach features several other dimensions besides the sensory experience: empathy with disability and also phenomenological perspective (Saerberg, 2007, Shakespeare, 2014).

In 2025 in frame of the inclusiveness directed projects at the "Ion Mincu" University for Architecture and Urbanism the exhibition *Tak_Til* was done, emphasizing the role of tactile sense as therapy through sensory experiences (UAUIM, 2025).

Oriental garden

The "paradise garden" proposed by the author at the above-named exercise was a garden inspired from the Chinese mythology: how elements like fire, earth, water, air can be transposed in spatial compositions.

In fact, oriental gardens are not far from the approach of experiencing landscape with all senses and by doing so from the proposal of the paradise garden based on the "Dialogue in the Dark" approach. A Japanese (Cerwen, 2019) or Chinese (Wu, 2024) garden is a multisensory experience involving all five senses and in addition sixth sense of presence or stillness (Table 1).

Sense	Japanese Garden	Chinese Garden
Touch	Textured paths: Stepping stones, gravel, moss Natural materials: Bamboo handrails, stone lanterns Interactive water: bamboo water clackers	Winding walkways: Pebbled mosaics Moon gates/carved doors: Smooth wood, polished stone Pavilions with carved furniture for rest
Sound	Silence/Negative space Nature's acoustics: Wind in bamboo, distant water, birdcalls Bamboo clack.	Layered sound: Waterfalls, and live or recorded music guzheng or dizi. Pavilions for echoes: Garden walls designed to carry soft voices and amplify chirping – for meditation
Smell	aromas: Pine needles, tea plantings Seasonal scents: Plum blossom in spring, autumn leaves, fresh rain on moss.	Scented plantings incl. lotus flowers in ponds Sacred incense: Burned at pavilions or altars
Sight	Zen dry garden: gravel, isolated rocks Asymmetry distant hills, trees outside the garden as part of composition Seasonal colour: Maple leaves in autumn, cherry blossoms in spring.	Visual layering: Rocks, water, buildings, plants in visual depth. Framed views: gates and windows serve as living painting frames – read the composition as a poem Yin-yang balance: Hard vs soft, light vs shadow.
Taste	Tea ceremony, seasonal sweets	Teahouse, herbal infusions
Presence	Zen reflection	Daoist

Table 1: Multisensory experience of Japanese gardens

The series of garden designs in the seminar continued under the subsequent professorship of Henri Bava and the author designed a garden after these principles in a real setting: different textures, between natural and mineral, presence of water, framings, inclusion of a house. Both gardens are shown in Fig. 1.

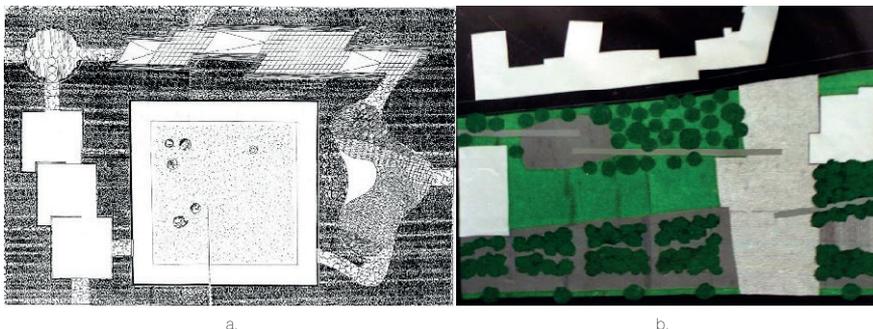a.   b.
Figure 1. Multisensory oriental garden designs, Maria Bostenaru Dan, 1997-1998. For a complete image set see Bostenaru Dan (2010).

Like in case of the paradise garden, also in case of these oriental gardens the multisensory experience has (mental) health effects (Sun and Dong, 2022, Guo et al, 2025). The contribution of landscape architecture for well-being has been previously recognised by the author (Panagopoulos et al, 2016).

Architecture and water

Nature based solutions promote not only the green, but also the blue infrastructure. Blue infrastructure, connection between architecture and water, can be also seen at building level, not only on urban design level (place, garden), namely in the buildings of spas.

The example chosen here is an Art Nouveau spa. The oriental, in particular Japanese influence, the approach of which in case of gardens has been shown, influenced Art Nouveau in terms of line/composition, nature motifs, color and space, ornamentation and texture (in case of Secession, which is also the case in the study here, inspired from textile), philosophy and aesthetics. The latter is directed to natural materials. Nature motifs from the Japanese plants, waves (here water, which must be present however in any garden, not only Japanese), animals to floral lamps, organic architecture in Art Nouveau. More can be read on the topic in Lancaster (1952).

Case study: The Gellért spa

The Gellért hotel, spa and restaurant in Budapest is one of the remarkable creations of Art Nouveau. Budapest is an Art Nouveau city. Budapest is also a city remarkable for its spa's, some of them being built during the Turkish occupation (under Mustafa Sokollu Pasha), still functioning as in the 16th century, unlike other locations where these are archaeological sites, as the Roman time baths are, while some others at turn of the century. A special case is the Rácz bath, where the Turkish bath has been extended by Miklós Ybl.

Building of spa's and of the respective resorts, some of them UNESCO listed, has been a core idea in Art Nouveau architecture, and we visited some other cities related to this kind of architecture, for example San Pellegrino terme in Italy and Băile Herculane in Romania.

During a DOMUS scholarship funded by the Hungarian Academy of Sciences we had the occasion document spas. A first item of interior-exterior consistency at this bath is the fenestration in the ceiling: vault ceilings with glass bricks above all pools and also above the hall and dressing rooms. A second item is the interior-exterior connection, the bath also featuring an outdoor pool. Water, not vegetation, is the one assuring the connection. Water is here represented like a healing element (but also in other contexts, as endangered habitat or as danger/hazard in excess/flood or lack/drought). The waterbuilding connection renders a special ambiance.

The Gellért spa is also situated on the Danube shore in Budapest, another connection to water. The issue of blue-green infrastructure has to be highlighted, as the vegetal element is connected to water as source of its life, and we see here vegetal elements in the decoration.

We analysed to which amount the function of the spa has been adapted to meet the Art Nouveau requirements by training currently the building of a contemporary spa. For the contemporary project we recommend more thinking on green walls (as in the Genova aquarium).

We also put in context the opening of Art Nouveau to more light compared to the antique Roman baths (of which we made a building survey) and to the Turkish ones. Light an element of ambiance determined by the Art Nouveau fenestration and eventually fountains, which bear sound as well, and so different of Ottoman architecture which brought them there.

Temperature and humidity are felt ambiances by breath, like smell, and skin, which cannot be reproduced like visual and sound (although the sound of water is notable) elements and determined by water. They are also the ambiance for plants, should green walls be included.

This is why spa-s are an element of well-being, more directly linked to health than vegetation, and part of the green-blue infrastructure. To the investigation of the effects felt on the body, beyond the tactile senses, is also the hydrogeological composition of water, which deserves more interdisciplinary investigation. So (landscape and interior) architecture, archaeology, geology, medicine shall be included.

Conclusions on the multisensory experience of the spa
As already introduced, several elements of a spa make it a multisensorial experience. Table 2 shows how these are addressed, in a similar way as in the gardens.

Spas are explicitly recommended as therapy, including the healing properties of water, but the ambiance of the place is also a health therapy instrument. Not only the architecture of the place contributes to this (ex. through sight and sound, which are the one which can be recorded) but also the experience of the body in the space through activities (movement but also ceremonials of taste and touch). The ambiance of a spa shows how not only gardens, which, with exception of winter gardens, are external spaces, but also interiors can be designed in such a way as to contribute to mental health and well-being.

Sense	Spa
Touch	Textural diversity: Smooth pebbles, cool marble benches, warm towels, fluffy robes, silky oils Hydrotherapy: hot and cold pools/showers, steam, mist Massage
Sound	Soundscape design: Water trickles or curated silence. Live/recorded music Tactile sound: Vibrational therapy beds
Smell	massage oils Natural aroma, sea salt air scent therapy
Sight	Low-light settings: soft candlelight, diffused LED, coloured glass let light from the exterior Natural palettes in the colour of materials and in decorations (drawn or even natural plants)
Taste	Possible tasting rituals with closed eyes

Table 2. Multisensory experience of a spa

Conclusions

Sun and sand holidays, bathing holidays, are different in Hungary as thermal waters are also a resource of the country, recognised from Antiquity through the Turkish rule. The double health effect (mental health through holiday, relaxation) and the cure of the waters with a special composition makes it possible to enjoy the environment with all senses, natural sounds, smells, material touches even in an indoor ambiance of a spa. The paper has shown that the principles of the garden have been successfully imported from the Orient along with other elements at the time of Art Nouveau, even if the mythology determining its philosophy was not.

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292

INCLUSIVE CITY, CARE
AND SOCIAL JUSTICE

Sensing the Margins
Ambiances of Informality in a Roma Neighborhood in İzmir

Mehmet Melih CİN[1]
1. Research Assistant in Architecture Department of İzmir Katip Celebi University,
   mehmetmelih.cin@ikc.edu.tr

Abstract.

This paper examines how urban ambiances emerge in conditions of informality, focusing on the lived experiences and spatial practices of a Roma community in İzmir's Ege Neighbourhood. Drawing on over a decade of ethnographic fieldwork, it explores how sensory atmospheres are co-produced through everyday interactions with space—particularly in areas excluded from formal urban planning. The study adopts Jean-Paul Thibaud's framework of tuned, modulated, and framed ambiances to analyze how undesigned and marginal spaces, such as vacant urban land and traditional coffeehouses, become socially and culturally significant through communal rituals and temporal rhythms. Combining insights from architecture, urban sociology, and sensory ethnography, the paper argues that ambiance offers a critical lens to understand how marginalized communities shape their environments. The outcome is a more situated and affective reading of urban life that recognizes informality not as absence, but as an active mode of producing atmosphere, identity, and collective presence.

Keywords:

Roma Community, Lived space, Sensory Experince, Ambiance

Introduction

This paper explores how urban ambiances take shape in everyday life, focusing on the lived experiences and spatial practices of a Roma community in İzmir's Ege Neighbourhood. Drawing on nearly a decade of ethnographic fieldwork, the study approaches ambiance not as something designed from above, but as something felt, constructed, and transformed through daily interactions with space—often under conditions of socio-spatial marginalization. Inspired by Jean-Paul Thibaud's framework on urban ambiance, the research brings together perspectives from architecture, urban sociology, and sensory ethnography to ask: What does it mean to create atmosphere in a place largely excluded from formal urban planning? In Ege, narrow streets, improvised structures, vibrant street life, and everyday gestures form a textured sensory world—where sound, smell, light, and movement are deeply entangled with memory, identity, and survival (Thibaud:2015).

Methodology

This research is grounded in over a decade of continuous engagement with the Ege Neighbourhood, beginning in 2014 (Cin 2016,2023). My initial encounters with the community were marked by a sense of distance; as an outsider, gaining trust and access to local knowledge required time, persistence, and sensitivity. Building rapport with a historically marginalized population was a gradual process, developed through sustained visits and close interaction over the years (Cin, 2023).

Throughout this period, I conducted systematic observations of daily life and public space usage across different times of day—both daytime and nighttime—and under varying weather conditions,

which significantly shaped spatial practices (Pink,2009). These observations provided key insights into the rhythms of daily life, informal spatial negotiations, and seasonal variations in public space use (De Certeau,1984).

After establishing a level of trust, I piloted an initial set of interview questions to refine the research design and ensure cultural responsiveness. These pilot studies informed the subsequent implementation of semi-structured, in-depth qualitative interviews, which became a core data collection method during the longitudinal phase. In addition to interviews and observations, I participated in key communal events—such as weddings, funerals, religious holidays, and local festivals—to gain deeper insight into the symbolic and social functions of space. These participatory moments proved invaluable in understanding spatial practices that formal research methods alone could not fully capture.

Situating the Land

To critically analyze the Ege Neighbourhood, it is essential to first understand its spatial, historical, and socio-economic context. Located in the city center of İzmir, Turkey, Ege has a century-long history shaped by waves of displacement, migration, and informal urbanization. In the early Republican era, following the Turkish-Greek population exchange in the 1920s, the area—then marked by vacant and deteriorating buildings— was repopulated by migrants arriving from Greece. Among these were Roma families, who have since remained the dominant demographic group (Cin 2023).

Situated between two historically working-class quarters, the neighbourhood developed a strong labor identity. For much of the 20th century, residents worked in nearby factories, reinforcing Ege's character as a workers' neighbourhood. Initial housing conditions were poor, with tin-can structures clustered along a central street. In the 1970s, the metropolitan municipality built social housing blocks to improve living standards (Cin 2023). However, these were insufficient for the entire population, and many continued to live in and gradually upgrade their original homes. Over time, these dwellings evolved into informal masonry structures through incremental self-construction, reflecting the community's resilience and adaptability.

One of the neighbourhood's key spatial features is a vacant plot of concrete land between the housing blocks (Figure 1.). Never officially planned or designed, this terrain vague was overlooked by urban authorities. Yet, over the years, it has become an important social space for gatherings, celebrations, and communal rituals. Its transformation into a site of ambiance was shaped entirely through informal appropriation and use (Cin 2023).

Figure 1. Vacant Urban land in Ege neighbourhood

Another critical social node in the neighbourhood is the kahvehane—traditional rural coffee houses. While typically male-oriented, they are used by residents of all genders and ages for socializing, sharing news, and discussing important events such as weddings, funerals, and holidays. These spaces, located along the main street, also play a vital role in the intergenerational transmission of memory and culture (Figure 2.) (Cin 2023). Together, the vacant land and the coffeehouses constitute the central spatial anchors of daily life in Ege, offering informal yet deeply significant forms of public space.

Figure 2. Vacant Urban land in Ege neighbourhood

Dynamics of Urban Ambiance In Ege Negihbourhood

Ambiance, as defined by Thibaud, refers to the overall sensory atmosphere of a space—experienced through sight, sound, smell, touch, and movement (Thibaud 2011; 2015). It is both subjective and objective: an affective mood shaped by material surroundings and embodied in the actions of those who move through them. Ambiance is always situated in a specific time and place; it cannot be abstracted from its context. Thibaud calls it "the pervasive quality of a situation"—an immersive experience that arises from the interplay of people, space, and time (Thibaud 2011).

Thibaud's socio-aesthetic framework challenges the subject-object divide in environmental perception. He emphasizes that ambiance is not merely located in the physical environment or within individual perception but is a relational phenomenon that emerges between the two. In his essay "The Three Dynamics of Urban Ambiances" (2011), he identifies three interrelated dynamics—Tuned, Modulated, and Framed Ambiance—as analytical tools to understand how ambiance is produced and experienced in urban life (Thibaud:2011).

Tuned Ambiance: Acclimatization in Everyday Life

Tuned Ambiance refers to the alignment between spatial form and human conduct—a state where the environment and social behaviors are brought into resonance. Here, the ambiance is not external to the user but co-produced through embodied action and situated perception. The result is a lived ecology in which the space and its users tune one another in a reciprocal process (Thibaud 2011).

In Ege, this dynamic is evident in the Roma community's transformation of the vacant concrete lot. Originally an undesigned, marginal space, it has become a vibrant setting for festivals, ceremonies,

and gatherings. Residents prepare the area—sweeping, decorating, arranging seating—and then activate it through music, dance, and ritual. Their practices do not merely take place in space; they bring space into being. Through these interactions, the community becomes both the producer and product of the ambiance.

Modulated Ambiance: Temporal and Rhythmic Variations

Modulated Ambiance highlights the temporal and fluctuating nature of urban atmospheres. Ambiance shifts subtly over time as spaces adapt to changes in lighting, activity, and social presence. Thibaud refers to this as the "updating of affordances"—a continual reshaping of space in response to its use (Thibaud 2015).

In Ege, the coffeehouses and the vacant land reflect this dynamic. The kahvehane may be calm and sparsely populated during work hours but becomes crowded and lively on weekends, holidays, or community events. The same is true for the vacant land, which might serve as a playground by day but transforms into a festival ground by night. Weather, season, and community-specific calendars also shape these variations. These modulations demonstrate how ambiance is not fixed, but in constant flux, shaped by social rhythms and temporalities.

Framed Ambiance: Structuring Public Atmosphere

Framed Ambiance refers to how ambiance is structured through social conventions, rituals, and performative practices. Rather than emerging spontaneously, the sensory and affective qualities of space are guided by culturally embedded protocols and shared expectations (Simone,2004 ; Bille et. al. 2015 ; Anderson, 2009 ; Thibaud 2011).

