

MAPPING AS THE MEDIATOR OF PLACE EXPERIENCE
IN POST-HUMAN ASSEMBLAGES

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IN POST-HUMAN ASSEMBLAGES**

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ABSTRACT

MAPPING AS THE MEDIATOR OF PLACE EXPERIENCE IN POST-HUMAN ASSEMBLAGES

Sakçak, Şafak

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This research aims to think, discuss, and explore how mapping can become a mediator as a performance in the process of collaboration and communication between human and AI actants in a more-than-human experience of place. The field of more-than-representational theories provides a suitable field of inquiry in understanding and explaining the concept of post-human place. The definition of place through process-based, relational views reveals the agency of non-human actants involved in its becoming. This perspective also offers the possibility of including embodied, intangible, ephemeral, pre-cognitive, and everyday elements of place experience, which cannot be reduced to representation and cannot be transformed into data. Within the scope of this study, GPT and GAN, as popularly accessed generative AI models, were preferred among the participants. Their potential to operate in interactive, multi-modal, error-prone, ambiguous iterative processes implies a repetition of difference that can suggest a line of flight to escape from the limits of instrumentalist views or structuralist representations. Mapping as a performance, with its capacity to engage critically, creatively, and projectively from within the place, has been suggested as a promising mediator to explore the unrepresented, invisible components of such a place experience. Hence, this

dissertation is also a mapping of research process into text. The researcher's subjectivity, the study's affective atmosphere, the participants' experiences, and a multitude of other heterogeneous encounters emerged as an assemblage, together with a nomadic material-discursive framework that evolves throughout the process.

Keywords:

Mapping, More-than-human Place, More-than-representational Theories, Generative-AI, Relational Agency



ÖZ

POSTHÜMANİST ÖBEKLEŞMELERDE YER DENEYİMİNİN ARACI ORTAMI OLARAK HARİTALAMA

Sakçak, Şafak
Doktora, Mimarlık
Tez Yöneticisi: Doç. Dr. Hacer Ela Alanyalı Aral

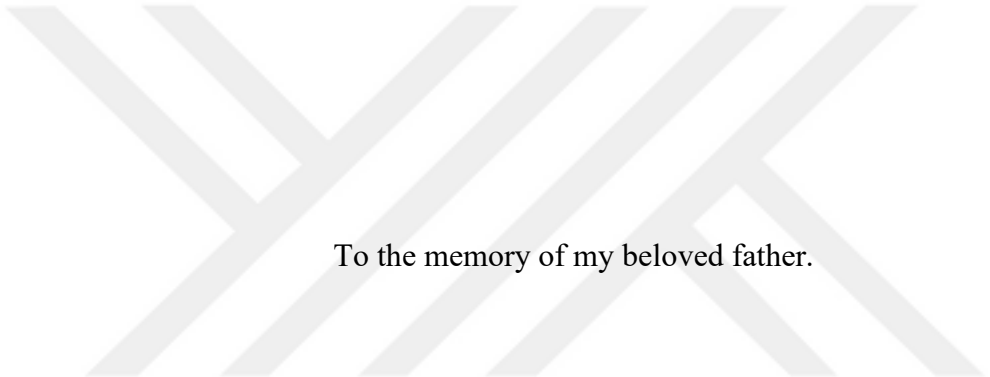
Mart 2025, 289 sayfa

Bu araştırmanın amacı, haritalamanın, insan ve yapay zeka aktörleri arasındaki iş birliği ve iletişim sürecinde, insan ötesi bir yer deneyimi için bir performans olarak nasıl aracı olabileceğini düşünmek, tartışmak ve keşfetmektir. Temsil Ötesi Teoriler alanı, insan sonrası yer kavramını anlamak ve açıklamak için uygun bir araştırma ortamı sağlar. Yerin süreç tabanlı, göreceli ve ilişkisel tanımı, oluşunda yer alan insan dışı aktörlerin failliğini ortaya çıkarır. Bu bakış açısı ayrıca, yer deneyiminin temsile indirgenemeyen ve veriye dönüştürülemeyen, somutlaştırılmamış, elle tutulamayan, geçici, ön-bilişsel ve gündelik unsurlarını dahil etme olasılığını da sunar. Bu çalışma kapsamında popüler olarak geniş kitlelerce erişilen üretken yapay zeka modelleri GPT ve GAN katılımcılar arasında tercih edilmiştir. Etkileşimli, çok modlu, hataya açık, belirsiz yinelemeli süreçlerde çalışma potansiyelleri, araçsalıcı görüşlerin veya yapısalıcı temsillerin sınırlarından kurtulabilecek, bir kaçış hattı vaat eder. Eleştirel, yaratıcı ve geleceğe yönelik olarak yerle içinden ilişkilene kapasitesine sahip bir performans olabilen haritalama, böyle bir yer deneyiminin temsil edilmeyen, görünmez kalan bileşenlerini keşfetmek için potansiyel bir aracı-ortam olarak önerilmiştir. Benzer şekilde, bu tez aynı zamanda araştırma sürecinin metne haritalanmasıdır. Araştırmacının öznelliği, çalışmanın duygusal atmosferi,

katılımcıların deneyimleri ve çok sayıda diğ er heterojen karřılařma, s ure  boyunca geliřen bir s oylemsel  er eveyle bir araya gelerek ortaya  ıkar.

Anahtar Kelimeler: Haritalama, İnsan  tesi Yer, Temsil  tesi Teoriler,  retken Yapay Zeka, İliřkisel Eyleřim





To the memory of my beloved father.

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LIST OF ABBREVIATIONS

ABBREVIATIONS

AI: Artificial Intelligence

ANT: Actor-Network-Theory

GAN: Generative Adversarial Network

Gen.AI: Generative Artificial Intelligence

GIS: Geographical Information Systems

GPS: Global Positioning System

GPT: Generative Pre-trained Transformer

LLM: Large Language Model

NRT or NRTs: Non-Representational Theories

MtRT or MtRTs More-than Representational Theories

CHAPTER 1

INTRODUCTION

This research seeks to explore and discuss how mapping can become a performative mediator in the process of collaboration and communication between human and AI actants in a more-than-human experience of place. By examining the potential of mapping as a mediator, this study aims to reveal how human and generative AI interactions can influence and shape the lives of places.

The study is based on the supposition that three phenomena already ideated and resonated in the intersecting frameworks of theoretical imperatives can coalesce on a new problematic. The set of questions emerging around the notion of place within the intra-actions of natural and artificial intelligence can be discussed over a cross-reading on relational ideas of place, an explanation of mapping as a post-representational performance, and theories of mind that confirm distributed cognition.

In the increasing complexity of the digital age, the notion of place is explained as an emergent becoming. At the same time, this is also a relational understanding that necessitates more inclusive and embodied approaches, which in turn introduce new problems and potentials (See Chapter 2). Post-human thought already posited that non-human actants share agency in such relational emergence, and recently, the rapid advancements in generative artificial intelligence have revealed the technical objects' status as agents even more explicitly (See Chapter 4). Similarly, it has been previously stated and discussed that mapping can be post-representational performance, positioning mapping as an act beyond representation (see Chapter 3). Therefore, processual ideas of place, ideas of distributed and relational agency, and post-representational cartography with the capacity to reveal invisibles together

suggest a critical-projective perspective for spatial practices transformed by human-AI intra-actions.

This is where the study anticipates finding a reconciliation between two opposing tendencies, enabled by a more-than-representational understanding of place: On the one hand, promoting the appreciation of non-human agency by increasing possibilities to be expected in digitally driven design, multilayered dimensions and variability amplified by generative AI, and on the other, maintaining a context-sensitive concern for the actual occasions experienced and enlivened in place. This reconciliation can be achieved by harmonizing the appreciation of everyday life's superfluous character and affective resonances with embracing this new expansive space of possibilities within hybrid assemblages of post-human place understanding, thus avoiding technophobia while remaining critical of superficial technological enthusiasm.

The rationale of this research stems from the inseparable connection between architecture and place. Architecture operates through actions that affect the spatial characteristics of places, as architecture and places mutually form unique occasions of experience. The core motivation of study in this context is to explore the promising role of generative AI in engaging with this reciprocal continuum through their expanded emergent properties and ever-increasing capacity for iterative communication. However, ensuring that the intangible and affective atmosphere of the place is not neglected in these processes is crucial. Equally important is enabling generative AI to perform in place experiences beyond instrumentalist constraints, thereby encouraging a more inclusive and enhanced engagement with spatial practices.

As the study travels in the field of more-than-representational theories, it draws from post-phenomenological, neo-vitalist, and new materialist accounts to focus on the mediating role of mapping in human-AI intra-actions. Overall, this theoretical departure moves along a paradigm shift from essentialist/representational to

relational/more-than-representational modes of thinking to seek a performative entanglement with place.

The central challenge here to be addressed is in bridging the disconnect between the actual experiences and virtual dynamics by focusing on human–generative AI conversations to propose an alternative for the incommensurable intricacies between the digital datascape and affective assemblages where it is also becoming territorialized, ultimately seeking a transformative, iterative engagement. To better conceptualize and encounter this task, this thesis adopts a more-than-representational questioning by suggesting mapping as a performative mediator between human and AI actants to explore relational, emergent, and affective qualities of place through dynamic, participatory practices that integrate corporeality and relational action.

The rise of generative AI and their involvement in spatial practices requires a reconceptualization of the place so that the relevant terminology can be applied to nonhuman agencies when they gain increasing cognitive capacities, decision-making abilities, unsupervised, unpredicted and autonomous behaviors, therefore causing increased attention for their presence, exposure, and influence on the affective atmospheres in a critical or creative activity. This attention requires new implications on being “platial” in a perpetual becoming between actual and virtual, differing from a somewhat broader conception of “spatial”, with a particular sensitivity of place experience that exceeds human-centered values or the essentialist attributions for place.

1.1 Contextualizing the Problematic: Theoretical Connections

Architecture operates through processes that affect the characteristics of space, aiming to create associative influences by shaping specific spatial experiences. When we translate this specialized spatial experience into a conceptual phenomenon, the term “place” frequently emerges across various languages and vocabularies. Architecture maintains its relationship with place, regardless of historical debates on

how it has done so, and this ability may ultimately adapt the discipline to the evolving paradigms of future places.

Multi-layered, relational experiences, which have intensified in the spatiality of the digital age, particularly with the rapid advancements in information technologies, correspond more closely to a process-based definition of “place” within increasingly complex flows. Meanwhile, since the 1990s, architecture has undergone successive “digital turns,” with the increasing involvement of digital agents and media in both research and practice, further shaped by meta-theories on cyberculture and digital post-humanism.

Recent advancements in generative AI, particularly in Large Language Models, have not initiated but rather intensified the shift from instrumentalist to agential understandings of artificial minds in design. This shift reflects the ongoing transition from "drawing machines" to "thinking machines"¹, where AI's capacity for creative mediation within complex systems amplifies emergent possibilities in digitally driven design. Generative AI might extend the evolving post-human conceptualization of place and spatial practices by enhancing performative capacities and fostering intelligently responsive interactions within affective assemblages. Its accessibility through open platforms and simple plain interfaces accelerates these developments, offering new opportunities for human-AI collaboration in architecture.

The advancements in digitally driven design, relational ideas of place, and post-humanist thinking on agential materialism share common associations in the self-criticism that emerged in the latter half of the 20th century across disciplines of spatial practices and geography, challenging conventional human-centered and representational approaches.

¹ Mario Carpo, ‘A Short but Believable History of the Digital Turn in Architecture’, *E-Flux Architecture*, Chronograms of Architecture, 03, no. 23 (March 2023).

As these technological and theoretical shifts converge, they frame the central focus of this study: the interactions between humans and artificial intelligence in the becoming of place. Simply put, the central problem of this research lies in the “place” within human-AI intra-actions. This research problem stems from architecture's intrinsic relationship with place. It draws on a theoretical genealogy of drawing attention to the place, critiquing top-view, reductive, or imperative tendencies while advocating for the embodied experience, everyday life, and, more recently, relational and processual dynamics. This concern motivates a deeper exploration into the neglects and potentials regarding the **lifeworlds**² of places in the digital age and posthuman understanding, particularly in the processes involving AI agents.

Examining generative AI models, which have recently become widely accessible through open access and intuitive interfaces, promises to open a discursively transformative channel. There is a disconnect between the massiveness of big data that represents actual places and the lived experiences from their affective atmospheres, which often distorts the perception of place. Encounters with generative AI examples can provide both a perspective for probing new problems,

² Here, I borrowed the term “lifeworld” as it is adapted by Nigel Thrift. The term lifeworld (Lebenswelt in German) was popularized earlier by Edmund Husserl to refer to the pre-reflective, everyday world of lived experience, the background or horizon of experiences that shapes our understanding of reality before scientific or philosophical analysis. After Husserl, the concept was further developed by philosophers such as Maurice Merleau-Ponty and Jürgen Habermas referring to the realm of social, cultural, and communicative interactions as opposed to more impersonal, systematized structures. Later the term is re-interpreted for discussing subjectivity in relational-constructivist version by Björn Kraus, and post-phenomenological accounts on technology by writers like Don Ihde, and Peter Sloterdijk.

Nigel Thrift builds on this philosophical legacy in “Lifeworld Inc.” by applying the concept to a contemporary, highly mediated, and technologized environment. The transformation of the everyday experience of the world into something that is increasingly mediated and shaped by a corporate-driven, technological unconscious. This new “lifeworld” is not just a passive backdrop for human activity but is territorialized, sustained, and commodified through various technologies and practices that affect how people perceive and interact with reality. Therefore, I think the term suits well in my purposes to define the problematic centered around place, as it connects the phenomenological roots of an every-day experience, and also to an increasing attention to atmospheric conditions of technology and practice.

Nigel Thrift, ‘Lifeworld Inc—And What to Do about It’, *Environment and Planning D: Society and Space* 29, no. 1 (February 2011): 5–26, <https://doi.org/10.1068/d0310>.

and an opportunity to depart from the constraints of these conditions. Although this topic will be explored further in the following chapters, it is primarily encountered through the actual-virtual dynamics of place in this study. The key questions include: How do the virtual possibilities imagined by Generative AI diverge from the place knowledge embedded in human experience? Similarly, how can collaboration with generative AI aid humans in navigating the complexity of achieving a post-human sense of place? If we consider the experience of place in a plane of immanence, is it possible to incorporate these virtual possibilities with actual experiences into an iterative process that enlivens a transformative continuity if a plane of consistency emerges on this intra-activity among human and artificial minds?

While focusing on place and generative AI, this explorative investigation adopts mapping as a central means of engaging with, performing, and acting upon the relationship between place and spatial information. The redefinition of mapping as an action beyond mere representation began with critical perspectives like those of Brian Harley, who, in the late 20th century, challenged the idea of maps as neutral depictions of reality, instead emphasizing their social and political constructions. This perspective was further developed by scholars such as John Pickles, Denis Cosgrove, Wood and Fels, and James Corner, who reconceived mapping as a performative and processual practice that actively mediates space and reconfigures territories.

Drawing on pioneering philosophical movements, the term “mapping” has gained traction in the literature as a processual and operational concept that transcends representation, functioning as a performative practice that emerges from within the place itself. The influences that continually renew and strengthen this connection within relevant discourses are rooted mainly in the thought heritage of post-phenomenological and post-structural perspectives, but more particularly resonating with the philosophy and vocabulary asserted by Deleuze and Guattari. Very

similarly, a recent intellectual movement that emerged within human geography that has been influenced mainly by these antecedents is non-representational theory³.

The field of more-than-representational theories provides a suitable field of inquiry in understanding and explaining the concept of post-human place. It helps defining a multitude of thinking paths where place is understood through process-based, relational views that reveal the agency of non-human actants in its becoming. These views promote the inclusion of embodied, intangible, ephemeral, pre-cognitive, and everyday elements of place experience, which cannot be reduced to representation or transformed into data in research and practice.

Nigel Thrift, usually credited with developing the term "Non-Representational Theory" (NRT),⁴ in singular, proposed fundamental tenets for research in this field in his book of the same name.⁵ Thrift aimed to establish a lively, evolving epistemology that embraces lived experiences in a hybrid world of practices, not reduced to representations, signs, and concepts, to affect the research through creative channels. Influenced by a range of philosophical antecedents, including Actor-Network-Theory⁶, Performativity⁷, and Deleuze-Guattarian metaphysics⁸, NRT integrates advancements across various scientific and intellectual fields. In this

³ Nina Williams, 'Non-Representational Theory', in *International Encyclopedia of Human Geography* (Elsevier, 2020), 422, <https://doi.org/10.1016/B978-0-08-102295-5.10747-4>.

⁴ Nigel Thrift, *Non-Representational Theory: Space, Politics, Affect*, 1st edition (Milton Park, Abingdon, Oxon and New York, NY: Routledge, 2007).

⁵ Barney Warf, 'Nigel Thrift', in *Key Thinkers on Space and Place*, ed. Phil Hubbard and Rob Kitchin, Second edition (Los Angeles, Calif.: SAGE Publications Ltd, 2010), 407–13; İlhan Tekeli, 'What Kind of Changes the Development of Non- Representative Theories Creates on Our Understanding of Planning and Perspective of Urban', *EfilJournal* 2, no. 7 (2019).

⁶ Nigel Thrift and John-David Dewsbury, 'Dead Geographies—And How to Make Them Live', *Environment and Planning D: Society and Space* 18, no. 4 (August 2000): 411–32, <https://doi.org/10.1068/d1804ed>; Warf, 'Nigel Thrift'.

⁷ Warf, 'Nigel Thrift'; Phillip Vannini, 'Non-Representational Research Methodologies An Introduction', in *Non-Representational Methodologies: Re-Envisioning Research*, by Phillip Vannini (Routledge, 2015), 2–19.

⁸ Thrift and Dewsbury, 'Dead Geographies—And How to Make Them Live'; John-David Dewsbury, 'Performativity and the Event: Enacting a Philosophy of Difference', *Environment and Planning D: Society and Space* 18, no. 4 (August 2000): 473–96, <https://doi.org/10.1068/d200t>; Tekeli, 'What Kind of Changes the Development of Non- Representative Theories Creates on Our Understanding of Planning and Perspective of Urban'.

setting, philosophy of biology, cultural studies, new materialism, performance theory, post-structural feminism, classical pragmatism, and more are considered in the same framework.⁹ Given this synthetic nature, plural terminology for non-representational theory(es) is preferred throughout this study, without rejecting but not adhering only to Thrift's concepts.

A clarification of the term "non-representational" is also necessary, as it is, in fact, not an exclusion despite the phrase implying so. As a prefix, "non-..." expresses negation, although etymologically, it does not cover the meaning "opposite" like the "un-..." prefix does¹⁰. An observation about this situation, which is not common in the international literature, can be suggested with the following comparison: While literal translations in Turkish academic literature (e.g., "*Temsili olmayan kuramlar*"¹¹ and "*Na'temsili teori(ler)*"¹²) imply exclusion from representation (theories not being representational), the translation "*Temsil ötesi teoriler*"¹³ (theories beyond - or trans - representation) more accurately captures the priorities of the field. Rather than negating representation, non-representational approaches aim to everyday affective and embodied experiences that are typically unrepresented. This perspective aligns better with the expression "more-than-representational," as articulated by Hayden Lorimer¹⁴.