In Ege, framed ambiance is most clearly observable during weddings, funerals, and religious festivals. The vacant land becomes a carefully orchestrated space—complete with music, seating arrangements, ceremonial acts, and collective roles. These structured performances frame the ambiance, giving it coherence and social meaning. Through dress codes, ritual sequences, and soundscapes, the community produces an atmosphere that reflects and reinforces cultural identity. Ambiance here is not simply felt; it is enacted.

Conclusion

The three dynamics of ambiance—Tuned, Modulated, and Framed—are not separate categories but overlapping processes that occur simultaneously in urban life. Thibaud's framework provides a valuable lens through which to analyze the relational and situated nature of urban atmospheres. Rather than seeing ambiance as a fixed backdrop, it becomes visible as something in continuous formation—emergent, participatory, and embedded in the sensory and social textures of everyday life.

In the case of Ege, these dynamics reveal how ambiance is produced through informal and often overlooked practices. From repurposed concrete lots to ritualized gatherings in coffeehouses, the Roma community actively co-constructs the atmospheres that sustain their cultural and spatial identity. Understanding ambiance in this way not only deepens our grasp of urban experience but also affirms the agency of marginalized communities in shaping the affective life of cities.

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Entering-In, Tuning-In: Linking Urban Public Space and Migrant Integration From a Place and Design Perspective

Susan Qu[1]

1. University of Cambridge; University of Edinburgh – United Kingdom

Abstract.

This paper identifies migration integration as an important theme in migration studies that has been multiple-dimensionally conceptualised, especially from a social, economic, cultural, and political aspect, but pre-existing studies lack explorations of the role of urban public or urban design in the integration, though such space is critical to democratic life and cultural diversity. I review leisure, spatial studies and geographies literature on urban public space and urban experience and present how such space can relate to migrant integration as a socialising stage or entertaining hub, as well as the potential of adopting the human- environment nexus embodied in urban experience to understand social (non-)inclusion and migrant integration. In view of these linkages, integration is arguably redefined from a people–place interactive, spatial and design perspective, with the everyday experience of migrants and influence of urban public space's (in)visible features on human bodies and minds, behaviours and emotions noted. Place integration as a new dimension indicated by sense of place such as place attachment/belonging is proposed that can contribute to place- based politics of belonging.

Keywords:

Aesthetic experience, Belonging, Displacement, Migrant integration, Place attachment, Place integration, Sense of place, Urban design, Urban public space

298

Fostering Sensory Divergences in Ambiance Theory
from auraldiversity discourse towards multisensory experience(s)

John Levack DREVER[1], Carmen ROSAS-PÉREZ[2], Mattia COBIANCHI[3], Antonella RADICCHI[4]

1. Otoloci Ltd. – United Kingdom, johnldrever@otoloci.com
2. Heriot-Watt University – United Kingdom, mcrosasp@gmail.com
3. Goldsmiths University of London – United Kingdom, mcobi001@gold.ac.uk
4. Architect Urbanist and independent researcher – Italy, antonellaradicchi@gmail.com

Abstract.
To ensure this COST Action on urban ambiance meaningfully reflects the complexity of embodied experience, it is essential to interrogate its epistemological foundations from the outset. This paper foregrounds sensory divergence – departures from sensory normativity – drawing on recent developments in auraldiversity (Drever 2017; Drever & Hugill 2022) and pedestrian visual diversity (Radicchi & Henckel 2023). Prevailing models of perception in acoustics and related fields disproportionately reflect young, healthy, neurotypical individuals, marginalising diverse sensory profiles (e.g., neurodivergent populations, infants, elderly, those with PTSD or sensory sensitivities). Research, policy, and design remain shaped by studies privileging "normal hearing" and WEIRD (Western, Educated, Industrialized, Rich, Democratic) populations (Henrich et al. 2010), perpetuating epistemic exclusion. This paper explores how such biases inform built environments and proposes integrating inclusive sensory paradigms into research and practice. By rethinking methodological norms, this paper aims to reframe ambient experience through the lens of sensory plurality and epistemic justice.

Keywords:

Ambiance, Sensory divergency, Sensory normalcy, Auraldiversity, WEIRD, Visualdiversity, Synaesthesia

1. Introduction

> *"Until universal/inclusive design is infused in pre-professional and continuing education, the attitudes of designers will limit their understanding and appreciation of diversity. They will continue to shape their designs for a mythic average norm, creating barriers that exclude the contributions and participation of people all over the world."*
> Elaine Ostroff, (2010)"Universal Design: An Evolving Paradigm"

For this COST Action on urban *ambiance* to be relevant to society as a whole, to truly capture the complexity and diversity of lived, embodied experience, it is fundamental from the outset to address and probe its extant epistemological foundations, which will shape future developments. This paper focuses on what we will name 'sensory divergency', that is, divergence from 'sensory normalcy'. It will take its lead from work already done around the sense modalities of hearing and seeing, and the salient concepts around what has been defined as *auraldiversity* (Drever 2017; Drever & Hugill 2022; Drever, Cobianchi, Rosas-Pérez 2023) and more recently, *pedestrian visual diversity* (Radicchi & Henckel 2023, 2024).

At the origin of some epistemological issues, there is what is called "WEIRD psychology". What is meant by this is the tendency for articles in the fields of psychology and environmental psychology

(fields where most of the experiments and research on perception are carried out) to have an intrinsic bias in relation to researchers and participants: they are mostly from Western, Educated, Industrialized, Rich, and Democratic societies. In 2010, in a review of comparative databases from across the behavioural sciences, Henrich concluded that "WEIRD subjects are particularly unusual compared with the rest of the species– frequent outliers" (Henrich et al. 2010).

The limited representation of sensory experience in research is translated into a limited consideration of the diversity of experiences of sounds and artificial light in actual, complex societies and the design of their spaces. This exclusion is also present in the visual sphere. The needs of people with non-normative vision or visual sensitivities have been the subject of recent works highlighting the main barriers in public space and the measures that can help increase visual accessibility. Here, we will share and transpose some of the key concepts underpinning auraldiversity, and present some recent initiatives encouraging designers to develop a more inclusive perspective.

Finally, we will propose a reflection on how the typical (and usually required) methodological approaches and data analysis in sensory research are rooted in pre-conceptions based on sensory normalcy, and on the implications of epistemic exclusion in an "evidence-based" society. We hope this paper acts as a prompt to ask how we embed sensory diversity at the heart of our emerging conception of ambiance in theory and practice.

2. Auraldiversity

Within acoustics and related disciplines, auditory perception has traditionally been modelled on a normative framework derived from a narrow subset of the population – young, healthy individuals with clinically "normal" hearing (*otologically normal*). This is exemplified in the widespread application of A-weighted decibels (dBA), which are enshrined in policy and guidance through equal-loudness contours (Fletcher & Munson) predicated exclusively on this specific demographic. As a result of this adherence to *auraltypical* models, a wide spectrum of auditory experiences remains excluded. These include individuals with neurodivergence, post-traumatic stress disorder (PTSD), hearing loss, hyperacusis, specific hearing sensitivities, dementia, as well as infants and older adults. Such exclusions are not limited to acoustics but are replicated across related fields.

Major studies on sound perception, noise annoyance, and soundscape research – often cited in authoritative reviews – generally base their conclusions on data collected exclusively from participants with "normal" hearing, as this is frequently a condition for inclusion. Additionally, demographic diversity in terms of age, socioeconomic background, and other factors tends to be limited. Nevertheless, these reviews inform a broad range of policies, including those relating to environmental sound, building acoustics, soundscape interventions, and epidemiological assessments of the health impacts of noise. Consequently, the implications of these exclusionary models extend across entire communities, including both human and non-human species.

In response to these limitations, Drever (Dever 2017), through his research into the impact of high-speed hand dryers – devices found to cause significant distress among particular groups not addressed in existing acoustic standards – coined the term *auraldiversity*. Inspired by the concept of neurodiversity, auraldiversity calls attention to the plurality of hearing experiences (including

exceptionally acute hearing ability) and the need to acknowledge and accommodate them in acoustic design, policy, and regulation.

The concept has begun to gain recognition and has been cited in recent policy documents, such as the *Welsh Government's Noise and Soundscape Plan* (2023), where it is identified as a critical area requiring attention. However, despite this growing awareness, practical implementation remains unresolved. As the Plan acknowledges: "The question of how to factor aural diversity into decision-making in a way that is inclusive and fair to all is a subject of ongoing research and debate in the UK acoustics community." This highlights the pressing need for more inclusive frameworks in both research and practice—ones that can accommodate the full range of hearing experiences across diverse populations. This work has already begun in earnest with the adoption of co-design the in research of Cobianchi (Cobianchi, 2019).

3. Visual diversity

Drawing inspiration from scholarship on auraldiversity, the concept of *pedestrian visual diversity* has been introduced to refer to the conditions, capabilities, and needs of visually impaired pedestrians. This concept underscores vision as a variable human trait and raises critical questions regarding whose visual experiences are considered in formulating lighting standards and planning artificial lighting in public spaces (Radicchi & Henckel, 2023).

Adopting an inclusive approach to lighting design necessitates a methodological and conceptual shift, aimed at addressing the limitations inherent in current research and practices. As Borra and Cane observe, "most of the technicians who now control our luminous environments have reduced the criteria for illumination to simple numbers, which are unrelated to vision, perception, comfort, or pleasure" (quoted in Radicchi & Henckel, 2023). These numbers frequently derive from studies with narrow participant samples (i.e., healthy young men), thereby neglecting the influences of gender and age on light perception (Radicchi & Henckel, 2023). This results in the reduction of "the remarkable diversity of the human population" to the notion of a single, universal "standard" observer (Royer, 2020, p. 701). Moreover, existing research that does address visual impairments tends to focus primarily on indoor environments. When outdoor settings are considered, the emphasis is often placed on drivers rather than pedestrians, further marginalizing the needs of visually impaired pedestrians in public space design.

The incorporation of pedestrian visual diversity into the planning of nighttime lighting in public spaces thus emerges as an urgent research imperative. This need is further amplified by demographic trends: the number of individuals with visual impairments has significantly increased over recent decades, primarily due to population aging. Projections indicate that this trend will continue, with the proportion of people aged 60 or older expected to rise substantially by 2050 (Eurostat, 2020; Radicchi & Henckel, 2023).

4. Sensory experiences

Sensory experiences can vary greatly among individuals, and also for the same person in different moments of the day or life. The design of environments assuming the experience of the mythic

average norm (Ostrof 2010) can lead to important unintended negative consequences for many people, especially some vulnerable groups of the population, and, ultimately, to effective exclusion.

One of these groups is neurodivergent people. Neurodiversity refers to certain neurological and cognitive differences with respect to what is regarded as "typical" (Botha et al. 2024), considering, however, "normalcy" and what is "typical" as social constructs, and in many cases "normal" does not correspond with "majority". This could be the case of Western cultural norms and values, or also of auraltypical people.

Nonetheless, autistic (and other neurodivergent) people usually experience significant sensorial and perceptual differences compared to the common experiences reported by non-autistic people, with some theories suggesting that autism is a difference in how the information from the world is perceived, filtered, and processed (Donnellan, Hill, and Leary 2013), as well as entailing different preferences in interactions and social style (Milton 2012; Crompton et al. 2020). These responses, however, are not related to "atypical" results in audiometry tests in the case of auditory experiences, for example, but rather to increased perceptual capacities and differences in processing of the sensorial information (Remington and Fairnie 2017; Brinkert and Remington 2020). Personal factors such as past sensory experiences, tiredness, health, or level of stress also have a significant impact, and a lack of habituation to constant sensorial elements, together with a cumulative effect, is frequent in autistic people (Kuiper, Verhoeven, and Geurts 2019; Poulsen et al. 2024; Rosas-Pérez et al. 2025). It is also common that autistic people, as possibly others with sensory experiences not perceived as "the norm" in certain contexts, are subjects of a lack of understanding, dismissal, further victimisation and sensory gaslighting (Rosas-Pérez et al. 2025; 2023).

In practice, many of the needs and preferences related to a heightened perceptual capacity in autistic and other neurodivergent people can be compatible with the needs of those with some hearing conditions, for example, sharing many of the challenges and also many of the benefits due to the implementation of certain design decisions. Some of the sensorial experiences of neurodivergent people have been recognised and addressed in recent plans for the developments of building guidelines, like the PAS 6463 "Design for the mind – Neurodiversity and the built environment" (BSI 2022). Besides the need to increase our efforts to include higher diversity in participants, future research should explore alternative methodologies that better capture and represent this diversity, while still addressing core research objectives.

5. Conclusion

This short paper offers an initial provocation toward rethinking the normative assumptions that underpin sensory research, design, and policy. By drawing on the emerging concepts of *auraldiversity* and **pedestrian visual diversity**, we have begun to question the dominance of sensory "normalcy" and the myth of the average user in shaping environments and standards. These reflections only scratch the surface of what is a deeply complex and underexplored area of inquiry – for example, another large area to consider is synesthesia. Sensory experiences are diverse, dynamic, and context-dependent – shaped by individual differences, social conditions, and cultural frameworks – yet research and practice often rely on reductive and exclusionary

models. Addressing this requires not only methodological but epistemological shits: an openness to forms of knowledge and lived experience that challenge dominant paradigms. While this paper cannot offer exhaustive answers, it aims to open space for deeper interdisciplinary dialogue. Embedding sensory diversity at the heart of ambiance research is not simply a matter of inclusion – it is essential to developing more just, responsive, and humane environments for all. This paper marks the beginning of that conversation.

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WG 4

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Through Her Eyes: A Sisters Journey Into Ambiance and Accessibility.

Ella White[1]

1. Graduate of University of Limerick, Ireland, ellawhite5959@gmail.com.

Abstract.

What does it mean to design a space with humanity—and for whom is that space designed? This paper reframes ambiance not as a byproduct of form, but as an embodied, ethical concern in architecture. Drawing from personal experience growing up with a deaf and disabled sister, it explores how ambiance operates as a question of care and inclusion. Subtle design choices deeply affect how spaces are felt, especially by those with divergent sensory worlds. The research proposes practical strategies for human-centric ambiance design: Sensory Mapping, Narrative Intent, Scaling Down, Micro-adjustment Prototyping, and Material Considerations. These methods prioritize perception, comfort, and emotional resonance over universal norms. Rather than offering a fixed model, this paper advocates for a situated, inclusive approach— designing spaces that begin with the body and unfold through empathy. Ambiance, as this research contends, is not just how a space feels—but how it feels to someone.

Keywords:

Disabled, Access, Exclusionary, Perceptual, Strategies, Inclusive.

Introduction

305

How might we design for the body not as an abstraction, but as a living, sensing presence in space? Such questions are posited at the intersection of social, aesthetic, political & ethical nature. In everyday discourse ambiance is ascribed with a certain vaguery, (Thibaud 2020). Collectively we can identify it but not quantify it. Its ascribed ambiguity reinforces its position as a phenomenon that transcends a simple description of physical features, encompassing the subjective and intersubjective emotional experiences within a built environment. Consequently, this paper does not intend to posit a formal definition of what an architectural ambiance may be, but instead what it produces, thus taking a more hermeneutic stance. In this way the question is not what but how it can transform human life. This paper explores how viewing ambiance not through a depersonalized lens but as a central embodied dimensions & ethical concern of how architecture can be harnessed as a design tool at the heart of inclusive spatial practice, (Lefebvre, 1991). The paper is grounded in both professional and personal query. Growing up with both a disabled and a deaf sister taught me that good design goes beyond how it looks and sounds but how it resonates. It deepened my belief that ambiance is neither neutral or aesthetic but has deep implications for access, control and care. This recognition forms the foundation of the research question; how can ambiance be enacted through a practical framework to create more positively resonant built spaces? In response this paper offers a set of design strategies for fostering good design, with and for human differences that are rooted in a posteriori observations and real life cases. These include sensory mapping, micro - adjustment prototyping, narrative intent and material considerations. These approaches do not propose a universal design framework but instead a situated and critical method for engaging ambiance as an ethical force in spatial practice.