⁹ Tekeli, 'What Kind of Changes the Development of Non- Representative Theories Creates on Our Understanding of Planning and Perspective of Urban', 4.

¹⁰ OED, ed., 'Non, n.¹ Meanings, Etymology and More | Oxford English Dictionary', in *Oxford English Dictionary* (Oxford University Press, 2003), https://www.oed.com/dictionary/non_n1.

¹¹ Tekeli, 'What Kind of Changes the Development of Non- Representative Theories Creates on Our Understanding of Planning and Perspective of Urban'.

¹² Ahmet Uysal and Şenay Güngör, 'Coğrafyada "Pratiğin Değer Kattığı Bir Düşünme Biçimi" Olarak NâTemsilî Teori(ler)', in *International Geography Symposium* (TÜCAUM Uluslararası Coğrafya Sempozyumu, Ankara: AÜ Türkiye Coğrafyası Araştırma ve Uygulama Merkezi, 2016), 550–51.

¹³ Miyase Okur and Münür Bilgili, 'Kültürel Coğrafya Bağlamında Temsil ve Temsil Ötesi Teoriler', *Ege Coğrafya Dergisi* 30, no. 1 (30 June 2021): 187–94, <https://doi.org/10.51800/ecd.932421>; Ahmet Uysal and Şenay Güngör, 'Postyapısalcı ve İlişkisel Coğrafyalarda Bir Tarz Olarak Temsil Ötesi Teori(ler)', *Coğrafya Dergisi*, no. 33 (21 July 2017): 83–93.

¹⁴ Hayden Lorimer, 'Cultural Geography: The Busyness of Being 'more-than-Representational'', *Progress in Human Geography* 29, no. 1 (February 2005): 83–94, <https://doi.org/10.1191/0309132505ph531pr>.

Likewise, the phrase “**more-than-representational theories**” (MtRTs) will be preferred throughout this text for three reasons. First, as explained above, the primary motivation in this field of theories is not to exclude or reject representation but to look beyond it and to be able to relate to the living content it cannot contain. Second, mapping and maps have been seen as both representation and practice, so there is no claim that they are not representations; instead, the point is that they are not merely representations. Lastly, this preference suits more compatibly with the architectural understanding of representation, allowing practices and mediums considered representational in architecture to converge in same conceptual set with this theoretical field, without dismissing the possibilities of architectural representation that potentially extends beyond representation itself.

All right, then, why and how do more-than-representational theories provide a suitable environment for the purposes of this study? This can be reasoned across four plateaus, although deeper connections emerge through more extensive analysis. First, more-than-representational approaches offer significant potential in extending the concept of place within a more-than-human framework.¹⁵ By rejecting the subject-object dichotomy and embracing relational thinking, as pioneered by Actor-Network-Theory¹⁶ and new materialism(s)¹⁷, these approaches challenge the perception of place as a human-centered hierarchy. For instance, Robertson effectively traces this intellectual trajectory, covering a continuum from post-phenomenology through post-humanism.¹⁸

The same vocabulary with more-than-representational theories has gained increasing attention in architectural discourse, particularly for their emphasis on the experiential

¹⁵ Beth Greenhough, ‘Vitalist Geographies: Life and the More-Than-Human’, in *Taking-Place: Non-Representational Theories and Geography*, ed. Paul Harrison (Routledge, 2016), 46–47.

¹⁶ Thrift, *Non-Representational Theory*, 8.

¹⁷ Manuel DeLanda, ‘The New Materiality’, *Architectural Design* 85, no. 5 (2015): 16–21, <https://doi.org/10.1002/ad.1948>; Diana Coole and Samantha Frost, eds., *New Materialisms: Ontology, Agency, and Politics* (London: Duke University Press, 2010).

¹⁸ Sarah A. Robertson, ‘Rethinking Relational Ideas of Place in More-than-Human Cities’, *Geography Compass* 12, no. 4 (2018): 7–8, <https://doi.org/10.1111/gec3.12367>.

and dynamic qualities of spatial engagement, often focusing on the affect¹⁹. However, references to MtRTs in architecture remain less frequent than in fields such as planning and urbanism. While architects may use the term “non-representation” less explicitly, the philosophical perspective of Deleuze and Guattari, which resonates in most of the priorities advocated by MtRTs, has become more prominent in architectural theory, especially following the digital turns in architecture²⁰. Since they are intrinsically associated both with the digital age and with the affective assemblages in post-human place, this vocabulary of themes forms a key interest for this study.

The second plateau is still related to the first one but requires a glimpse of the other side of the coin. More-than-representational theories emphasize event and affect, particularly in studying pre-cognitive and corporeal components of place experience²¹. In this respect, questioning the possibilities of sharing such experiences with non-human intelligence is exactly suitable for such a focus area.

Following the same justification with the second plateau, this environment also provides a suitable framework for criticizing the digitally data-based, representational, reductionist, and generalizing tendencies of AI models, as shaped by the relevant science and application fields and operating mechanisms. So, this is the third of the plateaus mentioned.

¹⁹ Akari Nakai Kidd, *Affect, Architecture, and Practice: Toward a Disruptive Temporality of Practice*, 1st edition (Abingdon, Oxon ; New York: Routledge, 2021), 13–47.

²⁰ John Rajchman, *The Deleuze Connections* (Cambridge, Massachusetts: The MIT Press, 2000); Adrian Parr, ‘Politics + Deleuze + Guattari + Architecture’, in *Deleuze and Architecture*, ed. Hélène Frichot and Stephen Loo (Edinburgh: Edinburgh University Press, 2013), 197–212, <https://www.jstor.org/stable/10.3366/j.ctt1g0b45k.16>; Marko Jobst, ‘Why Deleuze, Why Architecture’, in *Deleuze and Architecture*, ed. Hélène Frichot and Stephen Loo (Edinburgh: Edinburgh University Press, 2013), 61–76, <https://www.jstor.org/stable/10.3366/j.ctt1g0b45k.8>; Andrew Ballantyne, *Deleuze & Guattari for Architects*, 1st edition, Thinkers for Architects (London and New York: Routledge, 2007).

²¹ Lorimer, ‘Cultural Geography’, February 2005; Dewsbury, ‘Performativity and the Event’.

Generative AI, particularly Large Language Model examples, involves a clearly distinct behavior of agency²² from previous technologies in terms of its ability to engage creatively in relational materiality²³. This more apparent recognition of agentiality reinforces the established more-than-human perspective, where technical objects are seen as actants in the process of place-making, without needing anthropoid features or cognitive capacities. Moreover, human-like capabilities are progressively evolving, further blurring the line between human and non-human agency. The novel aspect of generative AI lies in its iterative, verbal communication with human agents, allowing for a shared, co-evolving imagination. The exciting potential suggested here is in the increase of performative capacity and the emergence of intelligently responsive interactions within affective assemblages. Therefore, this study finds a fourth plateau within MtRTs, exploring how these affective atmospheres can emerge and be experienced through relational agency.

These plateaus are also entangled with the key theories in cognitive science and computer science that have led to the recent advancements in generative AI models, such as connectionist theories of mind and distributed cognition. In practice, they are experimented on neural networks in artificial systems that mimic the organic brain's processing capabilities, facilitating complex, decentralized decision-making. The connectionist paradigm, foundational to neural networks, emphasizes the non-hierarchical distribution of information across interconnected nodes. Whereas the ideas of a relational agency among living matter and the importance of bodies in affective assemblages also resonate with enactivist theories of mind that explain cognition over embodied and extended processes and approaches.

²² Roberto Legaspi et al., 'The Sense of Agency in Human-AI Interactions', *Knowledge-Based Systems* 286 (28 February 2024): 111298, <https://doi.org/10.1016/j.knosys.2023.111298>.

²³ Claudio Celis Bueno, Pei-Sze Chow, and Ada Popowicz, 'Not "What", but "Where Is Creativity?"': Towards a Relational-Materialist Approach to Generative AI', *AI & SOCIETY*, 22 March 2024, <https://doi.org/10.1007/s00146-024-01921-3>.

Unfolding discussions on relational agency, particularly in the context of non-human actants and generative AI, lead to a reconsideration of how place itself is assembled and experienced in this **intra-activity**²⁴. In this context, the notion of *platial agency* might become a key concept (as explained in 2.3), driven by an architectural motivation to explore more-than-representational qualities of agency distributed between natural and artificial minds. This is basically about establishing a performative relationship with place, actualizing contextual skills in practices that mediate the complexity of post-human space within the affective atmospheres of relational places. The goal is to cultivate a more inclusive sensitivity to the lived experience of place, moving beyond a human-centered or essentialist perspective.

The concept of post-human place as an assemblage, becoming by the interactions among human and non-human agents, finds further explanation within more-than-representational theories. This dynamic process, where place is performed and continually reterritorialized, can be effectively mediated and studied through mapping for its capacity to relate to place and perform within it through a relational understanding.

Maps, one of the oldest communication media²⁵, have long been valued for their ability to relate to place and convey information about it. Their potential to express

²⁴ The concept of **intra-action** is referred frequently throughout the following chapters, based on its definition and theorization by Karen Barad. Barad, in her relational materialist thinking. Intra-action, is a key term for Karen Barad's **agential realism**, describes how agency do not exist in entities or matter independently prior to relationships but instead emerge as phenomena through mutual constitution and transformative processes. Unlike "interaction", which assumes pre-existing entities, intra-action emphasizes relational emergence, entanglement, and ongoing co-constitution between human and non-human elements. This approach offers broad perspectives to several fields, especially where technology and other actants mutually shape expressive forms of creativity, influencing design practices by highlighting continuous relational influences. Basically, intra-action challenges separateness, promoting a connected, ethically sensitive view of how phenomena unfold.

Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007).

²⁵ J. Brian Harley, 'The Map and the Development of History of Cartography', in *The History of Cartography, Volume 1- Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean.*, ed. J. Brian Harley and David Woodward (Chicago: University of Chicago Press, 1987), 1.

spatial and social dynamics, and to create spatial narratives that have been historically overshadowed by objectivity claims, has recently become a field of interest for architectural discourse. Mapping can further contribute to the architectural experience of place through its performative capacity, particularly in the digital age, where the complexity and fluidity of place rapidly evolve, and non-human actors gain increasing visibility in the shaping of places.

When place is considered as an assemblage (as will be discussed throughout the second chapter), any process related to it and affecting its formation can also be explained by the dynamics suggested by the idea of assemblage. The encounters experienced in the experience of place, the knowledge, sensations, and affect acquired through embodied experience are actual conditions of a territorialized assemblage. Meanwhile, thoughts, possibilities, images, and desires accompanying all these experiences might offer deterritorializing forces as virtual conditions in these emergent and contingent processes (See 2.2 and 4.1). When place is considered as a process, the continuity of the connections emerging between the actual and virtual dimensions of its experienced reality, which hold relations together in a specific network but sustain the continuous possibility of change, stands out as the dynamic required by this formation. Within the same vocabulary (of assemblage), this continuity among actual experiences and virtual possibilities that “enables the formation of heterogeneity-preserving emergent structures”²⁶ can be named as a **plane of consistency**.

Thus, practices that relate to a place and strive to influence the formation of that place acquire intellectual and material forms on a **plane of immanence** associating the bodies and assemblages participating in this becoming, to the actualized conditions that occur within such process, and the virtual multiplicities connected to them. There, the actualization of the virtual is not understood over a conventional

²⁶ Mark Bonta and John Protevi, *Deleuze and Geophilosophy: A Guide and Glossary*, Repr. with corr, Deleuze Connections (Edinburgh: Edinburgh Univ. Press, 2006), 124.

distinction between possible and real, but an ontogenesis moving between deterritorialized and reterritorialized reality not by resemblance but by difference, divergence, or differentiation²⁷. However, for a continuous movement of such differences and actualizations to occur in creative practices, an association between the virtual and actual registers should be possible in a plane of consistency, as explained above. This is where this study suggests post-representational mapping as a connecting mediator for situations where the embodied experience of the human and the virtual definitions reproduced by generative AI cannot meet on the same plane of immanence in the experience of any specific place.

1.2 Pre-positions of the Study: Objectives and Contribution

In this section, the study's objectives are outlined to set prepositions before discussing its contribution to existing literature. This section not only addresses what the study aims to achieve but also offers clarification on what it deliberately does not aim for.

This research is positioned within the existing discourse that positions mapping as a more-than-representational performance, building upon already acknowledged theoretical discussion rather than introducing new perspectives on that front. Since Harley's critical redefinition of maps as social and political constructs, the concept of mapping as an action beyond representation has been thoroughly examined (*as summarized in 1.1., p.30*). This thesis does not aim to redefine mapping in this regard but seeks to contribute by applying these theoretical insights to contemporary and future spatial practices involving human-AI collaborations.

²⁷ Cheah Pheng, 'Non-Dialectical Materialism', in *New Materialisms: Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (London: Duke University Press, 2010); Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (London: Columbia University Press, 1994), 212.

One of the primary objectives of this study is to explore how mapping can operate as a mediative act between human and AI agents for the shared experience and transformation of place. Not only does the study aim to leverage the potential of generative AI in this context, but it also critically examines how these collaborations can reveal the discrepancy and exclusions that fail to engage with the relational and dynamic nature of place, questioning the limitations and opportunities of spatial practices involving AI collaboration.

Furthermore, the study challenges a categorical conception of the “post-human place” that requires specific post-human conditions, such as a new form of particular spatiality or any futuristic attributes. Instead, this thesis advocates for a post-human understanding of place as a perspective applicable to all places. By emphasizing the everyday flow of life, routine activities, and relational agency, the research concerns with place as how a “geography of what happens”²⁸ would do, in a time when this geography is considered post-human. In other words, there is no specific kind or genre of post-human place; all places are post-human now, just because the zeitgeist of “what happens” is post-human. This is not due to any intrinsic characteristics but relational with the entangled material, the atmosphere, and the perspective through which places are experienced and interpreted.

Here, it should be noted that the “post-human” mentioned above is a condition of a historical period and a way of looking at it. As Francesca Ferrando outlined²⁹, the concept of “posthuman” has become a broad umbrella term encompassing various movements and schools of thought, philosophical, cultural, and critical posthumanism(s), transhumanism, and new materialisms. Under this umbrella, the term “posthuman” can simultaneously or alternatively refer to the definitions of “after-human” and “after-anthropocentrism”. The latter of these meanings aims to go

²⁸ Thrift, *Non-Representational Theory*, 2.

²⁹ Francesca Ferrando, ‘Posthumanism, Transhumanism, Antihumanism, Metahumanism, and New Materialisms: Differences and Relations’ 8, no. 2 (2013).

beyond hierarchical social structures and anthropocentric assumptions³⁰. When considered this way, the definition of posthuman is closely related to all the associated perspectives discussed in this thesis. Therefore, in this study, the term "posthuman" does not refer to a situation in which humans have completely disappeared or are no longer important, but instead aims to reveal the agency of other components in the becoming of the place with a non-anthropocentric perspective and a relational materialist approach, and to consider them on a par with humans.

In this context, posthumanism can be seen as a way of thinking that questions ontological polarizations and enables us to think about what becomes through multi-layered and relational processes, viewing non-human entities as symmetrical to humans. In this context, technology ceases to be a mere tool and is perceived as an actant whose agency is in the same hierarchy as humans. Therefore, "post-human", as mentioned in this thesis, implies a perspective that is "pluralistic, multi-layered, as inclusive as possible, and based on relationality"³¹. Hence, this concept in this scope resonates within the post-anthropocentric approaches, as in Rosi Braidotti's³² or Donna Haraway's³³ views, that perceive the center of thought as multiple, temporary, and nomadic rather than singular, by pointing to a "**more-than-human**" situation in which non-human components also come into play as active actors without excluding humans.

Thus, this research aims to contribute to the ongoing discourse on post-representational mapping and to the understanding of place as a post-human

³⁰ Ferrando, 29.

³¹ Ferrando, 30.

³² Rosi Braidotti, 'Posthuman, All Too Human: Towards a New Process Ontology', *Theory, Culture & Society* 23, no. 7–8 (1 December 2006): 197–208, <https://doi.org/10.1177/0263276406069232>.

³³ Donna Haraway, *Modest_witness Second Millennium: FemaleMan®_meets_OncoMouse™\$dfeminism and Technoscience*, Second edition (New York London: Routledge, Taylor & Francis, 2018); Lewis Holloway, 'Donna Haraway', in *Key Thinkers on Space and Place*, ed. Phil Hubbard and Rob Kitchin, Second edition (Los Angeles, Calif.: SAGE Publications Ltd, 2010), 219–26.

becoming, which is explicit in everyday experiences and relational dynamics rather than in any given set of specific spatial conditions.

Agency of technical objects in architectural design is extensively conceptualized in scholarly research. Still, it is often overshadowed in practice due to the industry's predominant focus on instrumental or task-oriented approaches. For the current state-of-the-art AI models promoted as tools also by their developers, these “thinking machines” are doomed to become new “drawing machines” that can think for their users by instruction. Hence, the conventional approaches in digitally driven design tend to see AI as a tool, or extension, constrained and tailored for architectural production in very narrowly task-specific mediums for enhancing efficiency or creativity but rarely explore its role as an agent capable of contributing to the emergent and processual nature of place. This research contributes to the ongoing efforts of bridging this gap by positioning AI out of these instrumentalist constraints — in a time when it is still only the “narrow AI” — but positing it as an active collaborator within a more-than-representational framework. By examining AI's role in affective assemblages, the study aims to introduce new insights into how AI can mediate and co-create spatial experiences, responding to more spontaneous occasions of place experience through distributed agency.

For the experimental and participatory material of the research, it is important to clarify that this study does not prioritize the aesthetic quality, or graphical precision of images generated. Neither is it seeking unconventional results that evoke any specific stylistic visions nor for any novel immersive medium. Instead, the focus lies in the very experience of the interaction itself: How affective and embodied aspects of place experience, ordinary and everyday content, are communicated through mapping performances by human agents, followed by interpretation by large language models and text-to-visual generators, and then being re-mapped for the same context in a co-creative process. The aim is not to generate a more accurate or innovative visual representation of place but to explore the potential of AI's responsiveness within affective assemblages of place. Mapping in this context is seen as a mediator agency to relate with the various components of a place's lived

experience in this interaction rather than aiming for satisfactorily refined or groundbreaking visual outcomes.

Additionally, while the thesis engages with multiple theoretical perspectives, it relies on More-than-representational theories (MtRTs), which already serve as a cohesive framework that integrates many of the relevant theories discussed in this study. Therefore, this research offers a more-than-representational understanding of place, which is particularly well-suited for exploring through mapping performances on the interactions between human and AI agents, as a contribution. The objective here is to associate within the evolving assemblage of a theoretical rhizome within this existing theoretical framework, extending on new relation sets, rather than constructing a new one.

1.3 Procedure and Disposition: Territorializing the Dissertation

An experiential-relational exploration on the affective assemblages among generative AI models and humans is necessary to address the epistemological and operational challenges of human-AI collaborations within the emergence of places, situated in more-than-human contexts. Departing from that necessity, this study unites with a theoretical framework and such practical-discursive studies on place, particularly around a vocabulary of events, relations, and doings. Studying the connections among these concepts, this approach will focus on revealing the disconnect between anthropocentric-instrumentalist habits that persist in practice and the agential perspectives central to post-human theories, also aiming to bridge them. There, the thesis conceptualizes mapping as the mediator, acting both in empirical and discursive mediums to interweave with the relational agency and the affective atmosphere in the emergent nature of place.