Interweaving Literature and Lived Methodology

The affective atmosphere of architectural space has been theorized across a range of disciplines from philosophy and environmental psychology to spatial design. Historically, it has occupied an enigmatic status: acknowledged as important but difficult to define. Scholars such as Juhani Pallasmaa (2012) and Peter Zumthor (2006) argued for a haptic approach stating that true ambiance is deeply rooted in a full body experience. More contemporary scholars interrogate ambiance through a critical lens and its role in enforcing exclusionary social norms. Theorist Mark Wigley (2013), examines the affective nature of space and its use 'as a soft mechanism of discipline, shaping the user through light, tone and form rather than explicit instruction.' These ethical considerations are also echoed in activists such as Jos Boys (2014) and Rob Imrie (2012) who argue for a reframing of an architectural pedagogy that favors normative bodies and experiences. Boys posits an understanding of ambiance that is multiple and situated, shaped by the realities of those who use the space. Jointly, the literature all converges on a similar stance: ambiance is not value neutral. However, what is still missing in the literature is a practice based form of implementation that accounts for the aforementioned concerns and while this paper does not intend to offer a universal (or one size fits all), approach it will build on existing research to present a series of strategies that are a result of a symbiosis between personal narrative and design practice.

Ambiance can be both purposeful but unobtrusive and without even realizing it certain environments foster this sense of resonance every day. Ensuing from the vast labyrinth of preceding literature, emerges a methodology that is both situated and adoptive (Ingold 2000). Foregrounding the research with this perspective reveals a recurrent finding; success in ambiance-based design is often achieved through its absence. This led the methodology to shift focus from grand gestures to the nuances of everyday micro-environments, (Anderson, 2009). These repetitive spatial conditions can be found all around us once you begin to look, one such example being places of worship.

One such example is a 19th century Gothic Revival Monkstown Parish Church, located in Dublin, Ireland. Architects McCullough Mulvin were tasked with renovating the space. Instead of radically overhauling the structure the intervention focused on curating ambiance forward design through subtle and situated spatial practices, (McCullough Mulvin Architects, n.d). Without compromising the original character of the church, they integrate micro adjustment prototyping, which elevates the atmosphere. These include concealed lighting systems, a stone floor and new liturgical furnishings. These sensorial considerations are complemented by I tactile elements such as timber and lead, which were chosen to juxtapose with the church's original limestone and plaster surfaces. As a building steeped in emotional and spiritual memory McCullough Mulvin carry this enduring historical narrative through their restoration work. The ambiance is not merely aesthetic, it is social, emotional and accessible. It creates a fabric for embodied situated perception, one that supports reflection and the quiet moments of its users.

The second case study chosen, while a building of far different spatial complexities and intent, exhibits many of the same ambiance-based design principles seen in the case study above. The Palas Cinema in Galway by Tom Du Paor is a lesson in sensory richness. The entire cinema is constructed from fair faced concrete giving the space a monumental presence. This is contrasted by a series of architectural elements that help soften the spaces and create a sense of warmth. These include velvet acoustic panels in the screening rooms, (reflecting careful attention to the

auditory ambiance), and stained-glass windows designed by the late Irish artist Patrick Scott that subtly modulate the light and create a dynamic interplay of space and color, (FX Design 2023). Palas also employs systems that cater for its neurodivergent users including hearing loop systems, open caption screenings with spacious seating, and allowances for assistance dogs, (Palas Cinema n.d.). Overall, it exemplifies an ambiance that is playful, inclusive and rigorous.

Figure 1. Interior view of St. Mary's Medieval Mile Museum, Kilkenny. Photo courtesy of McCullough Mulvin Architects.

Figure 2. Interior staircase of Pálás Cinema, Galway, designed by Tom de Paor. Concrete walls with colored glazing detail. Photograph courtesy of Element Pictures.

Towards a Situated Design Framework

The design strategies proposed in this research do not seek to be prescriptive or exhaustive but instead seek to offer a framework through which a relational and situated design practice can be applied.

Sensory Mapping: This strategy involves anticipation of the sensorial impact of the spaces on its users, particularly those with divergent sensory responses. This method could be implemented from the early design phases and includes a variety of acoustic, visual and tactile mapping plus engagement with users to help understand the affective qualities of the design on ambiance.

Narrative Intent: This treats ambiance as an evolving spatial experience that is informed by collective memory. It encourages architects to work with the history and rituals used with the particular function of the space rather than abstract typologies. This can be seen in the layering of space in Palas and the spiritual rhythm in Monkstown Parish. It foregoes assuming a 'neutral' user and instead designs for memory and interpretation.

Scaling Down: The strategy of Scaling Down proposes a reversal of conventional architectural priorities: rather than beginning with site, massing, or programmatic zoning, it starts with the intimate scale of the body—its needs, rhythms, and sensory realities. This involves mapping the spatial and emotional experience of a single activity—in the church's case sitting in contemplation in a quiet chapel, climbing stairs, transitioning between light levels—and letting these experiences shape the larger architectural layout. Micro Adjustment Prototyping: This is an iterative method of testing ambiance at the micro-scale. The premise is that design doesn't need to be radical to be transformative. Micro-adjustment prototyping is a refined tuning process that allows space to become responsive: shifting layouts, testing materials in situ, and evaluating emotional or sensory outcomes in real time.

Material Considerations: Material is never neutral—it is affective. This strategy emphasizes the tactile, acoustic, and visual characteristics of materials and how they contribute to mood, atmosphere, and comfort. Drawing on the material richness of Pálás Cinema's cast concrete and colored glazing, or the warmth of timber in Monkstown Church, I began to view materiality as a tool for ambiance. This strategy suggests that the choice of material is not merely aesthetic—it is a choice about how a space will be felt, and by whom.

Overall while these strategies were developed to function as a practical toolkit that can be employed by architects, their incorporation is not without difficulties. Many of the bureaucratic frameworks of architectural design continue to value productivity and standardization and ambiance's subjectivity invites variability and interpretation, which challenges architecture's more control-oriented paradigms. Ultimately, ambiance remains vastly under-discussed in architectural pedagogy and policy and until its importance is realized it will continue to be undervalued in planning and design.

Conclusion

This paper has sought to reframe ambiance not as a secondary or elusive aesthetic layer, but as a fundamental and embodied concern within architectural design—one intimately tied to

308

inclusion, ethics, and the emotional life of space. The strategies outlined demonstrate a shift toward a situated, human-centric approach to ambiance. They reject one-size-fits-all models and instead advocate for attentiveness to the lived, intimate experiences of users. The challenge for architects, then, is not only to design spaces that function or impress, but to cultivate those that quietly support presence, memory, and human connection. As this paper suggests, the most transformative atmospheres are often the most subtle—woven not into spectacle, but into the background fabric of every day life.

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310

DOMESTIC AND PUBLIC AMBIANCES

The Viscerality of Everyday Sounds and Acoustics in Contemporary Domestic Spaces

Alessia Frescura[†1]

1. Acoustics Research Unit, School of Architecture, Univeristy of Liverpool – United Kingdom

Abstract.

This contribution aims at discussing contemporary assets and challenges imbued into the auditory dimension of the living place par excellence: the home. While navigating challenges posed by the environmental sustainability narratives, residential spaces still stand as critical places where acoustic sustainability may play a key role in supporting a restorative and healing ambience for its inhabitants. For instance, contemporary high rise wood residential buildings pose a challenge as the acoustic permeability of the structure invites everyday sounds from neighbours, including footsteps, conversations, or domestic activities, into the lives of multiple residents.

These everyday sounds, although not emotionally charged in themselves, can evoke complex emotional, psychological, and physiological responses when heard in the domestic context. Drawing on empirical findings from five different studies, this research explores how individual differences, such as noise sensitivity, circadian rhythm type, and attitudes toward the sound source, influence the subjective experience of domestic sonic environments.

Physiological responses elicited by sounds from neighbouring units will be introduced, including somatic, peripheral, and brain activity responses collected in a range of laboratory experiments. These will be discussed in relation to both acoustic parameters (e.g., spatiality and loudness) and non-acoustic parameters (e.g., personal characteristics). The affective dimensions evoked by exposure to everyday sonic events in residential spaces will be discussed as, perhaps, a relevant element for the multi-modal definition of Ambience theory.

Keywords:

Emotions, Home, Everyday Sounds, Acoustics

Designing for Play: Ambiances of Outdoor Spaces in Affordable Housing

Saba HEJAZI

Department of Architecture, Faculty of Architecture and Urban Design, Art University of Isfahan, Isfahan, Iran, saba.hejazi@yahoo.com

Abstract.

This paper explores how the ambiance of outdoor spaces influences children's unstructured play in affordable housing environments. Ambiance is defined here as the multisensory, material, and social atmosphere of space, emerging through the interaction of spatial openness, sensory cues, and social dynamics. Focusing on three residential complexes in Rome, Italy, the study employs a reconstructive methodology based on systematic behavioural mapping and spatial analysis conducted from May to September 2024. Rather than measuring ambiance directly, the research infers its qualities from how children engage with space—where they play, for how long, and in what ways. The findings reveal that informal, adaptable settings such as vacant lots and forecourts often support more diverse and spontaneous play than formal playgrounds. These results highlight the importance of designing not just for function but for lived atmosphere. The paper proposes ambiance-oriented design strategies as a low-cost, high-impact tool for enhancing child-friendly urban environments, particularly in socioeconomically constrained contexts.

Keywords:

Ambiance, Children's Play, Spatial Affordances, Affordable Housing

312

Introduction

In contemporary cities, children's opportunities for spontaneous, self-directed play are increasingly constrained by spatial inequalities, densification, and functional zoning (Lu et al., 2025). In affordable housing environments in particular, the scarcity of dedicated play infrastructure is compounded by socio-spatial marginality, pushing children to improvise with the everyday urban fabric (Martin et al., 2023). While much has been written about children's play in urban studies, few works examine the lived spatial experience of play through the lens of ambiance.

Ambiance is not a fixed feature of space but an emergent, atmospheric field shaped by movement, perception, materiality, and temporality (Thibaud, 2011). In this light, children's informal play can be seen as a sensitive barometer of ambient conditions. Children respond not to programmed uses but to how a space feels.

This study reframes the question of child-friendly urban space through the concept of reconstructed ambiance. Based on situated observations in three affordable housing complexes in Rome, we examine how children navigate, adapt, and inhabit everyday spaces, revealing not only affordances but the atmospheres these interactions co-produce. In doing so, the paper contributes to current debates on how to map and theorize ambiance in urban settings, offering both methodological innovation and critical insight into spatial justice for children.

Methodology

This study adopts a reconstructive methodology grounded in a qualitative, situated approach, aiming to understand ambiance not as a fixed attribute but as a lived, emergent field shaped by bodily engagement and social presence. Fieldwork took place from May to September 2024 across three adjacent affordable housing complexes in Rome, where two trained observers conducted repeated site visits. Focusing on the everyday play of primary school-aged children, the study prioritized embodied observation over interviews or surveys. Data collection included systematic behavioural mapping, fieldnotes, annotated site sketches, and rhythm notations, allowing the researchers to reconstruct the spatial and sensory conditions that shaped unstructured play through observed patterns, durations of stay, and adaptive use of space (figure 1).
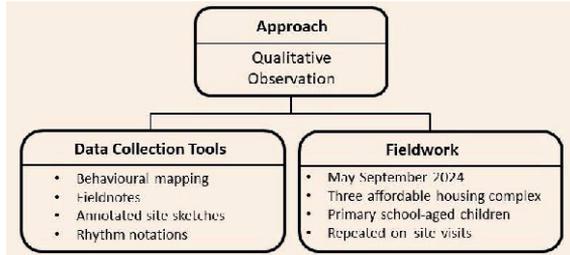

Figure 1. Research methodology flowchart

Site and Context

The study was conducted in three adjacent affordable housing complexes within the same neighbourhood in Rome, Italy. Each complex consists of several mid-rise apartment buildings arranged around open, unfenced spaces. These buildings create shared courtyards and green areas, though not clearly defined or formally designed for recreation. None of the complexes includes a designated playground. However, children often used nearby public spaces for play—including two playgrounds, a skate park, and a large open plaza—all within short walking distance. These amenities supported activities that could not occur within the housing complexes themselves (figure 2).

(a)   (b)   (c)

Figure 2. a) site one, b) site two, c) site three

Ambiance Mapping Framework

To reconstruct the spatial ambiance of play settings, the study drew upon the framework proposed by Amphoux et al. (2004), which identifies ambiance as a multidimensional, relational phenomenon. Four key dimensions were used to guide analysis during and after fieldwork (table 1). These dimensions helped interpret how children's use of space reflected not only physical form but also experiential qualities shaped by rhythm, perception, and social interaction.

Ambiance Dimension	Observational Focus
Material	Surface textures; presence or absence of objects; spatial permeability
Sensory	Light and shade conditions; degree of visual openness; ambient sounds
Social	Visibility from residential units; peer presence; adult supervision
Temporal	Frequency of use; time-of-day variation; patterns of repetition

Table 1. Dimensions of ambiance and corresponding observational indicators

Findings: Lived Ambiances of Play

Children across all three housing complexes consistently favored informal, adaptable spaces over formal play zones. Their play behaviors followed ambient qualities rather than predefined functions. Residual or semi-structured areas such as tree-lined pathways, forecourts, and plazas became key play settings due to their openness, passive supervision, and flexible surfaces (figure 3).

(a)   (b)   (c)

Figure 3. a) group game in forecourt, b) cycling in pathway, c) playing in public open space

Temporal rhythms played a crucial role. Shaded pathways attracted scootering and cycling during midday, while forecourts supported group games around midday and afternoon due to their semi-enclosure, absence of cars, and visibility from housing units. In contrast, open green spaces remained largely unused—despite being spatially available—due to poor surface quality, minimal stimulation, and lack of peer presence (figure 4).
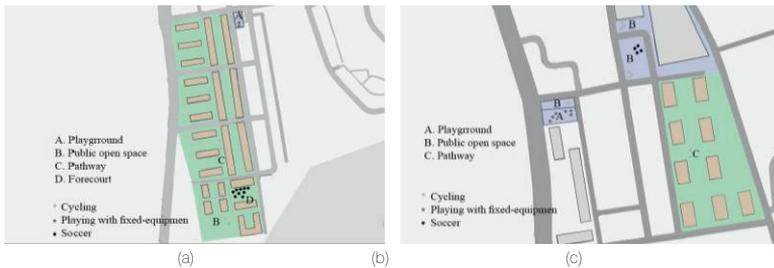

(a)   (b)   (c)

Figure 4. Sample of behavioural mapping a) site 1, b) site 2

The diversity of ambient conditions across these spaces—material surfaces, sensory cues, social presence, and temporal rhythms—was central in shaping patterns of engagement. Table 2 presents a comparative summary of these five play settings, analyzed through the four ambiance dimensions.

Dominant play	Material ambiance	Sensory ambiance	Social ambiance
Pathway (midday and afternoon)			
Cycling, scootering	Flat, continuous paths; trafficcalmed; some poor vegetation	Alternating sun/shade from trees/buildings; dry leaves and weeds; mostly quiet	Visibility from homes; partially supervised; multi-age use
Forecourt (midday and afternoon)			
Group games, soccer, cycling	Semi-enclosed yard with seating edges; uneven greens; no car access	Partial shading from buildings; sparse and untended greenery; mix of activity levels	Informal meeting point; visible from homes; cross-generational use;
Public Open Space (afternoon)			
Soccer, active play, cycling	Benches and grassy patches; pedestrianonly layout	Social soundscape; varied light/shade from trees; good visual range	Frequented by children and adults; visible from homes; vehicle-free; encourages shared supervision
Open Green Space (afternoon)			
Passive use, occasional walking	Dry, uneven grass; no equipment; poor surface quality	Strong sunlight in center; little shade; visually plain; minimal sensory stimulation	Rarely used by children; visible from homes; lacks peer interaction
Playground (daytime)			
Fixedequipmen t play	Fixed structures; fenced perimeters; uniform layout	Bright light; limited shade; focused tactile experience on equipment; sound localized to play zone	Benches for adults nearby; enclosed but visible; children play under close supervision

Table 2. Ambient characteristics and children's play in different spatial settings

Children not only responded to ambiance but actively shaped it through their movements and interactions—tracing informal paths, animating quiet spaces, and transforming neglected corners into vibrant play zones. These micro-events reveal ambiance as a lived, relational field formed through bodily presence and repetition. The study shows that flexible, informal settings often supported richer, more inclusive play than formal playgrounds, suggesting that ambiance emerges from use rather than predetermined design—and should therefore guide child-friendly urban planning.

Discussion

Play Follows Ambiance, Not Just Function. Children consistently gravitated toward spaces that offered spatial openness, passive surveillance, and flexibility, even when these spaces were not designed for play. Forecourts, pathways, and plazas supported a variety of movements—cycling and group games—due to their open layout, social visibility, and freedom from vehicular traffic.