The methodology of this research evolved over time without a pre-determined structure. Separate inquiries into place, mapping, and generative AI initially developed independently, but they gradually converged through the lens of more-

than-representational theories, focusing on the concept of place. This convergence created a dynamic, self-folding assemblage that informed both the theoretical and practical aspects of the study. In this subheading, the ontogenesis of the presented version of the dissertation will be explained through a narrative read through the study process.

As more-than-representational research is expected to develop in a process-oriented and ambient methodology, emphasizing affective atmospheres, embodied experiences, and the dynamic interactions between human and non-human actants, such work would require embracing the uncertainties, and “taking small signs of everyday life for wonders”³⁴ which are often viewed as mundane, yet rich with a potential of capturing “what is present in experience”³⁵. Therefore, GPT and GAN, as popularly accessed generative AI models, were preferred among the participants within the scope of this study. These agents, by adapting in instantaneous, momentary interactions and mediating in hallucinatory behavior³⁶, enable an escape from instrumentalist views, aligning well with a process-oriented methodology that values everyday life’s often-overlooked affective signs. Although they are “narrow AI” models by definition, their potential to operate in interactive, multi-modal, error-prone, ambiguous iterative processes implies a repetition of difference in an advanced stage of emergent behavior. Their casual accessibility for informal, everyday interactions — free from professional task-specific requirements — suggests a line of flight to escape from the limits of instrumentalist conventions or structuralist representations.

The disposition of this engagement with generative artificial intelligence is explorative, confrontational, and projective. Explorative character is an inevitable chronography of this research, coinciding with enormously rapid transformations

³⁴ Thrift, *Non-Representational Theory*, 2.

³⁵ Thrift, 2.

³⁶ Matias Del Campo and Neil Leach, ‘Can Machines Hallucinate Architecture? AI as Design Method’, *Architectural Design* 92, no. 3 (May 2022): 6–13, <https://doi.org/10.1002/ad.2807>.

witnessed in the field. Likewise, the content is mostly introductory by context, fringed onto an explosive multitude of phenomena that connect a wide range of philosophical genealogy to the rhizomatic emergence of new modes of human-AI encounters. In alignment with this chronography, it is undeniable that both the researcher and all human participants operated outside the practical expertise typically associated with the technical domains of computer science and cognitive science within AI studies. Thus, the study is also a heuristically explorative cartography of various experimental pathways, adapted as quasi-methods as they go, and informed from the process itself.

As a performative act, mapping becomes a key methodological approach in the study, offering the potential to uncover hidden layers of place experience and enhance communication between human and AI actors. Maps studied as a case or produced by participants in this research were shared and interpreted through open-ended conversations between generative AI-human conversations, allowing for a continuous unfolding of relational and affective dynamics. These conversations, guided or affected by mapping performances, served to intensify and diversify the participants' understanding of place, creating a fluid exchange between humanoid perceptions and AI-generated atmospheres.

Throughout the research, mapping also became a way of documenting the process itself. The researcher's subjectivity, the affective atmosphere surrounding the study, and the varied experiences of human and non-human participants all contributed to creating a nomadic, discursive assemblage. The interactions, discoveries, and even accidental encounters throughout the research journey are reflected in the evolving textual assemblage, which mirrors the dynamic nature of the study.

By acting as a mediator performance, mapping allows the research to navigate and communicate complex spatial information while maintaining a connection to the relational qualities and affective atmospheres integral to place experiences. The conceptual terms and glossary emerging from these mapping performances will serve as tools for further exploring the relationship between AI, place, and post-

human agency, critiquing instrumentalist practices, and suggesting lines of flight to escape the constraints of representational approaches. Ultimately, the dissertation reflects the evolving research process, capturing the ongoing, emergent assemblage of ideas, interactions, and theoretical insights that have shaped its trajectory.

The research unfolded through five chronologically overlapping stages, each reflecting interactions, re-readings, and interpretation:

- Initial readings,
- Exploratory experimentation,
- Working with cases from mapping literature,
- Mapping workshops with participants,
- Re-territorialization and mapping of the research into this dissertation text.

From these stages, key encounters and contents emerged, leading to the formation of a conceptual map and glossary. These concepts and their rhizomatic network became a pattern for organizing and understanding the research content about relational dynamics of place, mapping, and agency in AI-involved design.

Rather than adhering to a linear timeline, the research content was redistributed into a non-linear assemblage according to emergent themes covering research questions and encounters, as they have become nodes of densification in the conceptual map. These primary themes, therefore, questions can be listed as:

- **Why place**, and how place is considered? (See Chapter 2. A More Than Human Exploration of Place as An Assemblage)
- **How does the relational agency** of human and AI actants unfold practices within places? (See Chapter 4. Relational Agency: Mapping Between Minds in Performing Places)
- **What happens, and how it matters when** human experience and AI imagination communicate through mapping? (See Chapter 5. Mapping in Hybrid Conversations: Stories from Encounters)

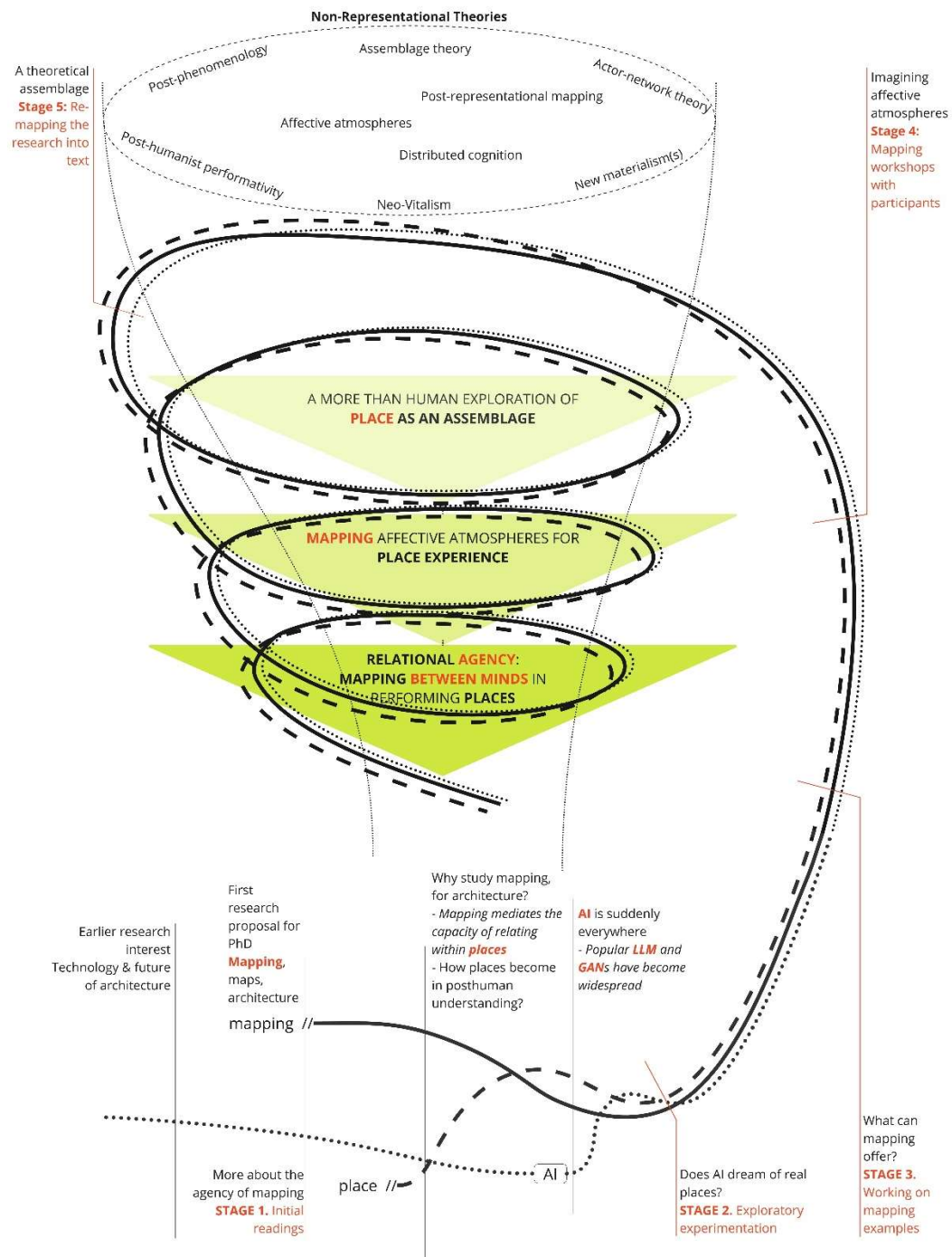


Figure 1.1. Re-mapping of the research process, fold into dissertation text by non-linear temporality. (Author)

This content forms the basis of the thesis's following chapters, with each chapter focusing on the key themes of place, mapping, agency, and generative AI. In the background of this reterritorialization, the iterative disposition of the research process was meant to allow for an ongoing exploration of these questions, creating a cohesive yet partitive condition that reflects the emergent nature of the research itself.

While the chapters have separate integrity on their own in a heterogeneous content, when combined, they aim to create the current state of the text. To that, the text is assembled with an understanding of time that considers the temporal relationships of events more complex and multidimensionally, without adhering to a linear time flow of events, rather aiming at an “intensive time”³⁷. While the text is being formed, internal and external movements combine to create an ever-changing and evolving emergence. Deleuze's idea of “fold,” often seen in architectural discourse,³⁸ was employed to illustrate this textual assembly on a mapping. The fold here refers to the dissertation's initiation, continuation, and materialization in five stages affected by encounters between virtual and actual interactions. The materiality of the research becomes processual in these folds. This preference enables the text to offer continual

³⁷ Manuel DeLanda, *Intensive Science & Virtual Philosophy*, New edition (London: Bloomsbury Academic, 2005), 84–113.

³⁸ Jobst, ‘Why Deleuze, Why Architecture’.

Jobst comprehensively traces influences of Deleuze's idea of fold in architectural discourse as it has impacted architectural discussions in several ways, resulting in diverse implications: Architects commonly emphasized the idea of formal continuity by focusing on the literal and physical folding. The same concept intersected with the digital world in architecture, specifically in dealing with the uncertainty of results generated by computationally controlled design processes, highlighting unpredictability of design results by embracing complexity in architectural design. In a European setting, Deleuze's concept of the fold was evident in initiatives that mixed the boundary between foreground and background, forming seamless surfaces that fold similar to Leibniz's concept of the universe. See also:

Greg Lynn, ‘Folding in Architecture (1993)’, in *The Digital Turn in Architecture 1992–2012* (John Wiley & Sons, Ltd, 2013), 28–47, <https://doi.org/10.1002/9781118795811.ch2>; Kate Nesbitt, ‘Introduction’, in *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965–1995*, ed. Kate Nesbitt (New York: Princeton Architectural Press, 1996), 555. ‘From Derrida to Deleuze’, in *An Introduction to Architectural Theory: 1968 to the Present*, by Harry Francis Mallgrave and David J. Goodman, 1st edition (Malden (Mass.): Wiley-Blackwell, 2011), 164–67.

performativity that can take a vortical form, as Deleuze considers the fourth stage of the fold concept³⁹.

The research unfolds through a process that does not adhere to a linear structure but follows a non-linear, iterative approach. It begins with the **initial readings** phase, focused on mapping, place/ space, and digitally driven design, each forming a separate trajectory of investigation. Over time, a more-than-human explanation of place became the point of convergence for these intersecting lines of inquiry (see Figure 1.1). This process coincided with a period of global excitement over developments in AI through the widespread accessibility of popular LLM and GAN models.

The research has developed through an experiential-relational dimension from this convergence, exploring the affective assemblages among generative AI models, human participants, and places. In the second stage, the **exploratory experimentation** phase, conversations on place experience with artificial intelligence models initiated the practical exploration of mapping's performative potential and AI's capacity for more-than-representational engagements. As a result of a series of meetings, interviews, focus group discussions, and casual conversations, the problem definition and experimental method that the research addresses were articulated and continually refined. The third stage consists of **working with cases from mapping literature**. Mapping examples suggested by preceding publications for acquiring a critical, creative, or affective agency as performance was introduced to generative AI agents with whom these examples were shared.

Mapping workshops with participants is considered the fourth stage of the study. Participatory engagements between humans and AI, generated visual materials,

³⁹ Gilles Deleuze, *The Fold: Leibniz and the Baroque*, First edition (Minneapolis: Univ Of Minnesota Press, 1992), 16–26; Elisabet Yanagisawa, 'The Fold, A Physical Model of Abstract Reversibility and Envelopment', in *The Dark Precursor: Deleuze and Artistic Research*, ed. Paulo de Assis and Paolo Giudici (Leuven (Belgium): Leuven University Press, 2018), 415–25.

narratives, and field notes that deepened the relational and atmospheric dimensions of the research. Finally, the fifth stage, **re-territorialization, and mapping the research materials into this dissertation text**, refers to the process of writing the current version of this text. The research is re-territorialized into the dissertation text through the assemblage of a rhizome of concepts, drawn from the iterative interactions between human and AI encounters.

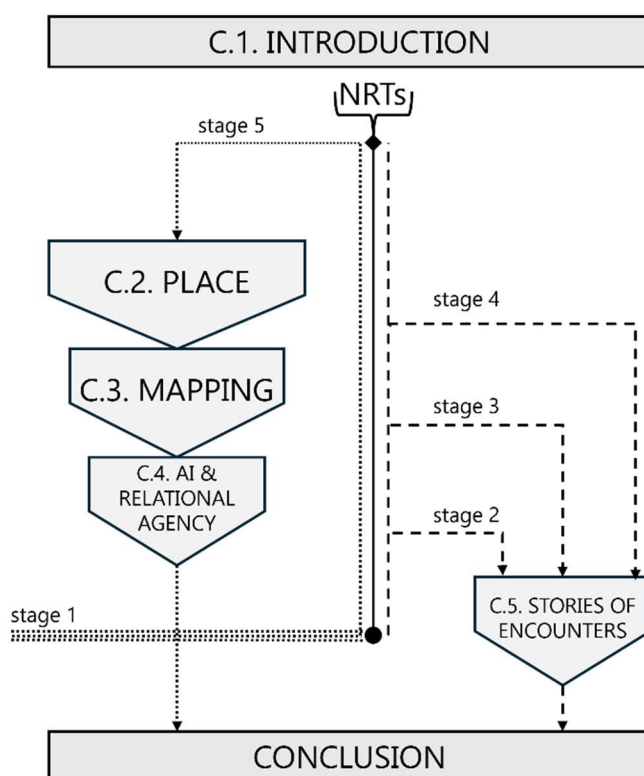


Figure 1.2. Overview of the thesis outline in chapters. (Author)

The question of how places become in posthuman understanding was inquired, and the second chapter pointed to three continuums on which this theoretical rhizome could be discussed: essentialism to relationality, being to becoming, and phenomenon to agency. The third chapter examines how mapping's capacity to relate to place responded to the more-than-human characteristics of place discussed over

these continuums. The fourth chapter discusses how human and AI participants can be evaluated in a relational agency approach that exceeds instrumentalist constraints for place-related practices. It presents a critical-projective perspective on the possible contributions of mapping to this. Encounters that accompanied all these inquiries and influenced the emergence of the conceptual assemblage that came together are summarized in three narrative sections in the fifth chapter.



CHAPTER 2

A MORE-THAN-HUMAN EXPLORATION OF PLACE AS AN ASSEMBLAGE

“It is worth remembering that architecture remains rooted to place, even in an age celebrated for global culture; what circulates are images, ideas, expertise and architects themselves.” says Stan Allen, in his 2012 article titled “The Future That is Now”. Indeed, a physical structure remains situated within the geographical context in which it was built, with only rare exceptions. But what about spaces that are designed to live in motion, or spaces that can be experienced in digital environments, or the many possibilities, as Allen calls “ideas” and “images”, that have found form in words or in lines of architectural representation? Are they rooted in their *places* in the same way? Then again, what if places themselves are not *rooted* in the first place, but instead they are converged by process, continuously woven by intra-action? In any case, Allen’s reminder for pointing out that the ability to relate with places may ultimately adapt the discipline to the evolving paradigms of the future can be very accurate in a time of existential crisis when it is all the more needed. But that requires understanding how the sense of place is being changed.

Since architecture is an endeavor that is so intertwined with place, almost all of its thoughts and practices have been influenced by philosophical debates on spatiality and place. Before proceeding to a discussion on the evolving definition of place, let us consider what the practice of architecture is all about in a very immediate manner as if offering the first straightforward insight that comes to mind: It is almost always taken for granted that architecture does something concerning place. The term “place” is so innately embedded in everyday life that it often functions like a prefix or an auxiliary word, blending into speech and thought without drawing any attention. For this reason, it is common for it to appear in dictionaries with a long list

of options. Yet, any alternative meaning that is associated with the word can be considered in relation to architecture.

Consider we pick a dictionary and read meanings correspond to the word: It says: *place* is “a particular position, point, or area in space; a location”. Simple, plain logic asserts that all these concepts have their act in architectural practice. *Place* can refer to “a building or area used for a specific purpose or activity”, so architects are expected to be involved in thinking about, designing and building them. *Place* can also refer to “a person’s home”, meaning it is some environment for someone is known to dwell. Well, as anticipated, architecture would claim a role in transforming any such environment to be precepted and felt as a home by someone. Architectural practice often requires decisions about “the regular or proper position of something”, or which specific “portion of space” is “designated for being used by someone”... We may repeat the same exercise for the meanings of the word as a verb, and it would result quite similarly.

So, places are inevitably entangled phenomena for architecture, and evidently, they are still so. It becomes evident in discourse, too, when we read such determined statements as: “Without place, architecture cannot come into existence - not in any way or form...”⁴⁰ written by Lindstrom, an architect author in a very recent publication. Despite obvious relevance, the term “place” wasn’t always explicitly spoken about in architectural scholarship, and when it was, it wasn’t always referred to the same significance. It was often because there are so many substitutes for architects to refer to a very similar context but with nuances of course, when they need to discuss places, such as space, site, topography, landscape... As much as the relationship between architects and place, the extent to which aspects of place can be represented in the representational environment of architecture has also been a matter of debate. This debate bears obvious parallels with the self-criticism of

⁴⁰ Randall S. Lindstrom, *An Architecture of Place: Topology in Practice*, 1st ed. (London: Routledge, 2024), 7, <https://doi.org/10.4324/9781003313496>.

geography, especially when these critiques are accumulated around the supremacy of the concept of “space” over “place” since the Middle Ages⁴¹. (as explained in Chapter 3 with respect to cartography).