Formal Playgrounds Offered Limited Flexibility. Although the adjacent playgrounds featured fixed equipment and safety surfacing, they primarily supported prescribed activities (e.g., swinging, sliding). Their fenced boundaries and supervised context offered security, but often constrained spontaneous or diverse play. Children's use was typically short, goal-oriented, and less socially interactive compared to more open settings.

Sensory Cues Directed Engagement. Children responded acutely to sensory atmospheres. Tree-lined paths and shaded plazas invited prolonged use due to their dynamic light and shadow, acoustic comfort, and natural textures. In contrast, overly exposed green areas or enclosed playgrounds lacked sensory variety, resulting in brief or absent engagement.

Social Ambiance Enabled Diverse Play. Spaces that provided visual access from housing units, while remaining physically accessible and loosely supervised, encouraged sustained and collective use. Informal zones like forecourts or plazas allowed children to self-organize, negotiate rules, and transition fluidly between play modes—benefits less observable in controlled playgrounds.

Emergent Ambiances Outperformed Designed Environments. The most effective play settings were not the ones with the most equipment, but those that invited appropriation. Semi-enclosed forecourt and shaded pathways emerged as ambiently rich through repeated child-led occupation. These findings emphasize that ambiance is co-produced through presence, rhythm, and bodily interaction—and should be considered as a core design criterion, especially in low-cost urban housing.

Conclusion

By placing children's play at the heart of ambiance analysis, this study bridges architectural, urban, and sociological perspectives on spatial experience. It reveals that even minimal or under designed environments can become rich, dynamic play settings— so long as their ambient qualities resonate with children's bodily rhythms and social interactions. Reconstructing these lived ambiances allows us to perceive a crucial but often overlooked layer of urban life—where equity, imagination, and spatial justice quietly unfold.

Children consistently gravitated toward spaces that offered spatial openness, sensory comfort, social permeability, and material adaptability. Notably, the most intensely used play areas were often not formal playgrounds, but rather flexible, informal settings— plaza, forecourts, and shaded pathways—where play emerged spontaneously. These findings underscore that ambiance is not a fixed attribute but a relational, co-produced atmosphere shaped through movement, presence, and repetition.

From a design and planning standpoint, these insights point to the need for a shift away from prescriptive, equipment-based interventions toward an ambiance-sensitive logic of urban design. Instead of asking, *"What structures should be built?"*, we might more fruitfully ask:

- *What kinds of atmospheres support inclusive, self-directed play?*
- *How can modest, everyday spaces be made to feel open, engaging, and safe?*

In high-density, low-budget residential contexts, designing for ambiance offers a powerful, low-cost strategy for enhancing livability and play opportunities. Rather than relying solely on expensive equipment, planners and architects can focus on spatial and sensory qualities—such as surface texture, shading, vegetation, visibility, and playability. Key design implications include:

- **Promoting spatial fluidity** – Creating open-ended spaces that allow for multiple forms of play without rigid zoning.
- **Enhancing passive supervision** – Ensuring clear sightlines between homes and play areas for safety and social connection.
- **Incorporating sensory diversity** – Using materials, light, shade, and natural elements to stimulate engagement.
- **Embedding social flexibility** – Supporting individual and group activities across age and gender lines. Ultimately, designing for children's play through the lens of ambiance is not only a matter of child development—it is an invitation to reimagine affordable housing as a site of everyday experimentation and inclusive urban vitality.

317

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Reciprocal Ambiances:
A Dialogue Between the Built and the Unbuilt in Álvaro Siza's Campo di Marte Social Housing

Mahdi ALIZADEH[1], Clara PIMENTA DO VALE[2], Anastasiia KHOLOPOVA[3]
1. Faculty of Architecture of the University of Porto (FAUP) Center for Studies in Architecture and Urbanism (CEAU), PACT Research Group, Portugal and up201802608@up.pt
2. Faculty of Architecture of the University of Porto (FAUP) Center for Studies in Architecture and Urbanism (CEAU), PACT Research Group, Portugal and clara.vale@gmail.com
3. Faculty of Architecture of the University of Porto (FAUP), Portugal and up202300630@up.pt

Abstract.

It is often argued that architecture should respect the built pre-existent buildings which are already there and shape the site's historical, morphological, and ecological identity. This is often understood as the influence of the built environment on the unbuilt work where architectural intervention is inserted according to the given existing parameters. However, one can ask the question, whether it is possible for an unbuilt work to influence the already existing built environment? Reciprocal Ambiances is about an architecture of dialogue between the built and unbuilt, in which the unbuilt work may, prior to its existence, shape our perception of space and time. Therefore, in order to better explore this concept, this paper delves into the work of the Portuguese architect, Álvaro Siza, in Giudecca. The Campo di Marte social housing project serves as an example of architecture in which both the built and the unbuilt are equally significant in shaping meaning and spatial experience.

Keywords:

Built, Unbuilt, Reciprocal Ambiances, Siza, Giudecca

The Urban Fabric

It is no wonder that Venice is filled with architectural mysteries, as manifested in the skyline of the city. One of these oeuvres is the Campo di Marte Social Housing. The project, which was the result of a competition won by Álvaro Siza, that sought to respond to the needs of Giudecca, especially in the housing sector, facilitated collaboration between some of the most renowned architects of the era. Within the area designated to the social housing, four units were assigned to the following architects, Aldo Rossi, Carlo Aymonino, Rafael Moneo and Álvaro Siza (Cremascoli & Moschini, 2016, p. 121).

Álvaro Siza opted for the L-shaped structure that defines the Campo di Marte square, implementing a layout of 32 apartments distributed across four floors. Regarding the exterior design of the building, Álvaro Siza characterised it as "[...] an architecture of flat perforated surfaces, with no predominance of glazing, a mathematical order in the proportion, yet open to varying rhythms" (Siza, 2001, p.65).

The project incorporates two perpendicular streets, oriented approximately along the north-south and east-west axes. The first axis corresponds to Calle Michelangelo, which is left to be completed in the final stage of the project and will lead to an open square with a panoramic view of the Venetian Lagoon and the Isola della Grazia. In addition, the second adjacent road, Calle dell'Asilo Mason, is extended to the vicinity of Lot 2, where the two buildings of Aldo Rossi and Carlo Aymonino are built, creating an elongated square bordered by the existing buildings mainly in brick on the north and the

newly proposed buildings on the south. These two proposed roads are meant to converge with the existing urban public space, creating dynamic intersections that serve the function of pathways and gathering points without imposing an excessive urban hierarchy (Jornal Arquitectos, 2024).

The residential L-shaped building of Siza is composed of mainly two-bedroom typologies on the first three floors, with the exception of the apartments in the corner, which are three-bedroom apartments. The last floor, is composed of mainly single-bedroom apartments. The overall layout of the first three floors gives priority to the orientation of the bedroom openings. These openings are strategically placed on the southern side of each apartment, facing the expansive open square, thereby maximising access to natural light and views of the outdoor space. On the fourth floor, however, the architect decided to invert the logic of the floor plan by placing the living room on the southern part accompanied by top balconies, which are among the commonly used architectural archetypes on the island (Divisare, 2016).

During the research phase, Álvaro Siza drew significant insights from the work of Egle Trincanato entitled A Guide to Venetian domestic architecture: "Venezia Minore" (Trincanato & Salvadori, 1980). This foundational study considerably informed and influenced his approach, allowing for a deeper understanding of the nuanced vernacular architecture of Venice, particularly Giudecca (Baptista, 2016). The research-oriented nature of Siza's architectural practice is of such significance that the famous Spanish architect Alberto Campo Baeza described Siza not only as an architect but equally as a researcher in practice (Campo Baeza, 2014, p.2).

319

Consequently, the morphology of Siza's proposal not only respects the integrity of the existing urban fabric but also intends to establish a meaningful dialogue with it, fostering a seamless integration between the new interventions and the pre-existent circumstance. This is especially evident in the rhythmic composition of the façades and the proportions of the openings in all three buildings by Álvaro Siza, Carlo Aymonino and Aldo Rossi. In the case of Siza's, the proposed window proportions facing Calle de L'Asilo Mason closely mirror those found in the surrounding buildings, maintaining a continuity with the urban fabric, with the exception of a single 90° angle-rotated balcony in the corner of the building, facing the street. However, the window proportions facing the large inner square adopt a more elongated form. This design choice could be possibly justified by the freedom from the constraints of dense urban morphology, as well as the need to create larger openings that engage more dynamically with the open square.

In addition, the project by Aymonino is an H-shaped building composed of four floors, having two open entrances (on the north and the south), one of which is clearly marked by a central column. The entrance to Aymonino's building is transversally connected to the Condominio Aldo Rossi, creating a space of transition from one building to another. The building benefits from a pyramid-formed transparent coverage, which lights up the central core of the building dedicated to the semi-public circulation (Divisare, 2020). The Condominio Aldo Rossi, by contrast, is a U-shaped structure consisting of four floors in addition to an attic level. The roof of the two buildings facing one another is vaulted and constructed from curved metal plates, in contrast to the buildings by Aymonino and Siza, which have gable roofs. Terraces play a significant role in the perception of space as well as in the functional integration of the two buildings into a cohesive architectural form (Divisare, 2020).

Despite the completion of the housing projects by Carlo Aymonino and Aldo Rossi in 2004 and the successful execution of the first phase of the edifice proposed by Álvaro Siza 2004-2007, the second phase of construction was interrupted in 2009 since the contractor filed for bankruptcy. Furthermore, the project by Rafael Moneo, up to this date, is in the very initial stages, and its execution phase never materialised (Jornal Arquitectos, 2024).
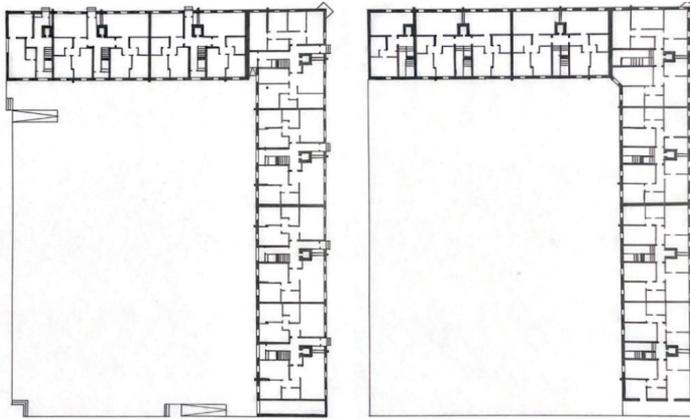

Figure 1. Author's schematic re-drawings of 1st & 2nd-floor plans of Álvaro Siza's project in Giudecca, 2024.

Undeniably, by integrating the architectural interventions of Aldo Rossi and Carlo Aymonino, Álvaro Siza reinforced the idea of collective memory in Giudecca, where the architecture of a neighbourhood is an architecture of collective memory. To better explain this notion, we can refer to the word of Aldo Rossi, when in his seminal book *The Architecture of the City*[1] states, "one can say that the city itself is the collective memory of its people, and as such, it is associated with objects and places. The city is the locus of the collective memory". Similar traits can be identified in Siza's work, as he too, by designing a dialogue between the architecture of the referred architects, highlighted the layered morphology of Giudecca, which is not confined to a single style or theory.

Between the Visible and Invisible

Despite the initial global recognition of this project, the collaboration of various prominent architects, and its relevance in the daily life of Venice's residents, Álvaro Siza's Campo di Marte Social Housing project remains one of his least discussed works. In the book published by Roberto Cremascoli and Francesco Moschini in 2016, entitled *Àlvaro Siza In Italia: Il Grand Tour 1976-2016*, both the front and back covers feature Álvaro Siza's project in Giudecca; however, the reference of this project within the text is minimal, occupying only six pages that predominantly consists of photographs. The front cover, however, emphasises Siza's unfinished work in Giudecca by depicting him walking through the open square, arguably contemplating what can be characterised as the ruins of a halted project. Yet, this unintentional characteristic of this particular project may oblige one to rethink some of the concepts that are less tangible in a physical sense. Georg Simmel, in a text entitled The Ruin, makes a precise observation of what he understands of the notion of the ruin, considering it a worthy manifestation of art with all of its constraints. He defines the ruin of a work of architecture and art as both meaningful and significant as he argued;

1. It is worth mentioning that Rossi's The Architecture of the City was profoundly influenced by his mentor's line of thinking, Ernesto Nathan Rogers — a figure who was equally important for that generation of Portuguese architects. See Ernesto Nathan Rogers: The Modern Architect as Public Intellectual by Maurizio Sabini.

"The ruin of a building, however, means that where the work of art is dying, other forces and forms, those of nature, have grown and that out of what of art still lives in the ruin and what of nature already lives in it, there has emerged a new whole, a characteristic unity (Simmel, 1958, p.373).

By referring to the words of Simmel, one can argue that though the unintentional rupture of the second construction phase due to the various economic constraints resulted in a semi-built project of architecture, this incident endowed the project with a unique identity. Resulting in Siza's unfinished work in an "unfinished city". An example of the work of architecture in which a new whole emerges in the interplay between the built and the unbuilt. An architecture that allows one to imagine rather than experience. An architecture placed on the verge of visible and invisible. Ironically, Imagining The Evident is the title of one of Siza's books, which was initially published in 1998. In the same book, and in a postscript in the edition by Daniela Sá (2021), the author juxtaposes the nature of Goethe's intuition and Siza's thinking, arguing that the core principle found in Siza's work is the notion of an " [...] imagination in search of the evident" (Sá, 2021, p.148) as if the idea and the essence are united in the same plane.

Figure 2. Photos taken by the author in the intersections of the neighbourhood of Giudecca, 2024.

It can be argued that much like Michelangelo saw the figure of David within the uncarved block of marble, with his role being to remove the excess stone, Siza's work follows a similar approach. This is manifested as he describes the process of designing a chair as "[...] a progressive reduction of the essence and the gradual proximity to the substance" (Siza, 2021, p.126).

In addition, Siza's project in Giudecca provoked numerous reactions from both Italian and Portuguese society. This led to Portugal presenting a site-specific pavilion at the unfinished building of Siza at the 2016 Venice Biennale entitled NEIGHBOURHOOD: Where Álvaro Meets Aldo to increase attention towards the unfinished work of architecture, which successfully led to the announcement of the completion of the second phase of the project (Baptista, 2016). The pavilion showcased four significant projects by Álvaro Siza, in the field of social housing in four cities across Europe, including Venice, The Hague, Berlin and Porto. The focal theme was the notion of neighbourhood, addressing a crucial aspect of contemporary European political discourse to foster a more tolerant and multicultural society. The exhibition depicted the personal encounter of the architect with the inhabitants, who, a couple of months prior to the biennale, visited his

social housing projects in the mentioned cities (Baptista, 2016). In other words, in contrast to the common practice, where the built environment influences the unbuilt, in this case the unbuilt work, shaped the built, hence, a reciprocal ambiance.

Peter Testa in his seminal book entitled Álvaro Siza, when discussing the Antonio Carlos Siza House, refers to the notion of "unity of the discontinuous", an idea he borrowed from Manfredo Tafuri, which means the "evident in the relations among elements" of architecture (Testa, 1996, p.31). One could argue that this unity of the discontinuous is also present in Siza's project in Giudecca, as the unbuilt arm of Siza's project, maintained its unity with the rest of the built elements. Furthermore, even after the completion of the unbuilt section, this unity remains still. In other words, though there is a reciprocal relation between the built and unbuilt, between the discontinuous elements in Siza's architecture, this quality of reciprocity does not lead to an interruption of the oeuvre being perceived and experienced as a whole.

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323

Defining ambiances in traditional public spaces: a comparative analyse across cultural, geographical and historical contexts in Algeria

Lilia MAKHLOUFI[1]

1. Full Professor, Ecole Polytechnique d'Architecture et d'Urbanisme (EPAU), Algiers, Algeria,
   l.makhloufi@epau-alger.edu.dz

Abstract.

Place of memory but also of history, the Algerian old towns are characterised by a traditional urban structure, a powerful commercial device of old vocation, the lot associated to a big sense of community. The methodology is based on a comparative analysis between two case studies: the first one is the Kasbah of Algiers looking onto the Mediterranean Sea and the second one is the Ksar of Ghardaïa commonly called the gate of the desert. The results arise from an academic research project1 concerning ambiances in Algeria, and highlight the existence of many different spatial references that help to conceive ambiances as a dynamic crossing point between tangible and intangible parameters, urban ambiances being a privileged support of identity.