"Architecture is the will of an epoch translated into space..."⁴²

As many similar quotes from renowned architects would express, architectural ideas target particular experiences of spatiality. However, as in the geographical vocabulary of a similar period, the concept of place for a long time referred to the location rather than the content of these experiences. Intensified since the second half of the twentieth century, architectural works affiliated with modernity have been repeatedly criticized for neglecting place and a detachment from lived experience in favor of idealistic universal values such as abstract concepts of space and form, efficiency, and functionality. In terms of relating with places, architecture is accused by overlooking the essential spirit⁴³, the local (cultures, climates, materials, building traditions etc.)⁴⁴, embodied and multisensory experience (see Pallasmaa's views), identity and meaning⁴⁵, uniqueness and significance, historical continuity and memory (for instance Aldo Rossi's approach), resistance for a genuine social diversity (e.g. David Harvey), and so on. These criticisms were also shaped by philosophical and geographical discourses advocating for the reassertion of place's significance in response to the long-standing dominance of space. Meanwhile, architecture was considered responsible for responding to these essential qualities.

“Architecture means to visualize the *genius loci* and the task of the architect is to create meaningful places, whereby he helps man to dwell.”⁴⁶

⁴¹ Casey, *The Fate of Place*.

⁴² This is a famous quote of Mies van der Rohe, cited here as quoted in Paul Goldberger, *Why Architecture Matters: Revised Edition* (Yale University Press, 2023).

⁴³ Norberg-Schulz, *Genius Loci*.

⁴⁴ Frampton, *Modern Architecture*.

⁴⁵ Relph, *Place and Placelessness*.

⁴⁶ Norberg-Schulz, *Genius Loci*, 5.

However, these same influences that led architecture to question its relationship with place have been then subjected to criticism for causing a “*reactionary*”⁴⁷ notion of place that is only linked with fixed, stable meanings and identities (for instance, see skeptical positions of Harvey, Massey, and Latour, as narrated in 2.1 and 2.2). Although it is not the only argument, the tendency of these ideas to ground on a human-centric phenomenon of place, and their similar behaviors to set a dualism between space (*abstract and temporary*) and place (*permanent and somehow meaningful*) are the common threads faced with such opposition. In that context, a progressive sense of place that acknowledges the importance of experience, interaction, and corporeality but approaches these from a relational perspective that does not have to be tied to stagnation, rootedness, and identity is proposed with relational and processual definitions.

This conceptualization of place, explained by the relational materialist perspectives of Law⁴⁸ and Massey⁴⁹, emphasizes the world as a network of interconnected, heterogeneous, and continuously evolving hybrids that enact multiple, overlapping realities, over “not one but many worlds”⁵⁰, interweaving diverse spatial and temporal dimensions. Considering such approaches, “place is still important because there is no other definition of these hybrids but a contextual one: it is how they matter and why they matter”.⁵¹ Therefore, architecture’s responsibility towards place might now be reinterpreted as involving and mediating the task of contextualizing these processes, engaging with the distributed agency that emerges from entanglements of spatial and material assemblages rather than imposing fixed forms or static meanings.

⁴⁷ Tim Cresswell, *Place: An Introduction*, Second edition (Chichester, West Sussex ; Malden, MA: Wiley, Blackwell, 2015); Doreen Massey, *Space, Place and Gender* (Cambridge, 1994).

⁴⁸ John Law, *After Method: Mess in Social Science Research*, 1st edition (London ; New York: Routledge, 2004).

⁴⁹ Massey, *Space, Place and Gender*.

⁵⁰ Law, “Traduction/Trahison: Notes on ANT.”

⁵¹ Thrift, “Steps to an Ecology of Place,” 317.

In a linear reading of the relevant history of thought, the definition of place went through phases of classical-foundational, positivist-dualist, experiential-phenomenologist, and recently relational-processual. However, the last item in this progression, relational mode of thinking, also asserts a non-linear mapping of this history. While earlier epistemological models may be presented in a linear progression, the relational approach re-reads them as a mesh of continuous influences, challenging the notion of a simple, unidirectional historical evolution⁵². In the context of this study, that non-linearity suggests examining a phase of re-territorialization of ideas around places. When this discourse of reappreciation of place — rooted in humanistic concerns and shaped by diverse theoretical influences — is reconsidered through more inclusive, balanced, and arguably less reactionary thinking, the question arises as to how place might be reconceptualized within more-than-human contexts and why it continues to be regarded as significant.

In the context of post-human thought, the change in the notion of place has moved away from human-centric approaches to more inclusive and relational explanations where human and non-human actors are entangled in a dynamic and plural definition. Thus, the experience of place is not limited to human point of view, but it is an affective association intertwined by technological, biological and material ecologies in a constant process of becoming. This change has been influenced by a conceptual and experimental meshwork connecting several different theories encouraging more-than-human thinking and is being shaped by advancing ethical-political contexts.

The concept of place is conventionally affiliated with human reasoning and cognition, more recently, embodied experience and affect. In broader terms, more-than-human approaches redefine these affiliations by including non-human actants involved in the process, suggesting novelty in thinking and action for examining the

⁵² De Landa, *A Thousand Years of Nonlinear History*.

agency shared by natural and artificial materiality, eventuality; redefining, even rejecting existing subject-object bifurcations.

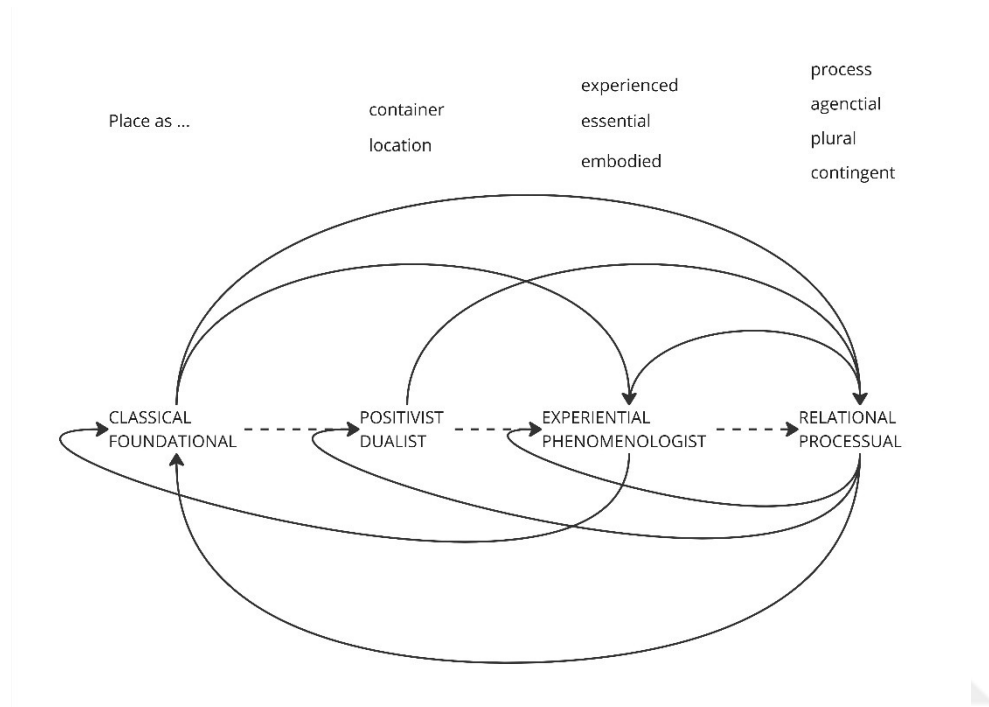


Figure 2.1. A diagram of continuous influences for relational-processual place ideas from alternative epistemological models in a non-linear chronology. (Author)

As Robertson reviewed⁵³, we may follow these thoughts from their stems in post-phenomenological extensions from “phenomenological underpinnings” (see 2.1), which aim to surpass the human-centric nature of classical phenomenology by expanding the scope of the experience over technology⁵⁴, organisms, and materials.

⁵³ Robertson, “Rethinking Relational Ideas of Place in More-than-Human Cities.”

⁵⁴ For instance, in Don Ihde’s postphenomenological framework, technology is not relegated to the status of mere background objects within a pre-given world; rather, it actively mediates and transforms the interrelationship between the human subject and its environment. Ihde argues that while classical phenomenology—and its concept of intentionality—depicts all consciousness as directed “of something,” the introduction of technological artifacts reshapes this relational dynamic by becoming an intrinsic part of the very “of” in conscious experience. In this context, technology becomes a formative agent in the constitution of place, aligning with post-human and assemblage

Meanwhile, a similar line of influences can be traced in a range of theories that suggested new understandings for materiality such as Bennett's concept "vibrant matter", or Barad's thinking on "agentiality" by intra-actions in more-than-human (as discussed in 2.3, and also Chapter 3). Robertson has drawn these insights together as a loose theoretical framework for studying place around more-than-human thinking; resonating in several areas like urban political theory, environmental justice studies.

All these ideas that are associated with the more-than-human definition of place, interact with each other in various fields of research, such as science and technology studies, neo-vitalism, new materialism, performativity, can be conceptualized as a theoretical assemblage. Indeed, the idea of an assemblage as it is referred by Deleuze and Guattari would explain such an emergent and contingent phenomenon both in theory and in life. In this view, place is not a fixed container but an emergent, dynamic network where human and non-human actants continually interact and transform one another. Hence, there are two primary conclusions to follow for the purposes of this dissertation: First, that place should primarily be rethought and discussed as an assemblage, reflecting its complex, relational, processual nature; and second, that the field of more-than-representational theories — capable of transcending traditional subject-object dichotomies — offer a suitable umbrella framework for practicing within this assemblage, especially because they align well with a motivation to study a phenomenon that is too immanent and innate, often taken for granted in the practice, language, and everyday life.

When place is considered as an assemblage, it is then understood as more than a mere collection of the assembled parts. Assemblage is not only defined by the

theories that view place not as a static container but as an emergent network produced by heterogeneous interactions. Thus, Ihde's view on technology and how it blurred the tendency to focus on intention, can be interpreted to reorient the understanding of place to encompass the active, constitutive role of technology in mediating human experience. (Ihde and Rosenberger, *The Critical Ihde*, 117–18.)

composition of tangible and intangible entities, but also with the relations and interactions emerge among them⁵⁵. Assemblage thinking emphasizes that a place is not a static and essential structure but a dynamic one that is becoming in transformation. For instance, as Kim Dovey explained⁵⁶, a street is not just made up of buildings, sidewalks, and inhabitants, instead it is an assemblage determined by how these are intertwined through the flow of traffic, possibilities of overlays among public and private spaces, lives of organisms and changes in materials. Assemblages can be related to two primary processes in an overlapping precession: Territorialization and deterritorialization⁵⁷. They are being stabilized by some of the processes, while some other processes have destabilizing impacts.

This study offers three continuums to investigate the qualities of places as an assemblage in more-than-human thinking. The first axis is **relationality**. Place does not exist only on its own but is a formation that is in constant interaction with its environment and the different components within it. Relations occur among practices, events, nature, materials, and often more share the agency that territorialize and deterritorialize places. The second axis, **processuality**, refers to the rejection of understanding places as particular localities of space with fixed structure, meaning, and attachments. This approach is a clear influence of the Deleuzian ontogenetical mode of thinking, where the “what is” question is replaced by “how it becomes”. Place, then, should be thought of more as a “becoming” rather than a “being”.

Agency, as the third axis, refers to the opinion that place not only provides a spatial context but also affects and transforms what happens in this context while it is shaped and reproduced by the practices within it. In the scope of architectural and other

⁵⁵ Manuel DeLanda, *A New Philosophy of Society: Assemblage Theory and Social Complexity* (London ; New York: Continuum, 2006).

⁵⁶ Kim Dovey and Mirjana Ristic, ‘Mapping Urban Assemblages: The Production of Spatial Knowledge’, *Journal of Urbanism: International Research on Placemaking and Urban Sustainability* 10, no. 1 (2 January 2017): 15–28, <https://doi.org/10.1080/17549175.2015.1112298>.

⁵⁷ DeLanda, *A New Philosophy of Society*; Woods et al., “Assemblage, Place and Globalisation,” 291–92.

spatial practices, the concept “performativity” is referred to as explaining how certain doings and events perform places for new implications, uses, or appropriations. How a place is embodied, experienced, and perceived is directly related to the intra-actions happening in this performance. Thus, place is not merely a stage or background for the performers; it is involved in acting.

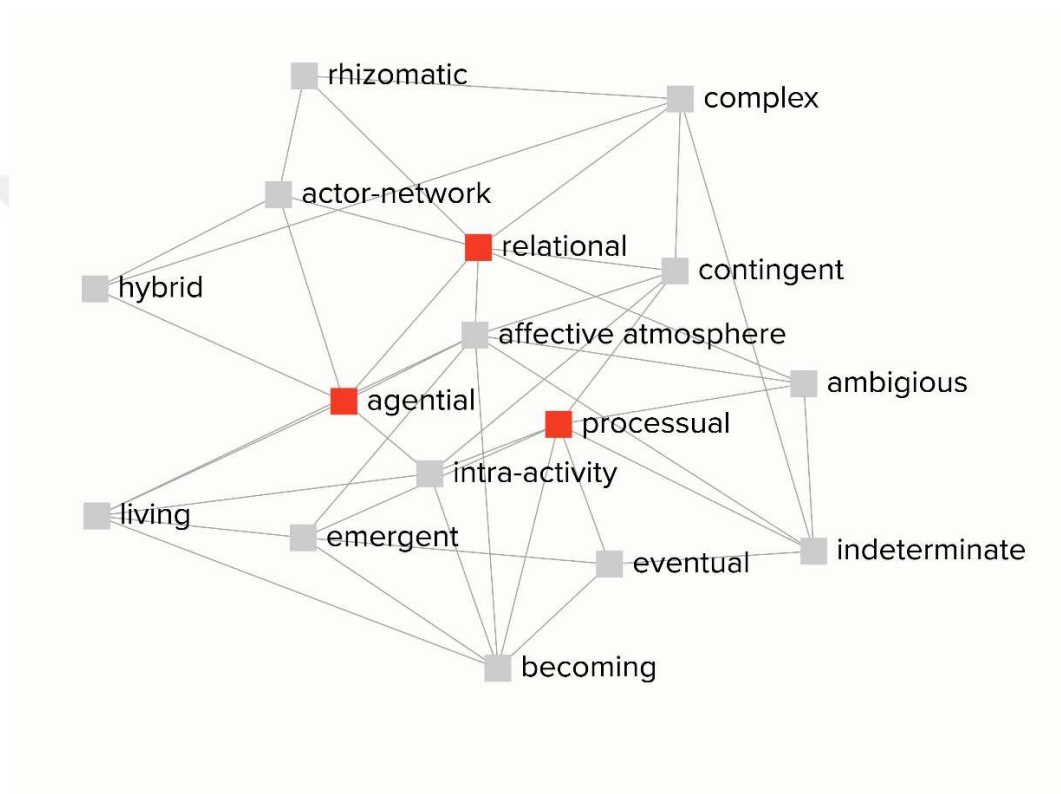


Figure 2.2. A diagram for a rhizomatic network of place characteristics

A more-than-human understanding in that theoretical framework defines an active definition of place as becoming that has agency with its relational, experiential, dynamic, affective yet still ambiguous qualities. The characteristics of a place suitable for this definition are the qualities of an assemblage in constant formation. So, they are unsuitable for a traditional categorical classification and indexical ordering. The mapping of such a set of features, which will consist of many terms that are all connected to each other in some way, will resemble a rhizomatic

network⁵⁸, in line with Deleuze and Guattari's description⁵⁹. It enables a non-linear understanding of place by interconnecting qualities, allowing for a multidimensional and dynamic investigation of what characterizes a place. It can be thought that the connections between these attributes are densified over some of the terms, as seen in rhizomatic networks.

2.1 From Essentialism to Relationality: Living Atmospheres

The ideas of relationality of place are usually related to a response against essentiality, rejections of, or alternatives for ontologies based on subject-object dichotomy. In the last few decades, the notion of place has undergone a significant shift from essentialist to relational thinking⁶⁰. Concepts like “home”, “dwelling”, “settlement” were very co-identified with an idea of attachment to place as it was previously thought fixed, distinct, and bounded, an environment that is frequently connected to feelings of security and rootedness⁶¹. Such viewpoints have been countered by thinking place within dynamic and interrelated perspectives, like in the “a meeting place” of “articulated moments in networks of social relations and understandings”⁶², as phrased by Massey. Such alternatives eventually furthered an acknowledgment of an agency that is neither singularly held by a certain agent nor discretely shared by a group of individuals. Instead, agency becomes by association and shared among intra-actions and events (See more in 2.3 and 4.1).

The term *relationality* effectively explains a more-than-human sense of place. This is not only for the perception of the place considered concerning inter-subjective and collective experiences, but also for the becoming of a place, which is characterized

⁵⁸ May and Thrift, *Timespace*; Latour, *Reassembling the Social*; DeLanda, *A New Philosophy of Society*.

⁵⁹ Deleuze and Guattari, *A Thousand Plateaus*.

⁶⁰ Robertson, “Rethinking Relational Ideas of Place in More-than-Human Cities.”

⁶¹ Lewicka, “Place Attachment.”

⁶² Massey, *Space, Place and Gender*, 154.

by diverse associations. These relationships underlie a non-hierarchical *interconnectivity* among varied and dissimilar human and non-human elements. All material components are included in the assemblage with *heterogeneity*. As a consequence, this complex web of connections does not exist in a single form and state, therefore, place is defined as *multiplicity*, not a singular pre-existing identity.

In the context of this research on the role of mapping in post-human spatial practices involving human and artificial minds, a key motivation for considering place as an assemblage is that assemblages are inherently relational. When multiple entities—people, objects, or otherwise—come together, they constitute a new becoming. Perhaps, the most literally explicit characteristics of assemblages can be thought of as their relational behavior. After all, assemblages are initially theorized over the dynamics that emerge through relations. In Deleuze and Guattari's explanations, an assemblage is an intensification in a network - or *rhizome* – that shows consistency by repeatable patterns of behavior, often cyclical changes by self-organizing forces that interconnect diverse materials⁶³.

However, a definition of relationality that is free from affective interaction, pre-cognitive elements of everyday life, and corporeality may render the "more-than-human" motivation less inclusive than intended. Even when answering the question of what matters for body and mind relationally, it is important to be able to communicate human experiences to other elements that gain agency.

DeLanda interprets the “relations of exteriority” in Deleuze and Guattari's definition to refer two major points. First, each component maintains a degree of independence from the bonds that connect it. Second, “the properties of the component parts can never explain the relations which constitute a whole.”⁶⁴ This implies how no element's individual characteristics suffice to account for the complex interplays that

⁶³ Bonta and Protevi, *Deleuze and Geophilosophy*, 54.

⁶⁴ DeLanda, *A New Philosophy of Society*, 10.

form the collective, making the relational dimension of assemblages especially central to discuss.

Here, questioning how Actor-Network theory differs from assemblage thinking in the context of relations as Müller did⁶⁵, might offer inferences for living materiality (as also discussed in 2.3) and the affective dimension of assemblages. Along with differences discussed in the context of empirical applicability and specific accounts of politics, the nuance in the definition of relational agency is the most relevant for the discussion here.