Keywords:

Old town, Public spaces, Ambiances, Culture, Identity, Sensory heritage. Conceiving urban

ambiances

'The term ambiance - often confined in literature to steamy, autumnal or festive atmospheres - imposed itself a few years ago as a relevant instrument for spatial analysis and design, and became a foundation for many theoretical and operational practices. Researchers have come to call 'ambiance' a global apprehension, immediate or corporally felt, of the space, and ambiances in the plural, sensorial and mediate modalities or apprehensions (Torgue 2012, 41). This approach to the built environment involves all the senses (sound, light, odors, touch, heat, etcetera).' (Makhloufi & Fitzsimmons Frey, 2016, p.515-516).

The traditional urban networks built in Algiers by the Ottomans and in Ghardaïa by the Ibadis have been preserved until today. Simple, functional and perfectly adapted to the environment, architectural and urban spaces in these old cities were designed with a big sense of community, while respecting religious, social and moral ideals the local culture, the way of life and the privacy of the family, and became a source of inspiration for plurisdisciplinary and multidisciplinary research, linking history, architecture, urban planning, sociology, anthropology, etc. What are the teachings that one can draw from this heritage, inexhaustible source concerning architectural and urban ambiances?

Traditional Urban Network in the Kasbah of Algiers

UNESCO World Heritage Site since 1992, the Kasbah of Algiers is characterized by a traditional urban structure, a powerful commercial device of old vocation, associated to a big sense of community. Its districts are organized such an amphitheatre looking onto the Mediterranean Sea (Figure 1). The Sea gate of the old city was situated in the bottom of the hilly terrain, next to the

harbor with its important social and economic interactions. While going up, the residential district takes its shape in the form of stairs until the top of the hill. Locating the districts vertically allows the stratification of temperatures. The buildings in the upper levels are warmer than the lower zones due to the stratification. This vertical zoning is applied rigorously in architectural and urban spaces, according to the local needs and activities.

In the Kasbah of Algiers, public spaces form the district life and regulate pedestrian flows, in the sense where they define and filter the passers-by, make all activities linked, form the setting of their exchanges, while preserving the intimacy of the residents and while conferring conviviality between neighbours. With the hierarchy of the road network, one passes from the public to the semi-public to arrive at the private (is considered like private, the dead end giving access in quibbling to the dwelling). The private residence becomes this way, a real endogenous bubble and contrasts with the animation that spreads beyond its perimeter. This endogenous architectural conception allowed the residents, merchants and passers-by to coexist while avoiding interfering with one another (Makhloufi, 2024).

Figure 1.The Kasbah of Algiers and its public spaces, Lilia Makhloufi, 2012

Traditional Urban Network in the Ksar of Ghardaïa

UNESCO World Heritage Site since 1982, the Ksar of Ghardaïa is located in the heart of the Sahara, and forms an extraordinarily homogenous ensemble. This fortified city is located on a rocky hill surrounded by palm groves. It has conserved practically the same way of life and the same building techniques since the 11th century according to specific social and cultural contexts, constrained by a semiarid environment, and constitutes the context of a genuine culture that has through its own merit, preserved its cohesion during a millennium.

The Ksar was dominated by a mosque and its minaret was used as a watchtower (Figure 2). Houses were built in concentric circles until the ramparts. Each house constituted a cubic unit with standard typology that illustrated an egalitarian society founded on the respect of the family, and aimed at the preservation of its privacy.

The Ibadis created with local materials, a vernacular architecture well adapted to the local environment, the simplicity of its forms and its principals have influenced contemporary architecture and town-planning. According to Criterion (ii) of UNESCO 'This model settlement has exercised considerable influence for nearly a millennium on Arab architecture and town-planning, including

architects and town-planners of the 20th century, from Le Corbusier to Fernand Pouillon and André Ravérau'. (UNESCO/WHC, 1992-2015).

The traditional Ksar of Ghardaïa has completely surrounded urban spaces and squares to decrease the effect of hot and sandy winds. The market in the main square of Ghardaïa is surrounded by covered galleries and arcades. The main streets that juxtapose the souk are covered to protect all merchants and customers from hot sunlight and dusty winds. The roofed lanes where people walk safely insure covered entrances and shady spaces for boutiques and buildings. Moreover, to expose little surface to solar radiation in summer and cold climate in winter, the Mozabites have used dense and compact horizontal and vertical patterns. Figure 2 presents some pedestrian streets made of stairs in Ghardaïa. There are narrow, irregular, semi-covered and covered passages in the traditional network to provide shade and fresh air in hot season.
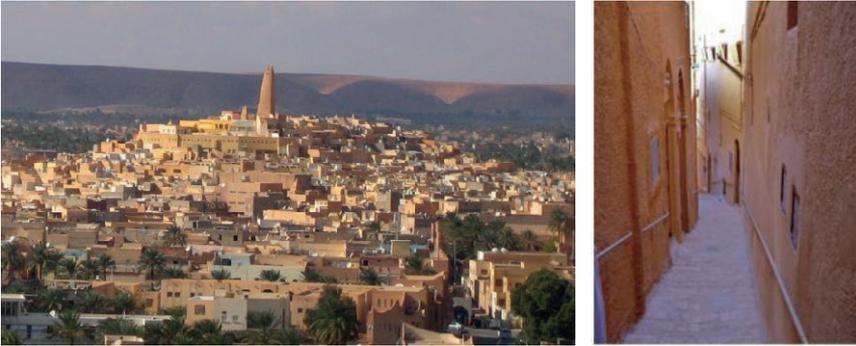

Figure 2. The Ksar of Ghardaïa and its public spaces, Lilia Makhloufi, 2007

Urban ambiances as a dynamic crossing point between tangible and intangible parameters

Tangible and intangible heritage in old cities in Algeria constitutes an inexhaustible source of knowledge. It aims to achieve a sustainable union between the society, the cultural identity, the daily practices, the lifestyle and the built environment. In the Sahara and in particular Ghardaïa, the maintenance of traditional techniques and functions has strengthened the viability of the ksour and contributed towards the maintenance of their integrity. Mozabite society has introduced specific construction systems adapted to semiarid climates that can be used by the contemporary society and reproduced in other regions. The local people have preserved their local heritage through economic and socio-cultural values, as well as local feasts and festivals. This World Heritage Site is given the epithet 'the pearl of the oasis' and attracts each year many researchers, practitioners and tourists who are eager to learn more about this exceptional historic and cultural site.

Indeed, the local people are well known for their arts and crafts, tapestry in particular. An annual event is organized every spring to celebrate the 'National Day of Rugs' (Figure 3). Another event 'Dromedary Day' is organized in parallel, 31.3 kilometers away from Ghardaïa, in Metlili-Chaamba commune. People from all over the country and other parts of the world attend this annual Arabian camel race with a lot of enthusiasm.

During these festivals, artisans present a series of colorful carpets, of cloths and of traditional costumes particularly baggy trousers and headgear, this distinctive outfit is daily used by Mozabites.

The festival offers a series of traditional objects made by hand, whether by coppersmiths or by jewelers, and other basketry, pottery, goat and camel hair products, etc. Moreover, Ghardaïa is a major centre of date production, with nearly 60,000 palm trees producing dates (POVM, 2015).

The numerous ceremonies enhance the atmosphere of feast with which local people welcome these artistic events and this creates an ambiance that is linked to the restoration of local traditions and heritage. 'The authenticity of the site can be attributed to its configuration, divided into sections, the layout and traditional constructions of the ksour, particularly in the intra-muros areas. The maintenance of traditional functions in these areas has strengthened the viability of the property and contributed towards the maintenance of its integrity' (UNESCO/WHC, 1992-2015).

Figure 3. The Souk in the main square of Ghardaïa, Lilia Makhloufi, 2007

Urban ambiances as a factor of resilience

Today, the residential life, work, purchases, leisure and activities take place in separated places, within agglomerations always more vast. If this picture is also worth for Algiers and its suburban areas, the more active families disperse themselves daily between different places. To satisfy the basic needs of the inhabitants, and to achieve a better quality of life in this newly built environment, planners put in service facilities since the arrival of the first inhabitants. They find close to them, primary schools, colleges and trades of first necessity. While moving a little away, they reach high schools. By bus, they can join the banks, the universities and the hospitals (Makhloufi, 2025).

'Feedback from the residents confirms that their sense of comfort, both indoors and outdoors, is shaped by a combination of interrelated elements. These include factors like lighting (bright, soft, colourful, etc.), sounds (voices, footsteps, transportation noise), smells, and the presence of trees and vegetation. These ambient features transform the living environment into a 'multi-sensory' space, impacting residents' well-being as they engage in daily activities' (Makhloufi, 2025, p.10). However, this fact does not prevent the residents to mention the lack of life. Indeed, many inhabitants find their new district un-lively and monotonous. Indeed, for these inhabitants, housing is necessary, but not sufficient. Around that, they expect to find a district, with its exchanges, a city full of life. The non-proximity of trades, for example, is raised by the modest populations, in particular by the non-motorized people.

Therefore, building and strengthening urban ambiances in newly built environment impose to improve the quality of life of the local population, by considering the possibility that inhabitants identify themselves positively to a place, and by ensuring that they develop the pride to live in. In this sense, public spaces constitute a permanent element of the urban environment, at the same

time for inhabitants and passers-by. Inhabitants spread around their housing, they refer to the district, pay a particular attention to streets, places, centres and settings of their daily life. Thus, creating urban environment that people enjoy living in and working in requires best practices at the same time economic, social and environmental in the aim to facilitate social interactions between inhabitants and their neighbourhood (Makhloufi, 2025).

The uniqueness of traditional urban networks in both Algiers and Ghardaïa offers to researchers the possibility to get complete resources from its local knowledge and expertise. In this sense, urban ambiances translate a harmony between the society, the cultural identity and the structural rules of spatial organisations. Indeed, beyond the guiding architectural and urban principles, traditional urban networks were shaped through theoretical and practical frameworks. The local population developed an understanding of conscious responses to the local environment, to specific societal conditions, community behaviours and urban life (Makhloufi, 2024). Moreover, the forms of traditional buildings have been shaped according to the available natural sources of energy (sunlight and wind) in order to reduce heating and to provide ventilation cooling. There are many natural techniques about passive building design criteria in vernacular architecture, and contemporary architects use these traditional skills and experiences to design and construct new building forms adapted to the climate, to the social life and to the built environment.

All these architectural and urban ambiances preserve the local traditions and the local culture and connect the population to its heritage. Today, while construction develops along with any style, old tows stay the symbol of a previous way of life that remains meaningful, and even if they are declared decayed or in state of ruin, they continue to be perceived by the five senses (Makhloufi, 2012). In the objective to preserve identity and cultural aspirations, heritage must be referred to precise places, by constructing multiple faces. Indeed, these dense central cores, their tiny streets and other pedestrian spaces should be preserved because they allow people to trade, but also to live, to stroll, to play, to move, to take a rest or a coffee and to work. Many inhabitants aim to valorise their heritage, not for commercial or touristic aspirations, but in the objective to protect a collective memory (Makhloufi, 2013).

Our position is not attached to the past, does not defend the historic city or an architectural and urban production in particular. Through this article, we want to emphasise the cultural dimensions of an ambiance, by going beyond the symbolic and aesthetic dimensions of historic spaces, to emphasise their cultural vocation and their conviviality. 'In Algeria, cultural ambiances relate to a revival of interest in local values, and preserve the richness of local ways of life (Makhloufi, 2012, p.492). The Algerian people value what is specific to Algerian culture, in contrast to global culture, or even pan-Arabic or pan-African culture' (Makhloufi & Fitzsimmons Frey, 2016, p.516). In this sense, users' perceptions and representations of these places of meetings and exchanges crowded day and night, places edged with boutiques and market where to go shopping, translate cultural ambiances that would be for the safeguard of our old towns and their identity, indispensable in years to come.

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329

Urban Ecological Ambiances as Mediators of Environmental Perception
A Multimodal Analysis of Skanderbeg Square, Tirana

Sokol DERVISHI, Ajmona HOXHA, Ina DERVISHI
Department of Architecture, Epoka University, Tirana, Albania
Sdervishi@epoka.edu.al
hoxha.ajmona@gmail.com
iosmani@epoka.edu.al

Abstract.
This study explores how ecological and material elements shape the ambiance of urban public spaces, focusing on Skanderbeg Square in Tirana, Albania. Grounded in Ambiance Theory, it examines how natural systems—air, water, vegetation, biodiversity, and microclimate—interact with architectural design to influence sensory and emotional experiences. Using a mixed-methods approach that includes environmental measurements, on-site observations, user surveys, and expert interviews, the research investigates how features like shaded areas, native plants, and water surfaces contribute to thermal comfort, psychological well-being, and social engagement. Preliminary findings reveal that the square's design fosters adaptable and multisensory ambiances, enhancing both environmental quality and user experience. By linking ecological data with human perception, the study provides actionable insights for integrating nature-based strategies into urban planning. It contributes to the goals of COST Action CitySenZ CA23145 by promoting ambiance as a tool for designing healthier, more responsive, and sustainable urban environments.

Keywords:
Urban Ambiance; Public Space Design; Skanderbeg Square; Urban Nature; Sensory Experience; Microclimate

Introduction

Nature shapes human life through air, water, soil, sound, and living systems, but rapid urbanization disrupts these connections, replacing natural landscapes with built environments. Yet, public spaces remain key sites where urban nature persists, supporting well-being and social interaction (Elmqvist, Alfsen, & Colding, 2008; Kabisch et al., 2017). Urban nature has evolved from parks to integral parts of city ecosystems, transforming rather than erasing nature through altered soil, water, and biodiversity (Spirn, 1985; Alberti, 2008). Public spaces beyond parks foster these systems (Pickett et al., 2011). Early studies treated components separately, but modern research reveals their interdependence, echoing Hippocrates' holistic view (Andersson et al., 2014). Once limited to parks and suburbs (Spirn, 2001), urban nature now includes all open spaces as "green voids" addressing pollution and climate challenges (Wolch et al., 2014; McDonald et al., 2020). This study examines Skanderbeg Square in Tirana, Albania, as a case of ecological urbanism where vegetation, air, water, sound, and light shape dynamic ambiances. It frames urban nature as a co-produced socio-ecological process (Spirn, 2001, 2012; Forman, 2008; Andersson et al., 2019), aligning with COST Action CA23145's aim to advance interdisciplinary understanding of architectural and urban ambiances (Frantzeskaki et al., 2019).

Methodology
Overview

This research uses a mixed-methods approach, combining qualitative and quantitative methods to explore urban ecology in public spaces, focusing on human interaction and perception. Qualitative methods, such as interviews, surveys, and field observations, provide insights into behavior and ecological experience, while quantitative data, including environmental measurements, support analytical clarity. The research follows a relativist ontological stance in early stages and adopts a constructionist perspective as it focuses on human perception and social behavior. All data are primary, collected through on-site investigation, perception surveys, interviews, and ecological observations. This methodology bridges perception with environmental systems in urban public space.

Selection Criteria

Skanderbeg Square in Tirana was selected for its central role in integrating urban nature—vegetation, water, and microclimatic benefits—within a dense urban setting. Primary methods included interviews, on-site observations, surveys, and environmental monitoring, making it a data-rich and representative case for studying ecological urbanism in public space.

Data Sources and Tools

This research combines primary data—surveys, interviews, observations, and manual counts—with secondary sources like institutional reports and architectural documents. Site visits to Skanderbeg Square generated field notes, photos, and visual analyses. Surveys were conducted online (ages 18–45) and on-site (ages 45–80) in both Albanian and English, ensuring accessibility and avoiding duplication. Data were processed using Excel to produce charts supporting thematic analyses. Visual and observational records of vegetation, water, microclimate, and user behavior complemented the surveys, enriching the qualitative narrative. Stakeholder interviews with architects and planners further contextualized ecological systems, contributing to a holistic understanding of urban nature in public space.

This research examines Skanderbeg Square in Tirana as a dynamic socio-ecological system where urban nature and public life intersect. Analyzing six ecological dimensions—air, water, vegetation, sunlight, sound, and behavior—it highlights how integrated design enhances user experience, offering insights for sustainable public space planning in Mediterranean urban contexts.

Results and Discussion
Ecological Performance of Skanderbeg Square

Repeated site visits confirmed that a majority of Skanderbeg Square users are frequent visitors. Among 267 surveyed participants, 21% reported daily visits and 18% came at least once per week. Combined with those visiting multiple times weekly or on weekends, 74% of respondents engage regularly with the space—underscoring the reliability of their ecological and experiential evaluations.