The concept of relationality for assemblages is broadly similar to Actor Network Theory's preoccupation with describing the temporal and multiple relationships between human and non-human elements⁶⁶. The rejection of certain hierarchies among these elements, however, has an even greater emphasis in this “sociology of associations”⁶⁷. ANT emphasizes that socio-material actants cannot be reduced into individual spheres or categories, and explains how these are positioned equally symmetrical in terms of their need for cooperation to produce an actor-network⁶⁸. In this perspective, there is a prominence of connections to act, which is not necessarily explicit in assemblage thinking. New actors and their behaviors in action emerge entirely through relations. Thus, this primacy of relationality eliminates the question of which component is more powerful or effective in the structure of these networks and their assembling processes.

ANT views agency as mediated and contingent, never as possessed or attributed. For ANT, entities should form alliances to achieve agentiality⁶⁹. In contrast, assemblage thinking suggests that components should be considered as having their intrinsic

⁶⁵ Müller, “Assemblages and Actor-Networks.”

⁶⁶ Müller.

⁶⁷ Latour, *Reassembling the Social*, 9.

⁶⁸ Latour, 9.

⁶⁹ Barry, *Material Politics*, 183.

qualities, independent from their roles and parts in association, granting them the capacity to be deterritorialized⁷⁰.

According to DeLanda, entities within an assemblage are impacted by their relationships and the other elements they interact with. These connections do not, however, fully determine these entities. To put it another way, an entity can be added to one assemblage and taken out of another, but its placement in any particular assemblage never fully "actualizes" or defines it⁷¹. DeLanda's framework suggests a key distinction between an entity's capacities and properties.

An entity's properties are its actual, observable traits, like size, shape, or color. In contrast, capacities are unrestricted potentialities that emerge during interactions with other entities. Capacities cannot be reduced to an entity's properties, even though they are dependent on them. Instead, they arise from the unique collaboration of several components, each contributing its own attributes and capabilities to the interaction⁷².

Specific to the research problem of this study, such a relationality definition that suggests a distinction between property and capacity can contribute in two ways. First, in the context of post-human spatial practices, where both human and machinic intelligence might collaborate in possibilities of transforming a place, DeLanda's emphasis on the unpredictable nature of capacities becomes especially relevant. Strategies and techniques that can mediate and operate with a topological capacity, people, algorithms, data, and physical components may interact in ways that are not strictly predefined by their individual properties. The outcome of such interactions can lead to creative, novel, unforeseen spatial configurations, challenging deterministic or solely property-based design approaches. Secondly (as will be discussed more extensively in Chapter 4), evaluating the capacity to relate to the

⁷⁰ Anderson et al., "On Assemblages and Geography."

⁷¹ DeLanda, *A New Philosophy of Society*.

⁷² DeLanda, 11.

place not through individual abilities but through the dynamics that emerge in association makes it possible to consider the contribution of technological components to the process through this interaction. Still, encounters with actual contexts of places would demand answers for how and when thinking machines can communicate with embodied experiences.

On the other hand, ANT is firmly committed to a much more radically symmetric approach against the independent influences and separable contributions of actants. As a result, it has been criticized for overlooking external factors and autonomous causes that may also shape these networks.⁷³ Thrift sees that as a tension where Actor-Network theorists would doubt of an “undercover humanism” and a “centred geographical connectedness”, while they might be failing to speak for the importance of places because of their reluctance to “ascribe different competences to different components of a network”.⁷⁴ The idea that entities are entirely determined by their current relations makes it challenging to comprehend the contributions and responses of “parts”⁷⁵. Therefore, this same tension causes concerns about the need for refinements of the concepts *subjectivity* or *embodiment* to discuss how psychological states of experiences, and capacities matter within relational ontologies.

Earlier phenomenologist accounts sought a replacement of “subjectivity” with “embodiment”. While they were rejecting the duality between mind and body as they see them correlated in sensorial and cognitive dimension⁷⁶, they remained attached to the notion of subjective experience. Don Ihde tried to break this bond with essentiality by suggesting an alternative over “*multistability*”. What he meant was to channel pragmatist ideas through phenomenologist thought to achieve an expansion towards variational possibilities about how “things matter and

⁷³ Müller, “Assemblages and Actor-Networks.”

⁷⁴ Thrift, “Steps to an Ecology of Place,” 313.

⁷⁵ Anderson et al., “On Assemblages and Geography,” 25.

⁷⁶ Merleau-Ponty, *Phenomenology of Perception*.

understood” by each other, from “things speak for themselves”⁷⁷. Thinking about place, this expansion offers a platform for acknowledging how humans and non-humans are immanent in the lives of places.

This brings us where Thrift calls for a “subjectivity” that is not isolated but “distributed within particular situations amongst ‘dividuals’ of various kinds”⁷⁸. Therefore, the notion of *embodiment* within relational thinking also requires noticing the affective assemblages of events and moments, that are not solely attributed to bodies, but shared by all things involved, materials, and spaces of these encounters. Places are, then, not supposed to be neutral containers as both experiential and relational views already suggested, but they are also not neutral grids, networks, or processes⁷⁹, they are living, *affective atmospheres*. As Thrift suggests: “...places are passings that haunt us ... (and we haunt them)”⁸⁰.

The use of the concept “*atmosphere*” as a descriptor for spatial experiences is remarkable in that it can find a response in both essentialist and relational understandings of place. This may promise to bridge the gap between human perception and more-than-human perspectives for the sense of place along the continuum between essentialism and relationality, the question of what makes one place different from another through experientiality, where these experiences both can be interpreted as personal or interpersonal. In this respect, it can explain that the body can experience a place by the presence and that this experience is an emergent situation affected and shared by all the elements involved.

Speaking of atmospheres is no stranger to architectural discourse, especially in the period following the turn of the millennium⁸¹. In architecture, urban design, literary,

⁷⁷ Ihde, “Forty Years in the Wilderness.”

⁷⁸ Thrift, “Steps to an Ecology of Place,” 319.

⁷⁹ Thrift, “Steps to an Ecology of Place.”

⁸⁰ Thrift, 310.

⁸¹ Böhme, “Atmosphere as the Subject Matter of Architecture”; Zumthor, *Atmospheres*; Pallasmaa, “Space, Place, and Atmosphere: Peripheral Perception in Existential Experience”; Borch, *Architectural Atmospheres*; MATTEIS, *AFFECTIVE SPACES*.

and visual arts, atmosphere refers to the sensorial qualities of space that affect an immediate form of physical perception through specific situations and moods⁸². Pallasmaa points out that the experience of a place happens in a “fusion of the world and mind”, where there is no privilege of vision, and it addresses more than five Aristotelian senses: orientation, balance, gravity, duration, motion, illumination, and so on⁸³. Correlated by this physical sensoriality, but not limited to it, feeling or mood that is conveyed by the presence of the body emerges from the combination of many factors. As Zumthor tells in “I enter a building, see a room, and in a fraction of a second – have this feeling about it”⁸⁴, atmospheres are about these immediate encounters. *Affectivity* within a place is initially a pre-cognitive process happening just within what is alive, not necessarily a pre-ordained essence, nor a collection of signifiers that produce mental construct later, but as a moment of encounter⁸⁵. However, as per more interpersonal explanations (see Buser⁸⁶ and Anderson⁸⁷) they might not be simply induced by space to an individual as Zumthor suggests⁸⁸.

It is more feasible to observe these atmospheric approaches proposed for architectural spaces as in a “not-yet” state in the context of the more-than-human notion of place discussed in this section. Due to these ideas, there is no clear rejection of a distinction between human and non-human, living and matter; the emotions or experiences in question are explained with human-centered descriptions. A general distinction between who affects and who is affected can be noticed. The human being, particularly through architecture, is in a position to be impacted by this atmosphere or to desire the formation of this atmosphere, as privileged to make

⁸² MATTEIS, *AFFECTIVE SPACES*; Borch, *Architectural Atmospheres*; Gandy, “Urban Atmospheres”; Krafl and Adey, “Architecture/Affect/Inhabitation”; Anderson, “Affective Atmospheres.”

⁸³ Pallasmaa, 19.

⁸⁴ Zumthor, *Atmospheres*, 13.

⁸⁵ Thrift, *Non-Representational Theory*, 115–17.

⁸⁶ Buser, “Thinking through Non-Representational and Affective Atmospheres in Planning Theory and Practice.”

⁸⁷ Anderson, “Affective Atmospheres.”

⁸⁸ Zumthor, *Atmospheres*.

decisions. Meanwhile, in the field of urban design and planning, the concept of atmosphere is more explicitly associated with a relational definition of agency⁸⁹. In parallel with this, the adjective “affective” is often accompanied by it.

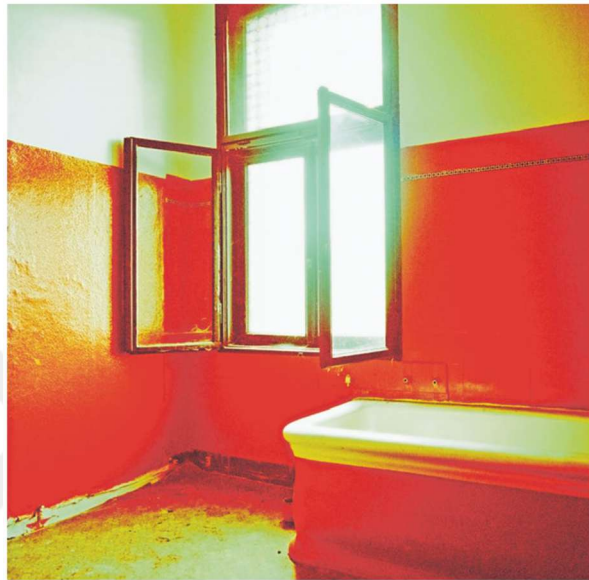


Figure 2.3. Jeanne Fredac, *Badezimmer* as cited in “Atmospheres of abandonment” Christian Borch’s “Architectural Atmospheres: On the Experience and Politics of Architecture”⁹⁰

Affective atmosphere, when approached through a more relational perspective, transcends the settled contexts for being in the world where it is seen as the “*mood of settings*,” as architects tend to name it (See Pallasmaa⁹¹ for instance), and instead emerges as the *mood of associations and affects*. This point reframes atmosphere not as an inherent property tied to a specific environment, but as a dynamic and emergent capacity produced through the interactions of heterogeneous elements — human and

⁸⁹ Gandy, “Urban Atmospheres”; Buser, “Thinking through Non-Representational and Affective Atmospheres in Planning Theory and Practice.”

⁹⁰ Christian Borch, ed., *Architectural Atmospheres: On the Experience and Politics of Architecture* (Birkhäuser, 2014), <https://doi.org/10.1515/9783038211785>.

⁹¹ Pallasmaa, “Space, Place, and Atmosphere: Peripheral Perception in Existential Experience,” 19.

non-human, material and immaterial. Rather than being a static backdrop, the atmosphere is an affective assemblage that manifests through encounters, ruptures, and crises, where established representational frameworks would fail in capturing⁹². In these moments, what changes are not markers of pre-existing meanings but encounters generated through embodied experiences and affective intensities. Atmosphere, thus, operates as an affective field woven from relations that exceed spatial boundaries, simultaneously deterritorializing and reterritorializing perceptions. There can be more than one atmospheres coexisting in the same spatial environment⁹³. Which one of those to be performing is not about the stability of a place, but it is about the fluctuating assemblages of bodies, objects, and sensations that continually alter what is felt, sensed, and known.

In this light, atmospheres become less about capturing a singular, stable mood and more about consisting of the fluid, often contradictory forces that coalesce to produce affective resonances across different sites and temporalities. For a more-than-human approach, as Buser puts it, this means that affective atmospheres are not “free-floating”⁹⁴ expressions or spatial entities that exist in isolation from the bodies but rather a “quasi-autonomous affect that emerges from and is constructed by relational encounters between human and non-human entities”⁹⁵.

The spatial qualities implied by those definitions refer to the acts of surrounding, enveloping, and radiating at the same time⁹⁶. Atmospheres have a distinct spatial property that also helps to understand the relationality: “diffusion within a sphere”⁹⁷, which reflects their surrounding and radiating behavior. Then, as the “-sphere” hints, according to Deleuze and Guattari, atmospheres emerge around and by bodies of

⁹² Anderson and Ash, “Atmospheric Methods,” 48–51.

⁹³ Anderson and Ash, 38–42.

⁹⁴ Böhme, “Atmosphere as the Fundamental Concept of a New Aesthetics,” 122.

⁹⁵ Buser, “Thinking through Non-Representational and Affective Atmospheres in Planning Theory and Practice,” 234.

⁹⁶ Anderson, “Affective Atmospheres.”

⁹⁷ Anderson.

various types interacting with one another, resulting in some form of 'envelopment'⁹⁸. These interactions cause atmospheres to come together, overlap, and separate, continuously forming and reforming situations. Affective qualities arise from the combination of human bodies, discursive bodies, non-human bodies, and all other bodies that comprise everyday situations⁹⁹.

Building on this understanding, Michael Buser examines how the notion of affective atmosphere helps us understand processes in which places are defined through relational dynamics rather than stabilized identities¹⁰⁰. Recent affective turn in social sciences and humanities,” as Buser calls it, is influenced by Deleuze’s reinterpretation of Spinoza’s *affectus* to a greater extent. By this engagement, Deleuze coined Spinoza’s view on how affect is not merely associated with bodily responses, emotions, feelings, and subjective experiences, but, at the same time thoughts and awareness of them. Encounters for Deleuze, are “what forces us to think”¹⁰¹. If such thoughts and ideas are affected by encounters among bodies, then these are also social acts. An individual’s idea of a concept, in that manner, is an affective quality mutually caused by perception, movement, and affective response – which are considered as primary dynamics of lived space, and a corporeal presence in an environment¹⁰². Therefore, interpretations and judgments are always subject to change through relations with other-selves and the mediators in between.

The experience of place, in this atmospheric sense, emerges both as an individual, embodied intensity and as a shared, relational force that connects bodies, materials, and environments. It is simultaneously internal and external, shaped through encounters and embedded within broader fields of connection. That is why, this

⁹⁸ Deleuze and Guattari, *A Thousand Plateaus*, 256, 288–89.

⁹⁹ Stewart, *Ordinary Affects*.

¹⁰⁰ Buser, “Thinking through Non-Representational and Affective Atmospheres in Planning Theory and Practice.”

¹⁰¹ Deleuze, *Difference and Repetition*, 139.

¹⁰² Federico De Matteis, *Affective Spaces: Architecture and the Living Body* (London: Routledge, 2020).

complex dynamic is perhaps best understood through the concept of affect. As Massumi puts it:

In affect, we are never alone. That is because affects in Spinoza's definition are basically ways of connecting, to others and to other situations. They are our angle of participation in processes larger than ourselves. With intensified affect comes a stronger sense of embeddedness in a larger field of life – a heightened sense of belonging, with other people and to other places¹⁰³.

Thinking affect, therefore, might mean thinking about what makes us think during an encounter. To put it more relationally, affect emerges by the agency of the process of transmission of feelings and pre-individual experience. There, more-than-representational theories have embraced three themes of Deleuze's interpretation of Spinoza for affect¹⁰⁴. The first of those is the *transpersonality* of affects, they are positioned in between, or "in the middle"¹⁰⁵ among bodies, and they are not isolated within exclusive individuality such as emotions¹⁰⁶. Second, affect "cannot be grasped, made known or represented"; therefore, they are "non-cognitive" or pre-cognitive in the sense that they happen before the mental processes of perceiving and interpreting. Thus, they are strongly relevant to what matters within the onflow of everyday life, where they were "taken for granted"¹⁰⁷. Third, the causality behind affect is embedded in events and encounters¹⁰⁸. Place as an affective atmosphere contextualizes these processes where affect is continually made as the "energetic outcome of encounters between bodies in particular places"¹⁰⁹.

¹⁰³ Massumi, *The Politics of Affect*, 4.

¹⁰⁴ Buser, "Thinking through Non-Representational and Affective Atmospheres in Planning Theory and Practice," 232.

¹⁰⁵ Buser, 235.

¹⁰⁶ Buser, 232.

¹⁰⁷ Thrift, "Steps to an Ecology of Place."

¹⁰⁸ Buser, "Thinking through Non-Representational and Affective Atmospheres in Planning Theory and Practice," 232.

¹⁰⁹ Conradson and Latham, "The Affective Possibilities of London," 232.

Another major reason for considering places as affective atmospheres is related to a need to describe their *ambiguity*. Thinking place as an affective atmosphere offers a reasonable way to engage with its inherent ambiguity. Atmospheres, by their very nature, resist precise categorization, oscillating between presence and absence, materiality and ideality, and the subjective and objective¹¹⁰. They embody collective affects that exceed individual bodies while remaining intensely personal, thus reflecting the indeterminate, relational qualities that define place beyond fixed spatial or representational boundaries¹¹¹.

Ambiguity emerges from the indeterminate, oscillating nature of affective atmospheres, away from fixed meanings. Dewsbury¹¹² emphasizes that performativity, as an event, is marked by irretrievability, indeterminacy, and excess. For an intra-activity that performs within places, this implies experiences are woven from transient encounters, fluid interactions, and ever-evolving contexts. The inherent indeterminacy allows for the continuous redefinition of place through affective interactions, making it an open, evolving phenomenon rather than a stabilized identity.

This ambiguity takes on new dimensions in the context of human-AI interactions, particularly through Generative Adversarial Networks (GANs), in which there are answers for why the generated contents are often judged as “hallucinatory”¹¹³. Although current GAN models predominantly operate through text-to-visual processes, the representational capacity of language alone - proving Wittgenstein right many times in an unexpected practice - falls short in conveying the full spectrum of an affective atmosphere. The richness of place cannot be fully encapsulated in isolated descriptive elements, as affective atmospheres emerge from

¹¹⁰ Anderson, “Affective Atmospheres.”

¹¹¹ Anderson, 80.

¹¹² Dewsbury, “Performativity and the Event.”

¹¹³ Leach, “Architectural Hallucinations”; Del Campo and Leach, “Can Machines Hallucinate Architecture?”; Yan, “A Hybrid Creativity in Architecture.”

complex, relational dynamics that intertwine sensory, emotional, and cognitive layers.

Moreover, the affective atmosphere of a place is not confined to its actual, immediate presence. It is shaped by an interchange of direct experiences and mediated representations, such as images and narratives generated about the place. These representations influence perceptions, judgments, and decisions, becoming integral to the lived experience of place. In this regard, while GAN-generated images are often failing to capture what humans see in a specific context, they might have been doing more than reflecting the existing data. They actively participate in constructing relational and shared perceptions of place. These dynamics challenge the notion of a singular, fixed spatial experience, highlighting how hallucinations might contribute to the evolving affective fabric of places.

An example from Huang et al.¹¹⁴ shows the relationship between GAN-generated architectural imagery (left) and the semantic network of descriptive terms (right). This visualization highlights how AI-generated representations are shaped by complex relational dynamics between material elements (e.g., "roof," "stone," "chimney") and conceptual associations. Such mediated outputs not only reflect - and even when they couldn't satisfactorily illustrate- but also actively participate in constructing affective atmospheres, influencing human perceptions and interpretations of place beyond direct physical experience.

¹¹⁴ Jeffrey Huang et al., 'On GANs, NLP and Architecture: Combining Human and Machine Intelligences for the Generation and Evaluation of Meaningful Designs', *Technology|Architecture + Design* 5, no. 2 (3 July 2021): 207–24, <https://doi.org/10.1080/24751448.2021.1967060>.