Air Quality Skanderbeg Square has seen significant air quality improvements since being pedestrianized. Once a high-traffic hub with PM10 levels reaching 172 μg/m³ in 2005 (AKM, 2005),

recent monitoring recorded levels at 42.88 μg/m³—just above EU standards (Tirana Municipality, 2017). This drop is largely due to the surrounding vegetation and removal of vehicle access. According to survey results (Figure 1), 78% rated air quality from moderate to excellent, with only 15% perceiving it as negative.

Water Presence: The square features 100 leaking fountains, 30 jet fountains, and 7 drinking fountains, creating a dynamic water experience. Water supports play, refreshment, and passive cooling. Survey results (Figure 1) show 62% of users rated water positively, while only 18% considered it neutral or disturbing. The integrated water system also supports other ecological functions like sound and temperature moderation.

Urban Forest and Biodiversity: The square hosts nearly 2,000 trees, 7,300 shrubs, 76,000 perennials, and over 5,000 m² of lawn—significantly more biodiverse than typical urban parks in Tirana. These plantings provide shade, reduce air pollution, support pollinators, and help prevent flooding through water retention. According to survey data (Figure 1), 67% rated the urban forest as good or excellent, with only 6% expressing negative views. Users favored vegetated zones, especially those behind the museum garden.

Temperature Comfort and Microclimate: Despite ecological improvements, temperature comfort remains a challenge. With Tirana receiving over 2,500 hours of annual sunshine, the square's large paved surface—56% stone—reflects significant heat. Only 18% of respondents rated temperature comfort positively, while nearly 49% found it uncomfortable or disturbing (Figure 1). The gardens, comprising 28% of the area, offer cooler microclimates. Observations confirmed that people seek shade areas throughout the day, and usage patterns shift with sun exposure.

332

Acoustical Comfort: Noise pollution in Tirana previously exceeded European limits, but within the square, measurements now show daytime levels at 41 dB and nighttime at 27.3 dB (ISHP, 2018). The removal of traffic and the buffering effects of vegetation significantly improved soundscapes. The survey results (Figure 1) show 62.5% rated acoustical comfort above average, with only 8% expressing dissatisfaction.

This analysis highlights the strengths of Skanderbeg Square's ecological redesign— particularly in vegetation, acoustics, and water integration—while pointing to temperature regulation as the main area for improvement.
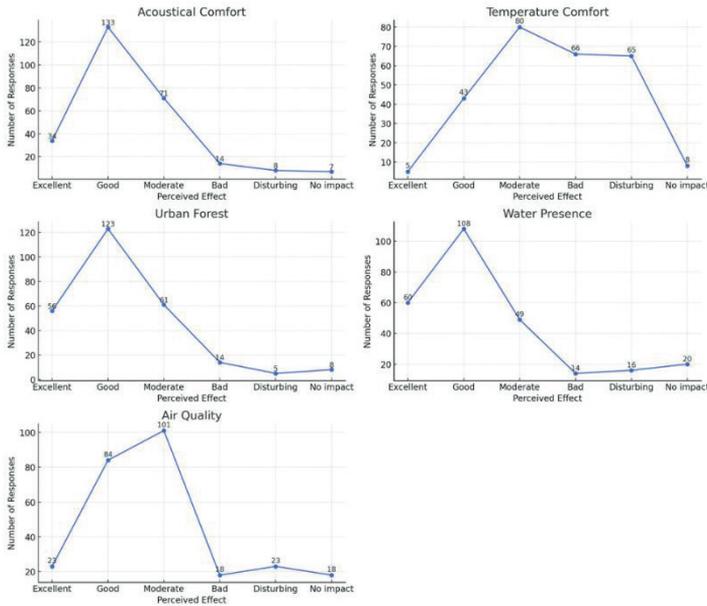
Figure 1. User Evaluation of Urban Ecology Components in Skanderbeg Square of five key environmental features—acoustics, temperature, urban greenery, water presence, and air quality—based on their perceived impact

Human Scale and Social Dynamics

333

Skanderbeg Square's redesign, which prioritizes pedestrians and cyclists while restricting vehicles, has significantly influenced how people interact with space. Survey data (Figure 2) shows that 74% of users are frequent visitors—56 come daily and 44 weekly— highlighting the reliability of their ecological and behavioral insights.

As shown in Figure 3, most people use the square to pass through (177), walk (111), and attend events (70). Other common activities include reading (39), sightseeing (38), and biking (25), confirming that the square functions as both a transit route and a recreational destination.

Seating behavior is highly adaptive. People make use of steps, ledges, shaded gardens, and lawns. Survey responses confirm this diversity, with the Museum Stairs ranking highest, followed by shaded perimeters and stone edges (Figure 3). This reflects the flexibility and personalization of urban space use. Social dynamics further define the square's character. The majority (61%) visit with friends, 20% alone, and 17% with family (Figure 3), reinforcing its role as a sociable, inclusive public realm. Users span all demographics, from families to elders, informal vendors, and youth.

Garden preference rankings (Figure 3) show the Museum Garden (I) and Main Square (X) as most popular, followed by the Opera and Museum Stairs. These choices reflect preferences for shade, elevation, and vegetation—key elements of ecological comfort and place identity. In summary, Skanderbeg Square supports a rich mix of activities and interactions. Its ecological design enables diverse use patterns, social engagement, and spatial adaptability, making it a compelling model of human-centered, nature-integrated urbanism.
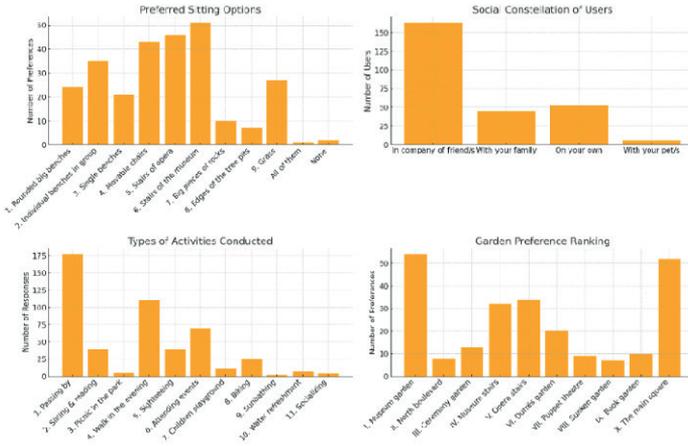
Figure 2 User Behavior and Preferences in Skanderbeg Square

Figure 3. Activities and Social Use Patterns in Skanderbeg Square

Conclusion

Survey findings reveal that Urban Forest and Biodiversity received the highest overall positive feedback, followed by Water Presence and Acoustical Comfort. Acoustical comfort had the most "excellent" ratings (22%), while air quality received the most "moderate" responses, indicating perceived improvement with room for growth. Temperature comfort was the most problematic, with 65 users expressing dissatisfaction due to solar exposure and limited shading. These results highlight the importance of integrating vegetation and natural systems into urban design. Dense greenery and traffic reduction have successfully improved acoustic quality and supported biodiversity. However, addressing microclimatic discomfort—particularly heat—remains essential. Enhancing shade through canopy cover, cooling surfaces, or water features could significantly improve user experience. Overall, the research confirms that balanced ecological strategies foster more comfortable, inclusive, and sustainable public spaces. Skanderbeg Square offers valuable lessons for cities seeking to integrate urban nature into dense environments, especially in Mediterranean climates.

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The blurriness of shade
Why are thermal comfort indices too precise for describing thermal ambiance?

Or ALEKSANDROWICZ[1]
1. BDAR Lab, Faculty of Architecture and Town Planning, Technion Israel Institute of Technology, Israel, oraleks@technion.ac.il

Abstract.
Although dominated by regional and seasonal trends, city climates are also shaped by urban morphology and materiality, and this is particularly true when considering urban heat. Currently, to evaluate the effectiveness of cooling design strategies, quantitative scales of thermal comfort indices are applied, based on objective physical parameters. However, because of their apparent precision, such indices fail to capture the nuanced ambiguities of subjective thermal experiences, which also depend on sensual perceptions, expectations, cultural norms, and thermal contrasts. Outdoor shade, a pure outcome of planning choices, serves as a strong subjective signifier of thermal relief because of its dramatic effect on the relative reduction of outdoor heat stress, even without providing perceived "thermal neutrality." We therefore propose a shift from quantifying comfort to mapping shade to inform design for urban cooling, generating high-resolution maps reflecting the thermal affordance of cityscapes, from individual street segments and spaces to entire street networks.

Keywords:
Thermal Comfort, Urban Microclimate, Outdoor Shade, Urban Shade Maps

336

Urban ambience and climate

One key element dominating urban atmospheres is the ambient climatic conditions, which heavily depend on regional geographic features and daily and seasonal weather fluctuations. Although this may suggest that urban design can have little impact on urban climates, recent years have shown that as global warming has led to increased awareness of urban heat, a variety of design features have been proposed to cool cities. Such features include the integration of trees and vegetation into streets and open public spaces, the application of vegetation to roofs ("green roofs") and building facades ("green walls"), and the application of high-albedo materials to roofs, walls, pavements, and roads (Gartland 2008; Erell, Pearlmutter, and Williamson 2011).

Design recommendations on heat mitigation measures are based on decades of research in urban climatology, highlighting the role of science in guiding design decisions based on quantifiable metrics (Aleksandrowicz et al. 2017). At the basis of urban climatology lies the recognition that the way we build our cities creates specific microclimatic conditions that transcend regional climates. Science has shown that street orientation, building density, green cover, and the types of materials used for constructing buildings, roads, and pavements all exacerbate or mitigate climatic phenomena, particularly the overheating of cities (Oke 1987; Stewart 2019). From the perspective of an urban climatologist, the degree of urban overheating can be precisely determined using objective parameters such as air or surface temperature, which can support a quantitative evaluation of a city's climatic performance. However, precisely because of their apparent objectivity, these metrics may be less effective in capturing the variance in subjective perception of thermal sensations among different people.

The concept of thermal comfort

While heat can be described using measurable physical phenomena, its effects on humans are more challenging to evaluate, as they involve personal experiences, preferences, expectations, and physiological conditions. Science has long recognized this dual aspect of the climate-human relationship by defining the concept of "thermal comfort" as a "condition of mind that expresses satisfaction with the thermal environment" (ASHRAE 55 standard). To address this inherent subjectivity, scientists sought to find statistically significant relationships between measurable climatic metrics and reported levels of comfort or discomfort among large groups of people. Thermal comfort models and indices consider several measurable atmospheric phenomena, such as air temperature and relative humidity, to predict the degree of thermal discomfort (mild, moderate, or extreme) caused by specific climatic conditions. While such models and indices were initially conceived to support the design of air conditioning systems to control indoor conditions (Carlucci and Pagliano 2012), as interest in urban microclimates grew, thermal comfort indices for outdoor conditions were also developed.

Popular outdoor thermal comfort indices, like the Physiologically Equivalent Temperature (Höppe 1999; Matzarakis, Mayer, and Iziomon 1999) and the Universal Thermal Climate Index (Bröde et al. 2013), are calculated based on four climatic parameters: air temperature, relative humidity, wind speed, and the mean radiant temperature (MRT), the latter used for weighing the sometimes decisive effect of solar exposure on the body's thermal balance (Aleksandrowicz and Pearlmutter 2023). These indices also consider the clothing insulation value and metabolic rate of specific individuals, although it is usually assumed that they represent casual walking speed and clothing adapted to the prevalent climatic conditions.

The power of these indices lies in their precision, since they enable us to calculate an apparently meaningful "feels like" temperature that communicates increasing levels of discomfort according to a clear quantitative scale. This approach, though, has a paradoxical effect: by relating reports on different levels of thermal discomfort to a fixed set of objective metrics, we create an illusion of precision and control. Yet, while bioclimatic indices use clear-cut thresholds to describe, for example, the transition from "moderate heat stress" to "strong heat stress" (which is, in the PET scale, 35°C), our subjective experiences teach us that the dividing lines between different states of thermal sensation are much more vague. Moreover, contrary to what thermal indices might suggest by the structure of their normative scales, the transition from "thermal neutrality", which means that a person does not feel any degree of thermal discomfort, to perceived thermal stress may seem trivial or insignificant in light of other elements of the urban experience.

Outdoor thermal delight and shade

In her 1979 seminal book, *Thermal Delight in Architecture*, Lisa Heschong made a case for exploring the thermal environment in buildings beyond the ostensibly "mechanistic" concept of comfort. Heschong argued that a designer should view thermal sensations as a source of delight that can enhance and complement the spatial experience, rather than as an engineering problem to be solved to achieve "thermal neutrality." (Heschong 1979) In her eyes, delight may result not only from the thermal conditions as they objectively are, but also from the thermal expectations created by the visual appearance of a space and the thermal contrast between spaces.

While Heschong's book focused on the thermal conditions inside buildings, her concept of thermal delight can be easily applied and extended to outdoor conditions. It can be used to shed light on the inherent limitations of the quantitative scales we currently use to evaluate outdoor thermal comfort, by allowing a more flexible range of spatial configurations that can produce favorable conditions even when "thermal neutrality" is not achieved. When examining the problem of urban heat, a relative improvement in thermal stress can be seen as favorable, even if it does not completely eliminate thermal discomfort. This is especially true for shaded spaces on hot days, where the reduction of heat stress can be dramatic, even when the underlying weather conditions, even in the shade, exceed the point of index-based "thermal neutrality."

Simply put, a shaded space is created when direct solar radiation is blocked from reaching that space. As we usually refer to it in our everyday life, shade is a blurry concept, since it does not consider the precise effectiveness of blocking solar radiation: while buildings, as opaque volumes, block all direct solar radiation to produce shading, a tree canopy or a hanging fabric may provide decent shading even when direct solar radiation penetrates them to a certain degree. Nevertheless, in hot weather, any type of shade is viewed as a climatic asset that conveys a sense of relative coolness and thermal relief, irrespective of the exact capacity of a shading element to block solar radiation.

What makes shade particularly relevant to design is that, unlike air temperature, relative humidity, and wind speed, it entirely depends on planning and design choices. Therefore, mapping its provision over different times and dates can deliver a reliable picture of the thermal affordance of perceived coolness in urban spaces, even without precisely calculating the perceived temperature according to a particular thermal comfort index. Shade can thus be used as an indicator of outdoor cooling affordance, based on a simple binary logic that differentiates between shade and solar exposure (Figures 1 and 2), assuming that its mere existence on a hot day would provide thermal relief.

In previous works, I have developed and applied a spatial Shade Index that indicates the cumulative presence of shade in streets and open spaces during a typical spring or summer day (Aleksandrowicz et al. 2020; 2025). The index is used to geographically map an urban shade hierarchy, highlighting locations that suffer from a lack of outdoor shade, and thus supporting an evidence-based approach to design interventions for outdoor cooling (Figure 3). Yet the map itself does not tell the entire story: both the evaluation of outdoor conditions and the allocation of resources to modify design should also be based on intimate knowledge of urban life, considering the social and cultural significance of specific streets and spaces, focal points of activity, and demographic characteristics.

However, by producing high-resolution urban shade maps, we can characterize the thermal affordance not just of individual locations, but also of extensive networks of streets, open spaces, and neighborhoods, relating them to specific design features prevalent in different parts of the city. Thus, a neighborhood or an area that exhibits an intricate combination of connecting shaded spaces can be seen as providing a specific type of ambiance in which summer thermal delight plays a significant role. In doing so, shade maps can not only illustrate the existing thermal ambiance in cities but also provide insights on how we can recreate it through design.

Figure 1. Shaded street in Tel Aviv during summer, providing a sense of sought-after coolness even when thermal neutrality cannot be achieved (photo by the author).

Figure 2. The lack of shade in Habima Square, Tel Aviv, combined with its highly reflective paving surface, implicitly suggests high levels of heat stress during a hot day (photo by the author).

Figure 3. An urban shade map of the city of Petah Tikva, Israel, 2022 (data analysis and mapping: Morel Weisthal and Or Aleksandrowicz).

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Performing Arts and Social Sensitivity. How to address climate change with theater

Michele Granzotto1

1. University of Naples Federico II = Universit`a degli studi di Napoli Federico II – Italy

Abstract.

Why, if we know, do nothing? Often, we do not behave consistently with what we know. For example, we know that some of our lifestyles and the products we consume daily are part of a production chain that exploits workers and harms the environment (smartphones and fast fashion, for instance). My research hypothesis is that this question challenges a certain social sensibility shaped by the social atmosphere we inhabit.