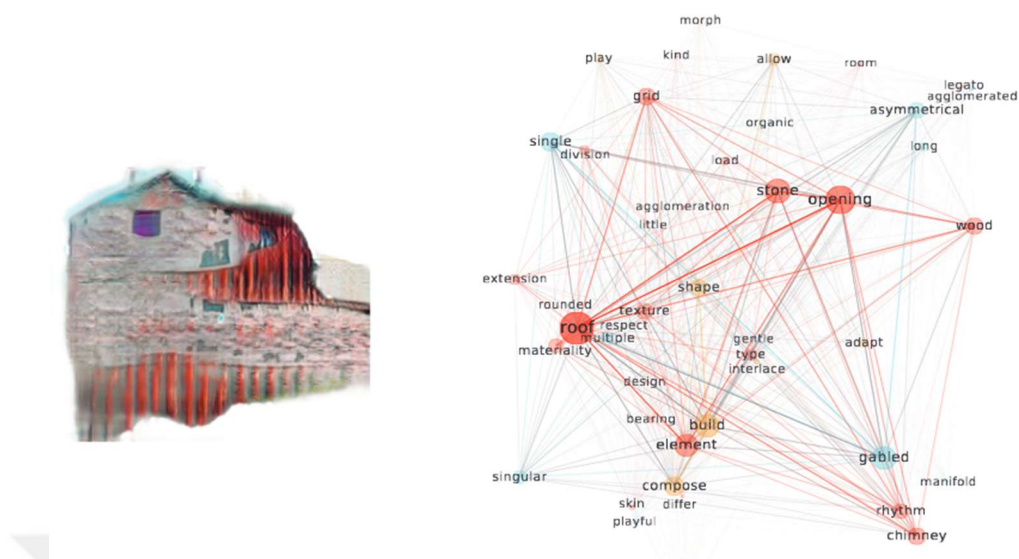


Figure 2.4. GAN-generated imagery (left) and its semantic network (right) illustrate interactions between material elements and conceptual associations in AI-generated content¹¹⁵.

The feedback loop between human responders and AI-generated outputs further illustrates Dewsbury's notion of the event as an ongoing enactment rather than a discrete occurrence. Human affective responses guide the selection and refinement of AI outputs, while the AI-generated images, in turn, reshape human perceptions. Ideally, this reciprocal relationship should foster an affective atmosphere where ambiguity is not a barrier but a generative force, enabling the continuous evolution of both place and creative practices through shared, relational experiences between humans and AI.

The concept of ambiguity in relational framework is also associated with *complexity*. As reflected in Robert Venturi's famous quote, "less is bore," criticism against the modernist movement in architecture had one of the most popular channels through the accusation of excessive simplicity. Together with protests for standardizing,

¹¹⁵ Huang et al.

deterministic, and reductive approaches¹¹⁶, a certain degree of ambiguous complexity was suggested to be plausible for place attachment. However, from a posthumanist perspective, complexity stands out as a quality of the multilayered, emergent, and contingent nature of place rather than a visual, structural, or formal measure of meaning or identity.

In this context, assemblage theory, as outlined by DeLanda, explains the understanding of complexity as a relational process at different scales in a non-hierarchical process. There, complexity of a system – rather than a structure- is not limited to physical-material elements, but also includes symbols, discourses, norms, and ideas, constantly becoming reshaped at different scales¹¹⁷. The concepts of reterritorialization and deterritorialization, which are frequently used to explain how the complex dynamics of an assemblage are formed and reshaped, will be discussed in more detail in the next section.

The digital age has made the complexity problem for urban areas more intense, visible, and urgent in two ways. The first of these is the inevitable recognition that cities and urban life are no longer shaped by fixed plans and predictable structures but rather evolve in a constant state of change, uncertainty, and unpredictability. The second is based on the problem of how consistently a variable network consisting of multi-layered elements such as non-human actors, information flows, technological infrastructures, and environmental variables can be simulated and studied through complex computer algorithms, such as generative algorithms of computational design or environmental simulations¹¹⁸.

¹¹⁶ Consider Kenneth Frampton's account on critical regionalism (Frampton, "Towards a Critical Regionalism: Six Points for an Architecture of Resistance."), or Christopher Alexander's criticism against the hierarchical orders (Alexander, "A City Is Not a Tree.") for instance.

¹¹⁷ DeLanda, *A New Philosophy of Society*.

¹¹⁸ Boyer, "On Modelling Complexity and Urban Form."

All of these mark a period of “cybernetic entanglement”¹¹⁹ for architectural practice, when concepts such as adaptation, resilience, responsiveness, reflexivity, and virtuality come to the fore in the relationship of architecture with place. Thus, understanding that place as an assemblage consists of non-linear causal relationships becomes an important ontopolitical strategy¹²⁰. Kim Dovey suggests that evaluating such complex spatiality with inherent and self-organizing behaviors is possible through “enabling emergencies” and “new assemblage points”¹²¹. For this study, in support of this suggestion, experiments were carried out on encounters to determine how new assemblage points could be formed to understand and imagine the affective atmosphere of the place in conversations between human participants and large language models (as explored in 4.2 and 4.3).

In conclusion, this section examines the continuum between essentiality and relationality for a sense of more-than-human place. Within this continuum, place has conventionally been perceived as a fixed, limited, and subjective field of experience. At the same time, more recently, relational approaches support the idea that place is an interactive network that is constantly re-emerging between humans and other actors involved in its own living matter. In this context, the relational explanations of interpreting place as an assemblage and its reflections in different theories, the possibility of considering this assemblage as a living atmosphere, and the explanation of such place experience by affect on both definitions are discussed (affective assemblages, affective atmospheres). In connection with this relational understanding, notions of heterogeneity, ambiguity, complexity, affectivity, multiplicity, and contingency have been particularly surfaced and elaborated.

¹¹⁹ Vass et al., “Environments (out) of Control.”

¹²⁰ Vass et al., 90.

¹²¹ Dovey, “Informal Urbanism and Complex Adaptive Assemblage.”

2.2 From Being to Becoming: Place as a Process

Casey's book *The Fate of Place* tells the story of a historical-philosophical conflict between the concepts of place and space. Casey argues that place remained in the intellectual hegemony of the concept of space in a process that began in the Middle Ages and continued until late modernity¹²². Against this supremacy of space, theorists who defended and theorized the recovery of place in the second half of the 20th century (e.g., Tuan, Relph, Augé) put forward experiential and identity-based explanations for what defines places within less-defined spatiality¹²³. During the 1970s, the notion of place was explained as a specific definition of space, fixed and stable but loaded with meanings based on human experience. While Tuan sees place as a "pause" in movement¹²⁴, Relph focused on how humans connect with places and within them shaped meanings in a situatedness¹²⁵.

Despite their differences, a common feature among these ideas is the ontological duality that attributes concrete, static, and continuous characteristics to place, such as specificity, definition, and meaning; while positioning space as abstract, variable, and uncertain. Similarly, from a phenomenological perspective, Norberg-Schulz, who emphasizes the experience of place through a somewhat circuitous reading of Heidegger's concept of "dwelling," acknowledges that place is in a constant state of change¹²⁶. However, he immediately argues that this change must have limits and constraints for a formation to remain as a place. According to Norberg-Schulz, a certain degree of permanence, which he calls "*stabilitas loci*" is essential for human life. This explanation parallels Yu Fi Tuan's distinction between space and place¹²⁷, where movement corresponds to space, and pause or dwelling corresponds to place.

¹²² Casey, *The Fate of Place*.

¹²³ Cresswell, *Place*, 2015.

¹²⁴ Tuan, *Space and Place*, 6.

¹²⁵ Relph, *Place and Placelessness*.

¹²⁶ Norberg-Schulz, *Genius Loci*.

¹²⁷ Tuan, *Space and Place*.

As such approaches defended the re-celebration of place as a means of essential stability for human experience, they have also been faced with criticism for showing reactionary reflexes against historical and social changes¹²⁸. David Harvey claimed that such narratives' overemphasizing the place-related concepts against the uncertainty caused by globalization often produces nostalgia that fosters some selected groups' local identities in isolation while deepening discriminative spatial separations in actual occurrences¹²⁹. However, Harvey accepts that place can also be an instrument of resistance against capitalism¹³⁰. Doreen Massey extends Harvey's criticism one step further from that possibility with her search for a progressive sense of place. She emphasized that it is inadequate to consider places merely as spaces with well-defined boundaries and static identities. Thus, she framed the *progressive sense of place* by arguing that place has an open and relational character that is constantly reshaped by the interaction of various actors. Therefore, Massey also offers a more inclusive framework that suggests places are to be understood as dynamic processes transformed by flows in different scales, both local and global¹³¹. This is where theorists like Whatmore and Haraway insist on the need for an understanding of place that transcends beyond human-centric thinking¹³².

Considering place in a process-based view has not been initiated by relational materialist or posthumanist ideas. Earlier in 1984, Allen Pred criticized geographical discourse for the prevalent tendency to view places as settings and claimed that places are always in flux in a historical process¹³³. Pred's contribution to the focus on time-geography and historical contingency was very significant for its influence

¹²⁸ Cresswell, *Place*, 2015.

¹²⁹ David Harvey, *Justice, Nature, and the Geography of Difference* (Cambridge, Mass.: Blackwell Publishers, 1996).

¹³⁰ Noel Castree, 'David Harvey', in *Key Thinkers on Space and Place*, ed. Phil Hubbard and Rob Kitchin, Second edition (Los Angeles, Calif.: SAGE Publications Ltd, 2010).

¹³¹ Massey, *Space, Place and Gender*.

¹³² Whatmore, "Materialist Returns"; Holloway, "Donna Haraway."

¹³³ Allan Pred, 'Place as Historically Contingent Process: Structuration and the Time-Geography of Becoming Places', *Annals of the Association of American Geographers* 74, no. 2 (March 1984): 279–97, <https://doi.org/10.1111/j.1467-8306.1984.tb01453.x>.

over the rejection of the views that consider places as necessarily settled environments. However, Pred's motivation was to suggest a critical empiricist lens over power relations to integrate the theory of structuration into human geography, in particular, social reproduction, biography formation, and nature transformation¹³⁴. Here, a posthumanist reading on his ideas would suggest that by keeping the idea of “human” fixed and separate, we ignore how power works and matters, as Barad claimed¹³⁵.

Besides their obvious connection to *temporality*, as seen in Pred's ideas, processual thinking of place is common in a range of approaches attempting to put space and place together¹³⁶. Agnew offers a thematization for these attempts under four “theoretical ways”: the neo-Marxist, the humanist or agency-based, the feminist, and the performative¹³⁷. More-than-human thinking may relate to a revisit of each of these ways. However, it would require a more relational reading of the concept of agency and a focus on everyday life practices instead of representations that would make it closer to what Agnew calls the performative. Performativity is very important for a post-humanist way of thinking because it repositions the focus onto “material-discursive practices” and redefines the boundaries of agency by emancipation from human intention¹³⁸. This understanding enhances the relational modes of thinking that similarly reject dualities between nature and human, local and global, as in Actor-Network-Theory, but also calls for a realization of “different agential possibilities”. For place, this is how the field of MtRTs might help as Williams considers that “non-representational theory presents us with a processual ontology, where the body is *placed in* and *emerges out* of its material milieu.”¹³⁹

¹³⁴ Pred.

¹³⁵ Barad, “Posthumanist Performativity,” 826.

¹³⁶ Agnew, “Space and Place.”

¹³⁷ Agnew, 17.

¹³⁸ Barad, “Posthumanist Performativity.”

¹³⁹ Williams, ‘Non-Representational Theory’, 425.

Doreen Massey is usually considered as one of the pioneers in thinking places by processes¹⁴⁰. She considers “space” as an ongoing process of convergences against nullifying dualities, whereas to her, place is a specific collection compiling this eventuality¹⁴¹, woven by routes, not roots. Tim Ingold’s ideas might advance this dynamic place notion by defending that places are not points of arrival, but instead, they are part of journey by being “topics joined in stories of journeys actually made”¹⁴². These event and movement-based explanations emphasize that places are in constant transformation and flow. Therefore, it is implied that they are places of relations for not just humans but all beings. For their entanglement in places in flow and relations, these beings can all be called “territorials” to challenge another duality between space and place, which is set on local and global¹⁴³.

Considered such, places are too emergent and contingent in such relational processes. That would clearly cause a disagreement with the views that emphasized the stagnancy and stability of place. So, what makes place significant for this specific focus on eventuality? Visiting Massey’s and Ingold’s definitions of place would help in discussing this question. Ingold suggests that places are where bodies circulate around and in between, not the stops (See Figure 2.5). As opposed to stabilizing and bounding, there is a greater emphasis on weaving and relating. Therefore, this also leads to questioning the meaningfulness of the experience with more topological alternatives¹⁴⁴. Massey’s following explanation exemplifies such a perspective:

“This is the event of place. It is not just that old industries will die, that new ones may take their place. Not just that Hill farmers round here may one day abandon their long struggle, nor that that lovely old greengrocers is now all turned into a boutique selling tourist bric-a-brac. Nor, evidently, that my sister

¹⁴⁰ Robertson, “Rethinking Relational Ideas of Place in More-than-Human Cities,” 6.

¹⁴¹ Massey, *For Space*.

¹⁴² Ingold, *Being Alive*, 154.

¹⁴³ Latour, *Down to Earth*.

¹⁴⁴ Robertson, “Rethinking Relational Ideas of Place in More-than-Human Cities.”

and I and a hundred other tourists soon must leave. It is also that the hills are rising, the landscape is being eroded and deposited; the climate is shifting; the very rocks themselves continue to move on. The elements of this ‘place’ will be, at different times and speeds, again dispersed.”¹⁴⁵

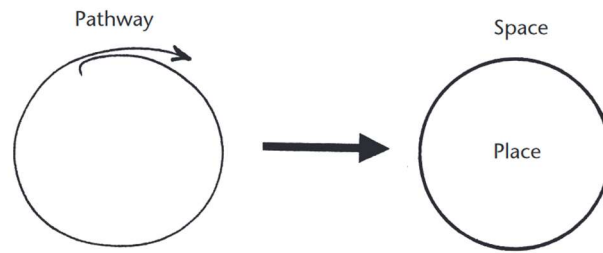


Figure 2.5. Tim Ingold’s original diagram explains how movement defines place within space by a “perambulatory and embodied experience”¹⁴⁶.

Seeing the place as more open, reconfigurable and in flow during the post-human era makes it difficult to define it within a fixed and rigid framework. This perspective accepts the place as a constant “becoming”; rather than settling into a certain form, it experiences a continuous process of becoming and transformation. Thus, the inconsistent, ever-changing, and redefined dimensions of place are emphasized.

Arguably, places of the post-Anthropocene are expected to be more open to change and reconfiguration than any other previous historical context. While previous definitions of place highlighted its fixed, static, and permanent features - or the structure and power mechanisms that create those features - understanding the place as a becoming emphasizes its inconsistent features and *unfixity*. Such a place necessitates the conception of *fluidity*, both as an intersection and concentration point

¹⁴⁵ Massey, *For Space*, 140–41.

¹⁴⁶ Tim Ingold, *Being Alive: Essays on Movement, Knowledge and Description* (London ; New York: Routledge, 2000), 148.

where many flows come together and shape regarding the flexibility and *perviousness* shown by its borders and form.

Places are dynamically shaped by the continuity of repeated or new interactions. That is what makes them assemblages of events that evolve over time, too. The constant transformation that stabilizes and destabilizes these assemblages is often accompanied by unexpected impacts and changes. So, this is a state of flow, without arriving a fixed result in a linear progression. This network of processes and events becomes reconnected in temporary situations, in overlapping definitions relative to experience.

Ideas about thinking of places through processes and events have parallels with approaches that thought about architecture through processes and events in coinciding periods. Although it is more accustomed for common sense to perceive architectural works and their representations as stable and static, various theoretical alternatives of thinking of architecture with time, have challenged this perception to understand architecture as a material and energetic flux as outlined by Cristina Parreño Alonso by referring to Heraclitus' famous "everything flows" dictum¹⁴⁷.

This shift toward understanding architecture as process and event has already resonated with both theoretical explorations and built experiments in the twentieth century. Among many others, Bernard Tschumi's proposition "There is no space without event, no architecture without movement" and his approach to architecture based on the triad of "space, event, and movement" are some of the most evident examples of such in the discourse¹⁴⁸. While his representational experiments in "The Manhattan Transcripts" illustrate these ideas through unbuilt media, his project Parc de la Villette (See 3.1, Figure 3.3) is often cited as an example of how he translated

¹⁴⁷ Cristina Parreño Alonso, 'Deep-Time Architecture: Building as Material-Event', *Journal of Architectural Education* 75, no. 1 (2 January 2021): 142, <https://doi.org/10.1080/10464883.2021.1859906>.

¹⁴⁸ Bernard Tschumi, *The Manhattan Transcripts*, 2 edition (Sasso Marconi (BO) Italy: Wiley, 1994).

these concepts into built form to encourage movement, exploration, and spatial reconfiguration.

Stan Allen, Sanford Kwinter, and Greg Lynn, influenced by the ideas of Deleuze and Guattari, suggest alternative conceptual engagements for architecture to be discussed through open-ended processes rather than static objects. Allen, adopting the concept of “smooth space”, describes architecture as a “field condition” shaped by uncertain and flexible rules and open to establishing new relationships¹⁴⁹. Whereas Kwinter interprets architecture as a continuous field of time, events, and emergence. He sees structures as variable, dynamic processes rather than fixed forms, especially by drawing on Deleuze’s reading of Bergson on concepts of event and virtual¹⁵⁰. Similarly, Lynn’s view on digital architectural production processes developed through the concept of “folding”, based on Deleuze’s “fold” metaphor, to present architectural morphogenesis as a fluid process that is constantly transforming, allowing unexpected connections between different elements¹⁵¹. All three theorists offer emancipation for architecture from static form to emergent behavior through the philosophical concepts of Deleuze and Guattari, and they reposition it as a network of spatial relations in constant transformation.

Speaking of networks in processes, as an ANT perspective towards architecture, Bruno Latour and Alben Yaneva discussed that buildings are not static artifacts, but they are ongoing, evolving projects driven by both human and non-human influences¹⁵². But to them, there is a paradox between subjective human experiences

¹⁴⁹ Stan Allen, ‘Field Conditions (1997)’, in *The Digital Turn in Architecture 1992–2012* (John Wiley & Sons, Ltd, 2013), 62–79, <https://doi.org/10.1002/9781118795811.ch5>.

¹⁵⁰ Sanford Kwinter, *Architectures of Time: Toward a Theory of the Event in Modernist Culture*, Reprint edition (Cambridge, Mass.: MIT Press, 2002).

¹⁵¹ Lynn, ‘Folding in Architecture (1993)’.

¹⁵² Bruno Latour and Alben Yaneva, ‘«Give Me a Gun and I Will Make All Buildings Move»: An ANT’s View of Architecture’, *Ardeth.*, no. 1 (1 October 2017): 103–11.

of a dynamic lived experience and objective material representations in Euclidean space as an architectural project¹⁵³.

Broadly overlapping with this ANT view and being informed by deleuzeoguattarian thought, assemblage thinking provides an explanation for places where they are not considered as stagnant beings but becoming by a continual change and transformation¹⁵⁴. As a processual approach, this is straightforwardly associated with ideas of place as relational contexts that are being formed by the agency of relations and encounters. Therefore, in urban studies, assemblage thinking has been employed as a framework to study social and spatial processes of change, allowing a place understanding that emerges through both local and translocal assemblages¹⁵⁵, and can be analyzed within several contexts, particularly including a field of associations between philosophy of technology and spatial politics¹⁵⁶.

While places emerge as assemblages, there is no bounding intrinsic causality for how components relate but a contingent interdependence among them¹⁵⁷. This situation renders places as porous and everchanging, where they become more than passive settings under the influence of globalization, dynamic participants involved in reproducing global processes¹⁵⁸.

Assemblages emerge for a specific span of time, then continue changing often until their dissolution. Meanwhile, any component can be added or left from one assemblage to another in time¹⁵⁹. As such, places can be considered as temporary snapshots in time, as Massey phrased, “a momentary co-existence of trajectories and

¹⁵³ Latour and Yaneva.

¹⁵⁴ DeLanda, *A New Philosophy of Society*; Dovey, *Becoming Places*; Anderson et al., “On Assemblages and Geography.”

¹⁵⁵ McFarlane, “Translocal Assemblages”; Woods et al., “Assemblage, Place and Globalisation.”

¹⁵⁶ Müller, “Assemblages and Actor-Networks.”

¹⁵⁷ DeLanda, *A New Philosophy of Society*.

¹⁵⁸ Woods et al., “Assemblage, Place and Globalisation.”

¹⁵⁹ Anderson et al., “On Assemblages and Geography.”

relations”¹⁶⁰, yet they are also enduring due to deep historical layers¹⁶¹. Throughout all these temporality and change, places are understood with *multiplicity*, as they might embody the capacity of numerous actual and virtual assemblages, hosting potential pasts, presents, and futures in the same space of possibilities¹⁶².

For assemblages, temporality lies both in the relative duration of events¹⁶³ emerging when individual components get together, and also in the relative endurance of these assemblages between processes for these components to stay together or fall apart¹⁶⁴. Delanda explains this dynamic of an assemblage's emergence and disappearance with two primary processes called ***territorialization***, and ***detrterritorialization***¹⁶⁵. While “territorialization” refers to the processes that stabilize assemblages by, “detrterritorialization” covers other processes that disrupt this stabilization while eroding their temporary boundaries. Such disruption is often exemplified by a city, a neighborhood, or any other previously defined region that is subject to redefinition by processes of migration, trade, and cultural change¹⁶⁶. States, governments, and institutions are too temporary assemblages associated with places, as they also dissolve and become reinstated in historical and political crises¹⁶⁷.

It is important to be able to comprehend the definitions of these terms in a comprehensive manner to understand their impact on this study. Therefore, in the following part, definitions from Bonta and Protevi's "Deleuze and geophilosophy: A guide and glossary" will be borrowed in the footnotes as direct quotes, along with studies that have explained and exemplified these terms in explaining places processually.

¹⁶⁰ Massey, “Travelling Thoughts,” 229.

¹⁶¹ Massey, *For Space*; Thrift, “Steps to an Ecology of Place”; Thrift, “Movement-Space.”

¹⁶² De Landa, *Assemblage Theory*.

¹⁶³ DeLanda, *A New Philosophy of Society*, 41.

¹⁶⁴ DeLanda, 43.

¹⁶⁵ DeLanda, *A New Philosophy of Society*, 12–16.

¹⁶⁶ Woods et al., “Assemblage, Place and Globalisation.”

¹⁶⁷ Müller, “Assemblages and Actor-Networks.”

Processes of territorialization and deterritorialization regulate the coherence, boundedness, and definition of place. **Territorialization** stabilizes assemblages around coherent patterns of material, social, and cultural contingency, like racial or class-based segregation among inhabitants¹⁶⁸, or trade routes, geographical impasses, territorial borders, perimeters imposing internal uniformity¹⁶⁹. This process is often conceived and strengthened by political and governmental institutions¹⁷⁰. Territorialization is the initial coming together of the connections that form an assemblage, the definition of relationships, and the acquisition of relative positions to each other. It is also a process that determines the boundaries of this formation and gives it its spatial identity. In this respect, Kim Dovey defines place as a “territorialized assemblage”¹⁷¹.

However, no territorialization is completely permanent. **Deterritorialization**¹⁷² refers to processes that shake the existing structures (stratum or consistency), extend or deform boundaries, and disrupt stability. For example, the globalization of capital deterritorializes local economies and creates new economic networks and translocal

¹⁶⁸ Woods, “Territorialisation and the Assemblage of Rural Place.”

¹⁶⁹ DeLanda, *A New Philosophy of Society*, 117.

¹⁷⁰ Müller, “Assemblages and Actor-Networks.”

¹⁷¹ Dovey, *Becoming Places*, 17.

¹⁷² DETERRITORIALIZATION:

“Intensification that produces a ‘crisis’ that reshuffles the ‘material-semiotic’ fit of an assemblage, so that ‘signs’ no longer have the ‘meaning’ they once did, that is, they no longer reliably trigger habitual material processes.” Bonta and Protevi, *Deleuze and Geophilosophy*, 56.

...

“The always complex process by which bodies leave a territorial assemblage following the lines of flight that are constitutive of that assemblage and ‘reterritorialize’, that is, form new assemblages (there is never a simple escape or simple return to the old territory). Deterritorialization changes the ‘imbrication of the semiotic and the material’, the fit of the collective assemblage of enunciation and the machinic assemblage of bodies. In complexity theory terms, deterritorialization works by increasing or decreasing the intensity of certain system states past a critical threshold, which either moves the system to a previously established but non-actualized virtual attractor (‘relative deterritorialization’), or indeed prompts the release of a new set of attractors and bifurcators, new patterns and thresholds (‘absolute deterritorialization’). In plain language, deterritorialization is the process of leaving home, of altering your habits, of learning new tricks.” Bonta and Protevi, 78.

identities¹⁷³. This process paves the way for the dissolution of the existing orders and the emergence of new potentials and capacities.

After deterritorialization, systems seek a new stability, and different components come together in new arrangements. As a means of sustaining consistency for an existing assemblage, or a process of leaving components to become parts of a next one, **reterritorialization**¹⁷⁴ comes into play at this stage. Müller¹⁷⁵ explains the emergence of new social organizations with technological change in this context. As in the examples for the rise of technologies like video conferencing and social media that mediate great distances, this point of view is becoming increasingly pertinent in everyday life. Increased influence of several social media platforms on ideas and social movements in organization - for and against state power - are arguably the greatest instances of topological constellations that enforce assemblages rebuilt by exceeding previous locales after political crisis¹⁷⁶.

As required by the process-based definition, places continue to transform during their relatively stable periods between the processes of territorializing, by two counterbalancing groups of regulatory influences within assemblage theory. **Coding** is the process of organizing the components within an assemblage through specific rules, norms, or structures that are imposed into their internal behavior¹⁷⁷. For example, written rules or legal frameworks in modern bureaucracies stabilize social

¹⁷³ Woods et al., "Assemblage, Place and Globalisation."

¹⁷⁴ RETERRITORIALIZATION:

"The process of forming a new territory, following (and always together with) deterritorialization. Reterritorialization is never a return to an old territory, and even if a body similar to what was deterritorialized or fled from is reconstituted, it is not the same body, not the same State, not the same discourse, not the same species." Bonta and Protevi, *Deleuze and Geophilosophy*, 136.

¹⁷⁵ Müller, "Assemblages and Actor-Networks."

¹⁷⁶ Allen and Cochrane, "Assemblages of State Power."

¹⁷⁷ CODE: "Periodic repetition of elements in a milieu" Bonta and Protevi, *Deleuze and Geophilosophy*, 56.

CODING: "The process of ordering matter as it is drawn into a body; by contrast, territorialization is the ordering of those bodies in assemblages." Bonta and Protevi, 69.

assemblages by regulating certain forms of behavior¹⁷⁸. **Decoding**, on the other hand, means dissolving or weakening existing codes. With this respect, Woods et al. examined the example of Gort, where new cultural practices that come with migration created new identities and social orders by decoding existing social norms¹⁷⁹. This process triggers the questioning and transformation of established properties that might eventually initiate the next deterritorialization.

Place as a territorial assemblage can be understood as a dynamic material-discursive configuration that maintains the heterogeneity of its components while enabling emergent systemic effects¹⁸⁰. Rather than existing in a fixed or stable state, such assemblages operate far from equilibrium, continuously navigating thresholds of transformation. This positioning situates them between the rigid layers of strata—which seek stability through representational fixity—and the fluid, open-ended potentialities of the plane of consistency, where connections form, dissolve, and reassemble beyond pre-defined boundaries in a virtual field that provides multiplicities of potential associations¹⁸¹.

In the context of post-human place experiences, this interchange reveals that place is less understood as an essential phenomenon but a continuous process of becoming between stratification and difference. The experience of place emerges through overlapping movements of territorialization, which attempt to stabilize meaning, and deterritorialization, which disrupts these formations, allowing new relational patterns to surface. This dual tension can become particularly evident in human-AI collaborations, where generative processes resist – or unexpectedly fail – conventional representation, instead producing hybrid spatialities that are both familiar and radically distant.

¹⁷⁸ DeLanda, *A New Philosophy of Society*, 15–16.

¹⁷⁹ Woods et al., “Assemblage, Place and Globalisation.”

¹⁸⁰ DeLanda, *A New Philosophy of Society*.

¹⁸¹ Deleuze and Guattari, *A Thousand Plateaus*, 337.

Here, the plane of immanence might operate as a conceptual space where the virtual and the actual co-exist; not as separate realms but as interwoven layers of potential. Practices that can operate within places in this sense, might become more-than-representational mediators, navigating between these planes to find familiarities among them to communicate, revealing the transient, affective, and relational dimensions of place (as discussed in 4.3).

To conclude, place is a processual entity in many ways. This *processuality* refers both to the ever-changing characteristics of a place and to the time-dependent variables of its life. Places have emergent natures when they are considered as becomings. As such, becoming refers to a cyclical evolution that is simultaneously happening between virtual and actual states. Places have been shaped and reshaped as ongoing processes, so they have a *transiency* at any given time with ephemeral and fleeting aspects. Given these non-static momentary qualities, ordinary moments of everyday life gain significant importance when relating to them.

From a more-than-representational perspective, considering place as a living, dynamic process challenges static, property-based understandings. Instead of viewing place as a container for human activities, it invites us to think of it as an active participant in shaping experiences, emotions, and meanings. The vitality of place does not solely emerge from human interactions but from the assemblage of material, affective, and more-than-human forces that continuously co-constitute it.

This shift from representation to process emphasizes the liveliness embedded within spatial practices, where they can become performative acts; explorations of how places come into being through relational encounters¹⁸². The more-than-representational lens foregrounds the vibrancy of material forms, affective atmospheres, and ephemeral events, revealing that the life of a place often exceeds the boundaries of human perception and intention. Thus, the processual

¹⁸² Harrison and Anderson, *Taking-Place*, 38.

understanding of place is not merely about tracing change over time but about recognizing the ongoing, affective forces that animate place, making it a living, breathing phenomenon within the post-human landscape¹⁸³.

2.3 Places with Agency: A New Materiality

In recent decades, the philosophical landscape has been reshaped by the emergence of new materialism, a framework that challenges traditional notions of materiality. This paradigm shift, as articulated by Manuel DeLanda, moves beyond classical perspectives that viewed matter as passive and inert — merely a vessel for external forms or a substrate obedient to transcendent laws. Instead, new materialism posits matter as inherently active, imbued with its own tendencies, capacities, and the potential for autonomous evolution. DeLanda emphasizes that this conception draws from historical philosophical currents, notably the work of Baruch Spinoza, but has been coherently articulated with contemporary scientific and technological developments only recently¹⁸⁴.

Central to DeLanda's interpretation of new materialism is the rejection of linear causality, which traditionally linked causes to effects in a deterministic, predictable manner. He examines the concept of nonlinear causality, where the same cause can lead to different effects depending on contextual variables, and different causes can produce the same effect within complex systems. This understanding explains a dynamic interchange between an entity's capacity to affect and its capacity to be affected, shifting the focus from static properties to fluid capacities that may remain virtual yet real, awaiting actualization under specific conditions¹⁸⁵. This perspective allows for an alternative understanding of morphogenesis — the process by which form emerges — as an immanent characteristic of matter itself, not reliant on external

¹⁸³ Thrift, *Non-Representational Theory*, 8.

¹⁸⁴ DeLanda, "The New Materiality."

¹⁸⁵ DeLanda.

imposition. The virtual thus constitutes a crucial dimension of material reality, enabling the constant emergence of novelty and complexity.

In this context, new materialism(s) provides a fertile network for rethinking the ontological status of matter, emphasizing its generative powers and agency. This ontological shift is influenced by and then supported through several ideas in scientific inquiry and philosophical discourse, offering new pathways to explore the intricate fabric of reality by reconsidering the role of materiality in various processes. There, a widened field of a new materialist conception dealing with non-human capacities and the agential qualities of matter emerges¹⁸⁶.

Building on DeLanda's insights into new materiality, this perspective extends to posthumanist thought as this widened understanding of non-human capacities helps rejecting traditionally human-centered explanations of reason, meaning-making, and imagination. Instead, affect is considered an impersonal force or energy beyond self-consciousness, challenging anthropocentric approaches to urban experience and raising questions about how we interpret urban environments if pre-conscious, affective forces shape the mind¹⁸⁷.

This posthumanist focus on affect as an impersonal force resembles assemblage thinking, which similarly challenges human-centered frameworks by decentering human intentionality. While affect emphasizes pre-conscious, more-than-representational forces shaping experience, assemblage thinking provides a complementary theoretical lens to understand how these forces operate within dynamic, heterogeneous compositions of human and non-human entities.

Assemblage thinking disrupts representational models by offering a theoretical lens to the relational turn by emphasizing processes of composition, the autonomy of

¹⁸⁶ Coole and Frost, *New Materialisms: Ontology, Agency, and Politics*, 7.

¹⁸⁷ Buser, "Thinking through Non-Representational and Affective Atmospheres in Planning Theory and Practice."

parts, and the contingency of assembled formations¹⁸⁸. This reframes the expectations of the social-spatial formations as emergent and processual. A key contribution of assemblage thinking lies in the insistence for relations exteriority (as also mentioned in 2.1) to focus on how socio-spatial conditions emerge by their association¹⁸⁹. Agency, from this perspective, can no longer be considered as a product or property of human intentionality, but it turns into a distributed or diffused phenomenon shared among human and non-human entities. Therefore, assemblages are heterogeneous¹⁹⁰. Such heterogeneity does not hold any pre-configurations before what can be related – humans, animals, things, and ideas – and there is no assumption for which entities to be decisive or dominant. That is why their definition is understood as “socio-material”, rejecting a nature-culture division¹⁹¹.

Anderson et al. reviewed how assemblage thinking is connected to alternative definitions of agency and causality in three inter-connected explanations¹⁹². The first of those is over a “doctrine of emergency”¹⁹³ where the emphasis is that assemblages are not pre-existing formations, and a pre-existing agency does not make them. Instead, they co-shape each other as they are made. Assembled and joined entities do not have fixed “essences” in advance but they are constantly constructed, dismantled, and reconstituted in the process. Therefore, asking questions such as why they remain durable, why they may change, and how they transform are key to understanding these processes¹⁹⁴.

The second approach departs from the question about accepting the principle of exteriority of relations in the coming together of assembled elements also requires questioning the agency of the component parts themselves¹⁹⁵. Rethinking the concept

¹⁸⁸ Anderson et al., “On Assemblages and Geography.”

¹⁸⁹ Anderson et al.

¹⁹⁰ Müller, “Assemblages and Actor-Networks,” 29.

¹⁹¹ Bennett, *Vibrant Matter*.

¹⁹² Anderson et al., “On Assemblages and Geography,” 29–34.

¹⁹³ Harman, *Prince of Networks*.

¹⁹⁴ Anderson et al., “On Assemblages and Geography.”

¹⁹⁵ Anderson et al., 30.

of agency requires identifying how different elements can act separately or together, and what resources and capacities they have or share to act. The agency is distributed, but to where and how? What ontological unit hosts, joins, and affects the capacity to act? In this regard, Karen Barad and Jane Bennett offer two different but related perspectives:

Barad¹⁹⁶ argues that agency is not located as a “property” in certain objects or subjects, but instead emerges through the intra-action of entities. Here, the basic ontological unit is the “*phenomena*” that cannot be reduced to separate subjects or objects. According to this perspective, people and objects do not come together in a place; on the contrary, the materiality of place is an intersection of internal interactions as a result of the co-constitution of these entities. According to Barad, matter is not a solid substance but a process in constant flux. Barad¹⁹⁷ describes this as “substance in its intra-active becoming – not a thing but a doing, a congealing of agency”¹⁹⁸. In this understanding, any spatial or material formation, including place, is actually seen as “a doing.” Thinking particularly about places, a connection is hinted, though never explicitly mentioned, to bridge the ideas of place as a phenomenon and as a process.

On the other hand, Jane Bennett¹⁹⁹, with her conceptualization of vibrant matter, argues that matter has a structure that is alive, energetic, and carries potentials within itself. She also admits that agency is distributed; however, she emphasizes that the parts within the assemblage (humans, objects, natural beings, etc.) have a certain degree of autonomy and “autonomous” capacity. Bennett tries to define the agency of both the whole and the parts at the same time with the concept of “adsorption” borrowed from Deleuze: The components are gathered in a coalition, but each one

¹⁹⁶ Barad, *Meeting the Universe Halfway*.

¹⁹⁷ Barad, *Meeting the Universe Halfway*, 151.

¹⁹⁸ Barad, 151.

¹⁹⁹ Bennett, *Vibrant Matter*.

does not lose any of its “momentum” (impetus)²⁰⁰. Such a view allows us to reinterpret the concept of place within the framework of assemblage. The human or non-human actors that constitute a place (physical environment, technological objects, other living beings, etc.) carry different energetic pulses. According to Bennett, these pulses never fully “harmonize” and form a single mass; on the contrary, they form a “non-totalizable sum”²⁰¹. Thus, while place contains a relative whole (the coming together of these parts), each part maintains its own performative power.

Both approaches are important in showing that place is not passive, static, or solely “human-centered”; however, the distinction between Barad and Bennett becomes clear in whether we define vibrancy on a per-particle (Bennett) or per-phenomenon level (Barad).

In this context, the concept of “place” is not a fixed being but a becoming in which activities and relations intertwine and constantly transform. When evaluated with Barad’s “phenomena” approach, the components that constitute place – people, objects, geographical elements or social practices – exist only in interactions that make each other possible. The autonomous but interconnected activities Bennett emphasizes allow the place to be seen as a dispersed and multi-layered collective rather than a singular identity. Thus, place can be interpreted as a kind of assemblage that hosts both Barad’s intra-active processes and Bennett’s autonomous agents. This situation emancipates the sense of place from being attached to passivity and allows us to understand it as alive, constantly affecting new connections and ruptures.