Through a performing arts workshop for the blind and visually impaired, I will study how atmospheres are perceived and expressed regardless of vision, and how theater and performing arts can activate general social change through a type of knowledge that goes beyond mere information (rational and conscious), involving the body and affective involvement.

In the first part of this paper, I will focus on the theoretical aspect and pose a reflection on the dialogue between Neue Ph¨anomenologie and Performance Studies. In particular, I will discuss Erika Fischer-Lichte's concept of auto-poietic feedback loop. I will emphasize also the pathic aspect of social action and question the role of the patheur, discussing the neo-phenomenological sociology of Robert Gugutzer.

The second part will focus on the methodological aspects of using a performing arts work-shop for social research and the theoretical aspects of atmospheric processes that generate affective involvement and awareness. In a theater workshop context, participants physically experience the atmospheres that pervade and are expressed by the space. In a sense, we can say that theater trains a certain sensitivity.

In the third part, I will present some excerpts from my workshop diaries with blind and visually impaired individuals as an example. These excerpts demonstrate how the participants' experiences highlight the awareness gained through theater practice.

Lastly, I will discuss the importance of sensitivity in relation to climate change and environmental sustainability and explain how sensitivity can be developed through theater. In this sense, theater and the performing arts build a bridge between physical reality and emotional experience (B¨ohme), giving emotional substance and anchoring specific atmospheres to ideas, concepts, and information that are otherwise presented in a numbing, unengaging way.

To answer the question posed at the beginning, we can therefore assume that some in-formation does not involve us affectively because we are numb to it, as inhabitants of an atmospherically connoted social that shapes our sensibilities. Theater practice has the capacity to train sensitivities and can therefore play a significant role in countering climate change.

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Keywords:

Neue Phänomenologie, Performing Arts, Social Sensibility, Atmospheres, Patheur.

342

343

DIGITAL MEDIATIONS AND EVALUATION TOOLS

Exploring Spatial Atmosphere Across Analog and Digital Mediums

Gulce Kirdar[1]
1. Yeditepe University, Architecture Faculty, Architecture Department gulce.kirdar@yeditepe.edu.tr

Abstract.

This study examines how digitally mediated atmosphere affects design and spatial experience compared to analog-generated atmosphere, with implications for future living environments. Drawing on the theories of Zumthor and Böhme, it explores atmospheric qualities in analog and digital design processes. Two pedagogical approaches are compared. The analog approach involves a tactile, exploratory process using sketching, diagramming, and physical model-making based on Zumthor's principles. The digital workflow employs computational design tools (Grasshopper), digital fabrication (3D printing), and Augmented Reality (AR) for developing and communicating spatial ideas. Findings reveal that analog methods enhance embodied and sensory engagement, whereas digital methods support formal and algorithmic exploration but convey sensory qualities less effectively. The results emphasize the value of hybrid approaches that integrate analog and digital strategies to foster a holistic, multi-sensory understanding of spatial atmosphere.

Keywords:

Spatial atmosphere, Analog & digital design, Model-making, Augmented reality (AR).

Introduction

Atmosphere is "the sphere of felt bodily presence" that defines the user's experience of "a spatial sense of ambience" (Böhme, 2017a, 11; 2014, 43). It functions as a means of communication between space and experiencers —shaped by perception, memory, emotions, and imagination (Ek, 2022). The user's impression is linked to spatial qualities such as the composition of the space, the materials used, spatial dimensions, form, rhythm, scale, and the relationship with its context and surrounding objects (Böhme, 2017b; Milic-Aleksic et al., 2024). The user experiences the atmosphere by moving through the space—perceiving light, seeing colors, touching surfaces, feeling temperature, smelling scents, and hearing sounds and acoustics. Accordingly, the atmosphere becomes an "attuned space, shaped by the experiencer's perception and sensory interaction" (Böhme, 2017b, 91).

The inquiry into the creation of spatial atmosphere has led to diverse interpretations among scholars: Böhme and Pallasmaa conceptualize it as a spatial-emotional aspect, whereas Zumthor approaches it as a practical and experiential dimension of architectural design (Milic-Aleksic et al., 2024). Böhme (2017b) categorizes atmosphere generators as material (tangible qualities) and immaterial (intangible qualities), and identifies their effects as impressions of movement, synesthesia, and social effects. Material generators (form, proportions, materiality and spatial organization) evoke the impression of movement through spatial orientation, while immaterial generators (light, color, sound, scent, and temperature) engage multisensory responses, enabling synesthesia (Böhme, 2017b). The social aspect involves both generators, shaped by culture and symbolic meanings (Böhme, 2017b). While Böhme (2017b) focuses on atmosphere generators, Pallasmaa (1996; 2014) emphasizes multisensory perception and embodied engagement in atmospheric

experience. Pallasmaa (2014) critiques the dominance of visual aesthetics in architecture and highlights the multilayered sensory communication that enriches spatial understanding.

Zumthor (2006) frames the atmosphere as an aesthetic category rooted in the bodily experience. As Zumthor (2006) highlights synesthetic perception, influenced by spatial form, materiality, object placement, and surroundings. Zumthor (2006) outlines twelve principles for creating an architectural atmosphere. Among them are (i) the body of architecture, (ii) material compatibility, (iii) surrounding objects, (iv) levels of intimacy, and (viii) between composure and seduction. These principles reflect the tangible spatial qualities and the sense of movement. They also align with Böhme's (2017b) material generators which produce an impression of movement. Other principles —(v) sound and (vi) temperature of space, (vii) light on things)— engage immaterial, emotional, and synesthetic dimensions, linked to Böhme's (2017b) immaterial atmosphere generators and evoke a synesthesia effect. Moreover, they support Pallasmaa's (1996; 2014) notion of multisensory spatial experience, deepening perception beyond the visual. (ix) Tension between interior and exterior and (x) architecture as environment highlight contextual relationships and intersect with the material and immaterial generators of Böhme (2017b). Lastly, (xi) coherence and (xii) aesthetics ensure the spatial integration of atmosphere, converging spatial, material, sensory, and contextual elements into a cohesive experience. Together, these principles provide a comprehensive framework for understanding how atmosphere is generated and perceived (Zumthor 2006).

Different approaches to create atmosphere

This paper examines spatial atmospheric qualities through analog and digital mediums. Drozd et al. (2019) underscore the importance of bridging the theoretical framework of atmosphere with hands-on experience— specifically, analog design methods. Analog design methods involve a continuous cycle of making and thinking with both hand and mind to materialize design ideas (Dorado, 2017). Designers think through the hand while drawing, sketching, and model-making. As Heidegger (1968) states, the hand is not merely a tool for doing but also an organ of thought; thus, all manual work becomes an extension of thinking. Manual design methods help materialize ideas, develop and refine concepts, make critical decisions, and explore alternatives through iterative processes (Dorado, 2017). Through the tactile process of designing material, formal, and scalar relationships, designers explore spatial and atmospheric qualities. To support this, Drozd et al. (2019) organized an experimental workshop in which students constructed a human-scaled (1:1) ambiance device. The form-making process fostered creativity, while material interaction encouraged participants to reflect on the sensory and experiential qualities at a bodily scale (Drozd et al., 2019).

Digital representations can augment the atmosphere by manipulating narrative to augment the atmosphere, forming an "augmented aesthetic", owing to transposability of atmosphere (Ek, 2022, 84). Technology-mediated atmospheres enhance the aesthetic experience in the physical/virtual spaces to render the atmosphere attractive (Ek, 2022). Digital practices advance to convey sensory-affective experiences through CAAD tools (Jørgensen & Holt, 2019); to visualize Zumthor's atmospheric narratives via AI-generated images (Dilaveroglu, 2024); to enable interactive virtual atmosphere in AR (Krogh, 2000); and to represent visual narratives of atmospheric qualities through visual media (Khalili, 2023). This study utilizes augmented reality (AR) to experience spatial atmosphere in a digital environment. Krogh (2000) conceptualizes AR as a designable form of atmosphere that bridges physical and digital environments. Furthermore, Krogh (2000) advocates

for integrating AR applications into the perceptual whole of the space, rather than treating them as isolated entities, and for approaching users as sensing bodies. While digital tools offer new representational possibilities, their limited engagement with human senses (Simon, 1969) and their visual-centric approach may diminish embodied and multisensory experience, resulting in what Pallasmaa (1996) terms disembodied design. As Pallasmaa (1996) further argues, such idealized visual modes of representation support a disembodied Cartesian eye—a tendency that is further amplified by digital practices. Overall, analog methods enhance experiential, sensory, and emotional awareness through tactile engagement, whereas the digital methods do so through augmented representation and aesthetics.

Methodology

This research adopts an exploratory, practice-based approach grounded in observational comparison. A Design-led inquiry was applied by using the students' design outputs as the primary source of analysis. The study focused on how each design mode affected students' perception and representation of spatial atmosphere, based on observations of physical models and AR representations, as well as student feedback. The interpretation of observations is grounded in theoretical frameworks informed by Zumthor's (2006) atmosphere principles and Böhme's (2017b) atmospheric generators.

The analog process was conducted with first-year architecture students as part of Basic Design Studio, where students were tasked with "translating trace to space." They translated the "traces" of geometric compositions —derived from abstraction artists—into spatial models through shape operations (cutting, adding, subtracting, and transforming). The resulting spatial models were not considered solely as formal compositions but also as architectural spaces with potential for atmospheric experience.

The digital process was conducted with advanced students, including final-year undergraduate and graduate students within the context of an workshop in an elective course. They employed different digital practices —including parametric design, digital fabrication, and AR presentation— to carry out a computational design process. Here, "traces" were algorithmically transformed into "spaces" through algorithms. Using the Grasshopper parametric design tool, students developed algorithmic shape operations to generate formal alternatives. The resulting models were prototyped using 3D printing and visualized through AR, serving as immersive media for discussing spatial atmosphere and perception.

Results

Analysis of student outcomes reveals distinct experiential differences. In the analog process, students thought with their hands and explored atmosphere through model-making (Figure 1). They experimented with atmospheric qualities through shape articulations, transformations, subtractions (openings) and material combination in physical models. Following Böhme (2017b, students' design of material atmosphere generators, which represent explicit information, was more directly observable, whereas the design of immaterial atmosphere generators—related to implicit information—was observed more indirectly, often through the effects of light and material texture.

Articulations in form, proportions and organization foster the impression of movement (Böhme, 2017b), within the intimacy levels, latent movement, and interior-exterior relationships (Zumthor, 2006). In addition, the students primarily explored material compatibility and its sensory effect (temperature and sound) (Zumthor, 2006) through variations in material texture, resulting in synthesia impact (Böhme, 2017b). The impact of light on spatial experience was also explicitly observed and documented through model photography. Overall, students gained insight into exploring the atmosphere through the interplay of light, material, scale, and spatial relationships.

Figure 1. Physical model by student participant (author's archive, unpublished, included with consent).

Insights from the digital practices demonstrated that AR-supported representations served as a functional tool for visual communication, 3D visualization, collaborative design, and overall design communication. While AR models provided informative and immersive visual representations and allowed partial engagement with interior-exterior relationships and scale, they lacked the depth of sensory and perceptual experience (Figure 2). However, students encountered significant limitations in exploring and perceiving immaterial atmospheric generators, particularly those emphasizing the sensory aspects of the atmosphere. Students also noted that digital models primarily offered visually centric representations, often lacking the tactile engagement necessary for multisensory perception. Although the Cartesian eye described by Pallasmaa (1996) appears to have been replaced by more interactive and immersive representations, AR-based visualizations still maintain a visually centric approach and continue to exhibit characteristics of disembodied design.

Figure 2. Digital model by student participant (author's archive, unpublished, included with consent).

Conclusion

The findings underscore that analog and digital design processes shape spatial atmosphere in different ways: analog methods foster intuitive, embodied, and sensory engagement but limited form generation alternatives; whereas digital approaches enable systematic exploration of formal diversity but remain limited in sensorial atmospheric qualities. The analog design process

emphasizes the sensorial aspects —light, material, temperature— while the digital design process highlights the formal aspect such as interior-exterior tension, scale) of atmospheric qualities. While AR models supported interactive visualization and created augmented visual aesthetic, they often remained limited in conveying material and light-related experiential aspects of spatial atmosphere. In contrast, analog methods demonstrated stronger potential to evoke sensory responses and engage students in tuning space through embodied making, aligning with Böhme's and Zumthor's emphasis on atmospheric sensorial qualities.

These results suggest that although digital tools will play a critical role in shaping the design of future living places, they remain limited in their capacity to fully represent the multi-sensory and emotional dimensions of spatial atmosphere. The findings highlight the necessity of hybrid approaches to foster a more holistic, multisensory understanding of spatial atmosphere. To improve tactile engagement and bodily presence, AR-supported making practices could be encouraged. If students had been able to design atmospheric generators through hand-based exploration within the AR environment, their engagement with spatial atmosphere might have evoked richer sensory perceptions and resulted in an attuned spatial experience. Future research will explore these processes in cross-group studio settings to investigate hybrid workflows and inform design strategies that prioritize spatial atmosphere. Ultimately, this research seeks to contribute to a broader discourse on how these divergent approaches can be seen as complementary rather than oppositional, fostering an integrated perspective on the design of future living spaces.

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349

A Methodological Approach to Urban Ambience Assessment: Evaluating the Atmosphere Düzce Prusias Ad Hypium Ancient Theatre and Its Surroundings

Kıymet UZUN YÜKSEL[1]
1. Düzce University-Department of Landscape Architecture, Türkiye, kiymetuzun@duzce.edu.tr

Abstract.

This study presents a methodological approach to assessing urban ambiance, focusing on the historic site of Prusias Ad Hypium in Düzce. The aim is to evaluate the subjective perception of the atmospheric qualities of this cultural and archaeological area by analyzing sensory, visual, and social parameters. The scope includes visual analysis through street view images and collective perception via Likert scale-based surveys among participants familiar with the site. Key factors examined are aesthetics, safety, accessibility, vitality, green spaces, noise levels, and functionality. The outcomes reveal that urban ambiance is a complex, multidimensional phenomenon shaped by the interplay of various environmental and social elements. The findings suggest that green spaces alone do not determine ambiance, and their impact is enhanced when integrated with other quality indicators like safety and visual harmony. This research contributes to urban design and heritage conservation by adopting a comprehensive framework for sensory and perceptual evaluation of historical urban spaces.

Keywords:

Urban ambiance, Likert scale, Historical places, Prusias Ad Hypium, Düzce

Introduction

The concept of "urban ambiance," which describes the atmosphere felt in the city, provides an important theoretical framework for understanding how urban spaces are perceived not only through their objective aspects but also through subjective experiences (Thibaud, 2011; Anderson, 2009). Urban ambiance is based on a holistic evaluation approach that encompasses sensory elements such as sound, light, color, smells, and social density, as well as individuals' perceptions of safety, comfort levels, aesthetic satisfaction, and opportunities for interaction.

Measuring urban ambiance is a multidimensional endeavor involving many different disciplines (urban design, urban planning, geography, architecture, landscape architecture, sociology, psychology, etc.). The study focuses on common parameters used in different disciplines.

Aesthetics. The visual perception of urban spaces is one of the fundamental factors directly influencing users' emotional connection with their surroundings. Aesthetic quality shapes environmental preferences and supports identification with a place (Nasar, 1994; Lynch, 1960). *Safety.* How individuals experience a space is largely related to how safe they feel. Jacobs (1961) argued that streets must be visibly observable and active for the sustainability of public life. *Accessibility.* Spatial arrangements that ensure user comfort and accessibility for all individuals are cornerstones of inclusive urban policies (Gehl, 2011; Carmona et al., 2010). *Vitality.* One of the most prominent reflections of ambiance is the level of social interaction. The design of public spaces in a way that encourages socialization directly affects the vitality of urban life (Whyte, 1980; Mehta, 2007). *Green spaces.* Access to nature within the city is important not only aesthetically but

also in terms of psychological well-being. Ulrich (1981) emphasized the stress-reducing effect of this situation. *Noise level.* Noise can have negative effects on the perception of urban life. Thibaud (2002) noted that silence and acoustic order are important components of urban ambiance. *Functionality.* The multi-functionality, user-friendliness, and accessibility of urban spaces for different groups are indicators of sustainable urban living (Carr et al., 1992).

Research Methodology

Location of Study Area

Prusias Ad Hypium (Konuralp) is a settlement with roots dating back to the 3rd century BC, located approximately 8 km north of the provincial capital of Düzce (Figure 1).
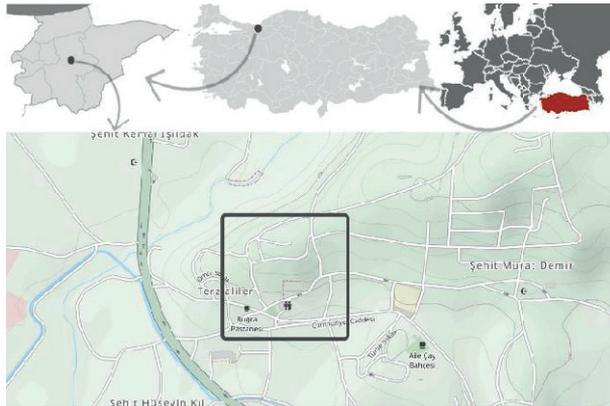

Figure 1. Location of Konuralp, Created by Author via OSM, 2025

Throughout history, it has been known by various names, including Hypios, Hypium, Prusias, and Kieros. The city derives its name from Hypios Mountain, located north of the Düzce Plain, and the Hypium (Melen River) River. It is reported that the city's original name was actually Kieros and that it was conquered by King Prusias I of Bithynia and renamed Prusias (Zeyrek and Çelik, 2005; Akıncı Kesim et al., 2009; Dikmen and Toruk, 2019). During the Ottoman period, the settlement was known as Konuralp and was also referred to as "Konrapa" or "Konur Alp." The ancient theater is the best-preserved structure in the region and was built during the Hellenistic period and expanded during the Roman period (Pınarcık and Berkant, 2024).

Excavations are still ongoing today, and there are remains of a Roman aqueduct in the village of Kemerkasım near the theater. In addition, the Konuralp Central Mosque is located southwest of the theater, and there are examples of civil architecture in the surrounding area. All these remains and natural elements reveal the historical and cultural richness of the region and are of great importance in terms of archaeology and conservation (Pınarcık and Berkant, 2024).

Data preparation and collection

In this study, the road surrounding the theater, which is the most prominent feature of the area, was taken as the basis. Ten images consisting of street views were obtained from specific points along this route (Figure 2) using Google Maps and Google Street View (GSV).
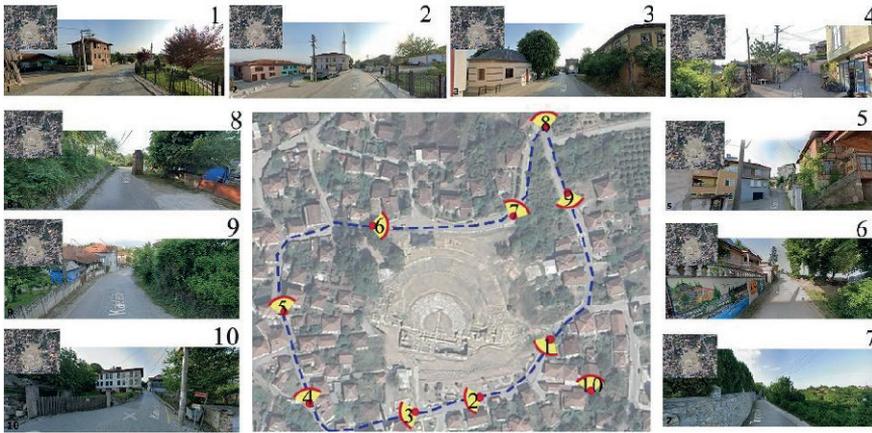
Figure 2. Study Area, Created by Author via GM and GSV, 2025

Questions prepared from parameters determined to measure the urban ambiance were asked to people who had previously experienced the area. The questions were scaled using the Likert technique (Table 2), with 1 being the lowest and 5 being the highest. The survey, created using Google Forms, was presented to participants online. The results were analyzed using Microsoft Excel 365 and SPSS v.23. Scoring was based on the mean value in the analysis.

	1	2	3	4	5
1-This area is aesthetically exciting.					
2-I feel safe in this area.					
3-This area is accessible to everyone (disabled individuals, children, elderly...).					
4-Social interaction is high and lively in this area.					
5-I feel like I'm in nature in this area.					
6-The noise level is high in this area.					
7-This area is user-friendly (It should be evaluated in terms of the existence of urban equipment and the provision of convenience for people using the area).					

Table 2. Questionnaire questions

Results

Participants were selected from Düzce University Landscape Architecture undergraduate (23) and graduate (3) students who had experience in the field both in and outside of class. Of the 26 participants, 7 (26.9%) were male and 19 (73.1%) were female. In terms of the frequency of visiting and experiencing the field, 46.2% visited daily, 11.5% visited once or twice a week, 19.2% visited once or twice a month, and 23.1% visited a few times a year. When examining the purposes for spending time in the area, it was found that education was the most common purpose (65.4%), while worship was the least common (3.8%), as participants could indicate multiple activities. Other activities included tourism (30.8%), accommodation (26.9%), eating and drinking (23.1%), research (11.5%), and work (11.5%).

Evaluations based on the selected parameters for the 10 visuals chosen in the study are presented in the Table 2.

Image no.	Aesthetic	Safety	Accessibility	Vitality	Green areas	Noise level	Functionality	Mean	Cronbach Alfa (α)
1	2,27	3,08	2,62	2,23	2,58	2,5	2,46	2,55	0,808
2	2,54	3,08	2,92	2,77	2,19	2,54	2,58	2,63	0,851
3	3	3,38	2,65	2,96	2,62	2,69	2,96	2,83	0,837
4	2,15	2,58	2,31	2,85	1,92	2,77	2,27	2,36	0,801
5	2,31	2,77	2,08	2,5	2	2,62	2,19	2,36	0,772
6	2,85	3,08	2,35	2,04	2,85	2,04	2,42	2,45	0,687
7	3,58	2,92	2,38	1,92	3,58	1,85	2,27	2,61	0,507
8	2,65	2,54	2,12	1,69	2,96	2	2,23	2,3	0,791
9	2,27	2,58	2,31	2,19	2,85	2,27	2,27	2,43	0,828
10	2,85	2,96	2,54	2,35	2,27	2,35	2,19	2,55	0,883

Table 2. Evaluation of Images

The table presents the mean perceptual evaluations of ten urban images (Image 1–10) across seven dimensions: *aesthetic quality, safety, accessibility, vitality, green areas, noise level,* and *functionality*. A final composite score (*Mean*) and internal consistency reliability scores (Cronbach's Alpha) were also calculated for each image.

The overall mean scores range from 2,30 (Image 8) to 2,83 (Image 3), indicating moderate variation in perceived urban ambiance. Image 3 received the highest ratings overall, particularly in *aesthetic* (3,00), *safety* (3,38), and *vitality* (2,96), alongside a high score for *green areas* (2,62). In contrast, Image 8 scored the lowest in *vitality* (1,69) and *accessibility* (2,12), despite having a relatively high score for *green areas* (2,96), suggesting that greenery alone does not compensate for other deficiencies in perceived ambiance.

When examining *green areas*, Image 7 obtained the highest score (3,58); however, it simultaneously had one of the lowest scores in *vitality* (1,92) and *noise level* (1,85), indicating a potential disconnect between green space presence and perceived liveliness. Conversely, Images 2 and 3, which had moderately high green area scores, achieved higher mean ratings, suggesting that *greenery may contribute positively to ambiance when integrated with other favorable attributes* such as safety and aesthetics.

Discussion and Conclusion

The findings reveal that green areas, although important, are not stand alone determinants of positive ambiance. For instance, Image 7, which had the highest score for green space (3.58), also received some of the lowest scores for vitality (1.92) and noise level (1.85). This indicates that a high presence of vegetation does not inherently generate liveliness or user satisfaction. This aligns with Thibaud (2002), who emphasized that ambiance emerges from a synthesis of sensory inputs, not just visual elements.

On the other hand, Image 3—with balanced high ratings in *aesthetics, safety,* and *vitality*—achieved the highest overall ambiance score (2.83), despite having only moderate green space presence (2.62). This suggests that green infrastructure becomes impactful only when supported by other urban quality components, such as visual harmony and social activity potential (Gehl, 2011; Lynch, 1960).

The relatively lower scores for *vitality* across several images (e.g., Images 6, 7, 8) may also reflect spatial configurations that do not encourage human activity or social interaction, despite the historical richness of the site. As Whyte (1980) and Mehta (2007) argued, urban vitality often stems from the presence of inclusive, accessible, and flexible spaces that foster human encounters.

There are some limitations to this study. One of them is that this study could not be applied when users were simultaneously present in the area. Another limitation is that questions were asked within certain limits and options in order to make the survey quick and measurable. In future studies, open-ended questions can be applied while users are using the area.

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WG 5

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355

Communicating Light
Technological Tools for Mediating Multi-Sensory Experiencing of Urban Ambiances

Natasa ZIVALJEVIC LUXOR[1]
1. Prof. dr., PE Institute for Urban planning Nish, Serbia; UDG, Podgorica, Montenegro, natalieluxor@gmail.com

Abstract.

As cities evolve into complex sensory environments, light-based technologies play a noticeable role in shaping urban ambiances. In this paper it is explored how light, combined with emerging technological tools such as sensor networks, projection mapping, and adaptive LEDs, mediates multi-sensory experiences in urban public spaces. Through qualitative content analysis of prominent urban light installations and interactive projects worldwide, key design strategies fostering immersive, human-centred ambiances are identified. The study highlights light's dual role as material infrastructure and communicative medium, enabling emotional connection, spatial orientation, and social interaction. It also addresses critical tensions around sustainability and social inclusivity, offering conceptual and methodological insights valuable for architects, urban planners, artists, and policymakers designing the sensory urban environments of the future.

Keywords:

Urban ambience, Light, Multisensory experience, Human-centred urbanism

Introduction

Urban environments are increasingly recognized as complex sensory ecosystems where visual, auditory, tactile, and even olfactory stimuli contribute to inhabitants' experiences. Among sensory modalities, light holds a unique position: it shapes spatial perception, guides movement, and communicates symbolic meanings. The recent proliferation of light-based technologies—LED systems, sensor-driven responsiveness, projection mapping, and augmented reality—opens new possibilities for crafting dynamic, multi-sensory urban ambiances. This paper investigates the technological mediation of urban light ambiances, focusing on how emerging tools influence inhabitants' perceptual and emotional engagement with public spaces. By critically reviewing landmark projects, this study situates light as both a physical and symbolic medium embedded in urban spatial narratives, emphasizing its potential to foster immersive, adaptable, and socially inclusive environments.

Theoretical Framework: Light and Urban Ambiance

Ambiance, defined as the felt atmosphere or mood of a place, results from a complex interplay of sensory inputs, social interactions, and spatial configurations (Schmitz, 2014). Urban ambiance encompasses the multi-sensory experience created by architecture, materiality, human activity, and environmental conditions. Light contributes significantly to ambiance formation, modulating visibility, affective responses, and temporal rhythms (Pallasmaa, 2012). The materiality of light includes its intensity, colour, directionality, and temporal dynamics, while symbolically, light conveys cultural meanings, identity, and memory (Edensor, 2015). Technological innovations now allow light to become interactive and adaptive, responsive to environmental data and human

presence. This interactivity situates light as a relational interface mediating social connection and spatial orientation within urban contexts.

Methodology

This study employs qualitative content analysis of 15 selected urban light installations and projects exhibiting innovative technological integration. Sources include project documentation, interviews with designers and artists, and documented user interactions. Data triangulation ensures validity through multiple perspectives. Thematic coding identifies recurrent design strategies and affordances, focusing on responsiveness, narrative layering, temporal orchestration, and human-centred interaction. The analysis also explores tensions between technological innovation, environmental sustainability, and ethical/social considerations in public light deployments.

Case Studies

"Urban Sun" by Studio Roosegaarde (fig. 1) A pioneering project using far-UVC light to disinfect outdoor urban areas, "Urban Sun" merges health technology with spatial ambiance, inviting inhabitants to reimagine safety and presence in plazas and parks.

Figure 1. Urban Sun, Studio Roosegaarde, 2019

"The Bay Lights" by Leo Villareal (San Francisco) is large-scale LED installation that transforms the Bay Bridge into a shimmering, dynamic lightscape, redefining infrastructure as a cultural landmark and sensory experience (fig. 2).

Pollution Pods consists of five interconnected geodesic domes that replicate the varying levels of pollution found in London, New Delhi, São Paulo, and Beijing. Visitors embark on a journey starting from a coastal setting in Norway, moving through a series of cells that progressively intensify in pollution, transitioning from dry and cold environments to hot and humid conditions.

Figure 2. The Bay Lights, Leo Villareal, 2013

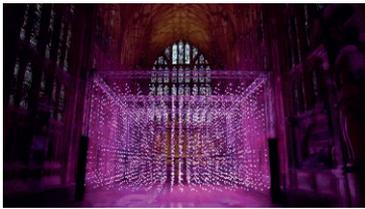Figure 3. a. Pollution Pods, Michael Pinsky, 2017 3.b. Lumiere Festival, Artichoke, 2017

Figure 4. a. Where There Is Light, Squidsoup, 2020; b. The Intersection, Daan Roosegaarde, 2015

Commissioned by NTNU, Pollution Pods (fig. 3a) is part of Climart, a four-year research initiative exploring the psychological mechanisms that influence both the creation and perception of visual art. By integrating insights from natural sciences with visual arts, the project aims to foster a deeper understanding of environmental issues and their impact on our daily lives. "Lumiere Festival", located in UK Cities, is festival of installations that animate architecture with immersive projections and interactive light sculptures, engaging diverse publics in multisensory urban narratives (fig. 3b). "Where There Is Light (2020)" by Squidsoup refers to LED arrays in parks that react to visitor presence, crafting playful and atmospheric urban spaces (fig.4a). "The Intersection" by Daan Roosegaarde (Dutch Smart Highway) is title for smart lighting adapting to traffic and pedestrians, creating safe, human-centred road environments (fig.4b). Times Square, prominent square in NYC is visually dominated by vibrant LED billboards generating a sensory-rich atmosphere influencing pedestrian behaviour and emotional arousal(fig.5). Shibuya Crossing, Tokyo is worldwide known for its digital screens and neon lights creating intense sensory dynamics enhanced by responsive light projections (fig.6).

Figure 5. Times Square, n.a., 2025 Figure

Figure 6. Shibuya, n.a, 2023

Figure 7. a. The Vessel, Thomas Heatherwick, 2019 b. The High Line Hervé Descottes of L'Observatoire International, 2011

Another NYC example, The Vessel in Hudson Yards (fig.7a) integrated lighting shifts spatial perception, synchronizing with public events to create evolving ambiance. The High Line (fig.7b), also in NYC, includes sensor-based lighting that reacts to pedestrian movement, fostering a responsive urban park environment. Well known Eiffel Tower Lighting (fig.8), Paris is choreographed by light shows, transforming the tower into a cultural beacon, shaping nocturnal ambiance. Digital Water Pavilion, Zaragoza combined light, water, and sensors to create immersive experiences for EXPO 2008 (fig.9). Finally, Regeneration of King's Cross, London included a lot of Intelligent lighting adjusting it to time and weather, enhancing safety and ambiance (fig.10).

Figure 6. Eiffel Tower Lighting, n.a, n.d.

Figure 9. Digital Water Pavilion, Carlorattiassociati, 2008

Figure10. Regeneration of King's Cross, All ies and Mor r i son, Porphyr ios Associates and Townshend Landscape Archi tects , 2008

Discussion

The reviewed projects reveal key strategies: real-time responsiveness to environmental and human data, narrative layering through light modulation, and temporal orchestration of urban rhythms. Light becomes a medium fostering emotional connection, social interaction, and spatial orientation. However, these innovations raise ethical questions about environmental impact, energy consumption, and equitable access. The balance between immersive technology and sustainability remains a critical challenge. Moreover, inclusivity in light-based design demands sensitivity to diverse sensory needs and cultural contexts. These insights underscore the potential and complexity of designing future urban ambiances where technology, human experience, and environmental stewardship converge.

Conclusion

This paper demonstrates that light-based technological tools are central to mediating multi-sensory urban experiences, shaping ambiance as both infrastructure and communicative medium. By applying qualitative analysis to diverse case studies, it identifies design principles that can guide human-centred, adaptable, and ethically conscious urban lighting strategies. Future research should further integrate user experience studies and environmental assessment to holistically approach light's role in sustainable, inclusive city-making.

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WG 5

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