The third aspect is linked to the explanation of causality beyond the binary poles of disorder and randomness versus strict cause-and-effect. This approach focuses on how specific agential interactions (intra-action) shape a specific assemblage. In this respect, instead of attributing causality solely to human or non-human elements,

²⁰⁰ Bennett, 24.

²⁰¹ Bennett, 24.

examining how practices emerge in an unpredictable, multi-dimensional process is more appropriate. Hence, place as an assemblage, a collective process, is dependent on causality that is seen as processual within the flow of interactions rather than giving the label of “cause” to certain parts. In other words, places emerge where social, physical, and conceptual elements coincide, free from strict causal patterns but not entirely surrendered to chance²⁰². Practices can provide a creative ethos that, at the same time, provides repetition of certain behaviors, which can provide territorialization, familiarity, and durability.

The significance of the agency concept lies at the center of this exploration of more-than-human places. It might be necessary to make a more specific interpretation of agency that is appropriate to this relational definition of place. While a place is becoming as an assemblage in *territorialization*²⁰³ there is a dynamic process where all actants²⁰⁴ involved in this emergence hold agentiality in differing shares, and in turn they are similarly affected from it in varied conditions. When this “affective space”²⁰⁵ is considered in a holistic way, the agency is revealed in the form of forces acting on and living among all participants²⁰⁶. For a processual ontology, or in an ontogenetic definition²⁰⁷, “where the body is placed in and emerges out of its material milieu”²⁰⁸, the spatiality emerges in movement and all entities entangled in its becoming shares a relational agency²⁰⁹.

Of course, the agency referred here is distinctly spatial in the sense that the interlocutors of the encounters²¹⁰, their forms of occurrence, their environments, and the network of relations can actually be thought of as a meshwork²¹¹. Architectural

²⁰² Anderson et al., “On Assemblages and Geography,” 32.

²⁰³ DeLanda, *A New Philosophy of Society*, 18.

²⁰⁴ Latour, *Reassembling the Social*, 56.

²⁰⁵ Simonsen, “Encountering O/Other Bodies: Practice, Emotion and Ethics,” 225.

²⁰⁶ Barad, *Meeting the Universe Halfway*, 141.

²⁰⁷ Thrift, “Movement-Space,” 586.

²⁰⁸ Williams, “Non-Representational Theory,” 425.

²⁰⁹ Bennett, *Vibrant Matter*; Dwiatama and Rosin, “Exploring Agency beyond Humans.”

²¹⁰ Simonsen, “Encountering O/Other Bodies: Practice, Emotion and Ethics,” 231.

²¹¹ Ingold, *Being Alive*, 84–85.

discourse reflects the implications of *spatial agency* in two interrelated directions: first, as a motivation to rethink the social responsibility and transformative capacity of architectural practice; and second, as a new materialist recognition of the agency of space itself and of the assemblages that constitute it. On one hand, the conceptual engagement of agency with architectural practice is not through binary oppositions such as “alternative” versus “mainstream,” but as a socially embedded, participatory, and critical act. Spatial agency emphasizes not formal sophistication but the capacity to initiate empowering spatial relations, to share and recognize diverse forms of knowledge, and to engage with contexts through evaluative and self-reflective awareness. This expanded role repositions the architect from a sole author to a facilitator working within and through social, material, and organizational flows. Such a reconfiguration of architectural practice sets the ground for a transition from spatial to *patial* thinking—shifting the focus from abstract notions of space to the lived, affective, and relational qualities of place. On the other hand,

On the other hand, in recent architectural discourse, scholars and practitioners have increasingly drawn upon posthuman and new materialist philosophy to reconceptualize design not as an exclusively human act of authorship, but as a distributed process involving materials, organisms, and technologies. Philip Beesley, for example, frames the works of “Living Architecture Systems Group” as part of a posthuman design attitude influenced by thinkers such as Donna Haraway and Jane Bennett, describing architecture as a “living system of mutual relations” that is co-constituted through interactions between human and nonhuman agents that held responsive capacity²¹².

In relation to the above-mentioned notion of living materiality, Bennett’s ideas about the “thing-power” challenge the passivity attributed to matter, proposing that

²¹² Philip Beesley, *Sentient Chamber: Cultural Programs of the National Academy of Sciences, Washington, D.C. - 2015* / Philip Beesley (*Living Architecture Systems Group*) (Riverside Architectural Press, 2016), <https://doi.org/10.21312/978-1-926724-95-9>.

materials possess their own trajectories and affective capacities²¹³. Haraway adds to this relational paradigm with her concept of *sympoiesis*, or “making-with,” which rejects the autonomy of the human designer and insists on the entangled, collaborative nature of all creative processes²¹⁴. Extending these ideas, Neri Oxman introduces the framework of *material ecology*, which integrates computational design, digital fabrication, and biological systems into hybrid processes of formation. Oxman advocates for a nature-driven approach, where design emerges from the co-evolution between material behaviors and environmental forces, suggesting that the role of the designer is to facilitate rather than impose form²¹⁵. Her works such as *Silk Pavilion* exemplify how organic life, algorithms, and human intention can together form spatial systems that are both ecological and expressive. Together, these perspectives suggest that architecture is no longer the domain of a singular human subject shaping inert matter, but rather a site of emergent, multispecies, and machinic agency, where responsiveness, co-evolution, and distributed creativity redefine the conditions of spatial production.

As for any of these alternative directions to understand how it is significant for architecture, which has been mentioned with different definitions before, *spatial agency*²¹⁶, is also quite relevant for the discussion here. However, this study has attention on the “place” rather than “space” as needed by its motivation. In the framework where post-human and relational attitudes can come together in various ways²¹⁷, the requirement for this concern is to disrupt the bifurcations established between place and space²¹⁸ by opposing the concrete/abstract distinction as

²¹³ Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham: Duke University Press, 2010), viii.

²¹⁴ Donna J. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham London: Duke University Press Books, 2016), 58.

²¹⁵ Neri Oxman et al., ‘Material Ecology’, *Computer-Aided Design* 60 (March 2015): 1–2, <https://doi.org/10.1016/j.cad.2014.05.009>.

²¹⁶ Awan, Schneider, and Till, *Spatial Agency*; Schneider and Till, “Beyond Discourse.”

²¹⁷ Robertson, “Rethinking Relational Ideas of Place in More-than-Human Cities.”

²¹⁸ Tuan, *Space and Place*, 3,6,136; Cresswell, *Place*, 2004, 8–10; Casey, *Getting Back into Place*, Second Edition.

suggested by Massey²¹⁹ but still defining place on the emergence of uniqueness through two lines of thought²²⁰.

The first of these is a reconciliatory line. In an assemblage dynamic, the concepts of place and space can be easily used interchangeably, as once they were together in the idea of “*chora*”²²¹. Both words- and their equivalents in most languages - have acquired dozens of different synonyms and are improvised in everyday language with many different uses. The most convergent or overlapping semantic equivalents of the two words can be concentrated in relational and processual place definitions revealed by more-than-representational motivations.²²² In fact, approaches that avoid essentialist definitions of place and reject dualities between space and place in order to expose an alive spatiality that is formed by continuous relations²²³, can be considered in the same conceptual cluster with approaches that prioritize the definition of place over experience²²⁴, movement and action with similar motivations.

The second line of thought is about a distinction that does not involve negation or binary opposition. The distinction between space and place can be proposed with an ontogenetic rather than ontological understanding²²⁵, by coding it through practice²²⁶ and experience²²⁷. An assemblage is not a formation that exhibits homogeneous characteristics in every part and location, but rather is a heterogeneous union in many

²¹⁹ Massey, *For Space*, 6.

²²⁰ Massey, 68.

²²¹ Plato introduced the term “*chora*” to describe a bounded and defined area of space that functions both as a sort of container and as a receptacle that connects with outer space. As a comparison, according to Aristotle, *topos* would refer to a smaller location within *chora*, which was generally associated with a huge area.

Edward S. Casey, *The Fate of Place: A Philosophical History* (Berkeley (Calif.): University of California Press, 1997).

²²² Lorimer, “Cultural Geography.”

²²³ Massey, *For Space*, 183–183; Thrift, “Movement-Space.”

²²⁴ Malpas, *Place and Experience*, 161; Ingold, *Being Alive*.

²²⁵ Turk, “Placemarks on Watermarks”; Nieuwenhuis, “The Emergence of Materialism in Geography.”

²²⁶ Cadman, “Non-Representational Theory/Non-Representational Geographies,” 3.

²²⁷ Ingold, *Being Alive*, 145.

respects²²⁸. The immediate environment²²⁹ of intersubjective²³⁰ experience fields that can situate differently within affective atmospheres²³¹ in life and evolution by *point of view*²³² also behave heterogeneously. Spaces in which these unique dynamics coalesced, repeated and territorialized²³³ emerge as relatively specific spaces as intensifications in experience like intensities cause the state change of matter²³⁴. Hence, these intensifications become peculiarly defined spaces by actions and relations. The experience of place that occurs in these peculiar conditions of spatiality²³⁵ can be called places in becoming²³⁶.

The major concern in this distinction is to give the right of incarnating and transforming places to spatial practice without being normative, reductionist, or determinist, as there are no obligations to attribute essentialist and fixed values to place. The influence of such performative capacity on the relational agency²³⁷ that is specific to place, can be then defined by the proposed concept of “*platial agency*”, which is differentiated from the definition of “spatial agency” in this context.

The preference for the wording in the term “platial agency” although the word “platial” may feel naive and unsophisticated, is because it can plainly express the meaning of being able to relate to the place without implying a fixed or contained position, as might be the case with “emplaced”. On the other hand, being platial does not necessitate a state of being embodied, embedded or situated, but it does not

²²⁸ DeLanda, *A New Philosophy of Society*, 3,11.

²²⁹ Malpas, *Place and Experience*, 161.

²³⁰ Simonsen, “Encountering O/Other Bodies: Practice, Emotion and Ethics,” 223–29.

²³¹ Anderson, “Affective Atmospheres”; Buser, “Thinking through Non-Representational and Affective Atmospheres in Planning Theory and Practice.”

²³² Deleuze, *Difference and Repetition*, 26.

²³³ Dovey, *Becoming Places*, 11; DeLanda, *A New Philosophy of Society*, 54–55.

²³⁴ DeLanda, *Philosophy and Simulation*, 4.

²³⁵ Campbell, “The Problem of Spatiality for a Relational View of Experience.”

²³⁶ Olsen, “Underway.”

²³⁷ Petrescu, “*Relationscapes*”; Smitheram, “Spatial Performativity/Spatial Performance.”

devalue it either. This nuance, for now, prevents a critique of AI that would impose *embodiment* as a precondition for place engagement²³⁸.

Platial agency is considered as a dynamic of territorialization and deterritorialization that belongs to the relations in an assemblage, when it is to be examined through the differentiation explained above. The experiential, temporal, performative, and virtual nature of these experiences can be revealed by more-than-representational theories as they capture them from the on-flow of life²³⁹. Thereby, *Post-representational mapping*²⁴⁰ stands forth as a performance²⁴¹ that can claim platial agency. Moreover, it acts as a mediator for complex spatial information and unique place experiences among participants related to this agency. Therefore, it can become a proper research material to question how a platial agency emerges between human and non-human actants within a topographical, topological²⁴², or even post-topological²⁴³ spatial practice that can acquire sensitivity on place. As a mediator of observing *relationality* within places, such practices might offer several “*agential cuts*”²⁴⁴, to provide “*agential separability*”²⁴⁵ between human and non-human actants for speculating on individual shares of agency in their relations with place experiences.

The concept of platial agency can evolve in a complex manner as a result of the transitions and interactions between digital and physical spaces. Stan Allen’s concept of process-driven design provides an important discussion of how digital

²³⁸ The same purpose also helps avoiding a discussion that would require viewing generative AI as unexceptional, compared to the agentic capacity of other computational elements, as the possibility of acquiring embodiment being shared through another member of distributed agency would be further complicated by making the number of possible participants approach infinity.

²³⁹ Thrift, *Non-Representational Theory*, 33.

²⁴⁰ Kitchin, “Post-Representational Cartography”; Schoonderbeek, *Mapping in Architectural Discourse: Place-Time Discontinuities*; Paez, *Operative Mapping*.

²⁴¹ Şenel, “Mapping as Performing Place”; Perkins, “Performative and Embodied Mapping.”

²⁴² Coleman, “Topologies of Practice.”

²⁴³ Schoonderbeek, *Mapping in Architectural Discourse: Place-Time Discontinuities*, 83.

²⁴⁴ Barad, *Meeting the Universe Halfway*, 140.

²⁴⁵ Barad, 140,176.

technologies are used in architectural practice²⁴⁶. What is noteworthy here is that digital processes not only produce new forms, but also contribute to an enhanced “ability to map the invisible vectors of site and program.”²⁴⁷ We can think of this capacity, which has been accelerating since Allen’s article, as an element that reveals many relational possibilities and territorializes many of them in the relational definition we have explained for platial agency.

The relationship between the concepts of virtual space and real space, discussed by Elizabeth Grosz in her work “Architecture from the Outside”, provides a possible conceptual association for platial agency where it can be read over dynamics between virtual and actual. Grosz defines virtual space as the area of spatial potentials that are not physically present but are potentially realizable. This virtual space, in line with Deleuze’s philosophy, unfolds on ideas by differences and “differenciations”²⁴⁸, is the area of forms and events that are not yet embodied but carry possibilities²⁴⁹. In the context of the concept of platial agency, this relationship between virtual and actual spaces indicates that the agency of place is not limited to physical space, but is also shaped by potential spatial arrangements and events. Virtual space emphasizes the nature of place as divergent, transformable, and full of multiple possibilities. In other words, platial agency can transcend the boundaries of actual dimensions of reality and become also active in the *virtual* dimension. The agency of place is not only a part of what exists or possible, but also of what is potential. This suggests how platial agency can relate to understanding how these relations can create new spatial forms, and assemblages of hybrid places.

DeLanda states that the transition from the actual to the virtual dimension is the boundary process that creates the plane of immanent pluralities that define the virtual extensions of assemblages. On the two sides of this boundary are, on one hand, a

²⁴⁶ Allen, “The Digital Complex.”

²⁴⁷ Allen, 98.

²⁴⁸ Deleuze, *Difference and Repetition*.

²⁴⁹ Grosz, *Architecture from the Outside*, 109.

highly territorialized and coded assemblage and, on the other hand, the plane of immanence that connects all assemblages with relations of externality²⁵⁰. Place, in this sense, can be thought of as a constantly transforming and evolving space that holds potential and possibilities beyond just the present moment. Technology plays a key role in exploring these potentials and experiencing the virtual dimensions of place, thus enabling it to become a much broader area of experience and interaction. This offers a new perspective on our understanding of the probable effects of artificial intelligence models on the place and its human experience. Thus, platial agency, as a research concept can investigate the different behaviors of assemblages and how the involvement of AI can result in new forms of immanent pluralities.

In this regard, how generative AI–human intra-actions behave in a platial agency, and how these encounters shape the place experiences are discussed in the following chapters. This inquiry might provide insights for the near future to understand how spatial relations will evolve between human and non-human actants.

²⁵⁰ DeLanda, *A New Philosophy of Society*.

CHAPTER 3

MAPPING AFFECTIVE ATMOSPHERES FOR PLACE EXPERIENCE

Chapter 2 discussed a more-than-human understanding of places over three continuums: From essentialist to relational ideas, from a fixed being (setting) to becoming (process), from a passive phenomenon to living agency. A similar continuum between conventional cartography and mapping as a performance signals a paradigmatic shift from static, representational practices toward relational, processual, agential engagements with places.

Unlike conventional cartographic representation, mapping can stand out with its capacity to relate to place from within in a sophisticated way. Considered a spatial practice; an act with relational experience of place, mapping offers an inclusive approach standing against representational conventions.²⁵¹ In the idea that mapping can bring sensitivities about place into praxis as an agency²⁵², there is a continuity that begins with the influence of Lefebvre's thread for spaces²⁵³ and continues with influences of many theories of post-structural thinking²⁵⁴. The geo-philosophical vocabulary (as referred by Bonta and Protevi²⁵⁵) in which these theories and ideas circulate around, embraces various concepts such as material agency, assemblage and rhizome emerging primarily by the influence of Deleuze-Guattarian thought to deal with complex phenomena of spatiality in more recent times. This continuity can

²⁵¹ Ela Alanyalı Aral, 'Mapping as a Relational Act', ed. Ela Alanyalı Aral, *Dosya*, İlişkisel Bir Eylem Olarak Haritalama, 42 (2019): 1–4.

²⁵² James Corner, 'The Agency of Mapping: Speculation, Critique and Invention', in *Mappings*, ed. Denis Cosgrove (London: Reaktion Books, 1999), 213–52.

²⁵³ Kim Dovey, Elek Pafka, and Mirjana Ristic, eds., 'Mapping as Spatial Knowledge', in *Mapping Urbanities: Morphologies, Flows, Possibilities* (New York London: Routledge, 2018), 6–7; Henri Lefebvre, *The Production of Space*, trans. Donald Nicholson-Smith, 1st edition (Malden, Mass.: Wiley-Blackwell, 1992).

²⁵⁴ Rob Kitchin, 'Post-Representational Cartography', *Lo Squaderno* 15 (2010): 7–12.

²⁵⁵ Bonta and Protevi, *Deleuze and Geophilosophy*, 32–45.

be understood from the similar importance given to mapping's capacity to relate to place by studies that adopt social spatial theories, phenomenology²⁵⁶ and process-oriented neo-vitalist thought²⁵⁷, even though they approach it from diverse perspectives and explain it differently. When we look at this intellectual heritage from a more-than-representational framework, the strongest connection that relates mapping to the vital, momentary, temporary and relative dynamics of place is to think of it as a situated performance²⁵⁸.

Accepting mapping as a performance makes it easier to perceive it as an agency that transcends beyond representation as an action and process. The *agentiality* it offers within place suggests that it can claim a mediator role – in a very similar meaning that is explained by Bruno Latour for actor-network theory²⁵⁹ – that can interact with, and transform the unrepresentable, affective qualities of place as an assemblage. However, this idea does not prevent us from naming the temporary representation of this performance in the process as a “map”, at any moment.

Considering mapping as a performance also implies its emergential continuity in formation, because one of the characteristics of performative actions is the possibility of having projective and transformative agendas²⁶⁰. In this case, a map then, which we see as a stand-still representation in a two-dimensional medium, participates in an affective assemblage²⁶¹ as long as it continues to affect the place and relate human

²⁵⁶ Stuart Elden, *Mapping the Present: Heidegger, Foucault and the Project of a Spatial History*, Reprint edition (London: Continuum, 2002).

²⁵⁷ Greenhough, ‘Taking-Place’.

²⁵⁸ Aslihan Şenel, ‘Mapping as Performing Place’, PDF, 2014, <http://uknowledge.uky.edu/disclosure/vol23/iss1/8/>; C. Perkins, ‘Performative and Embodied Mapping’, in *International Encyclopedia of Human Geography* (Elsevier, 2009), 126–32, <https://doi.org/10.1016/B978-008044910-4.00024-9>.

²⁵⁹ Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*, Clarendon Lectures in Management Studies (Oxford ; New York: Oxford University Press, 2005), 38–39.

²⁶⁰ Minelle Mahtani, ‘Judith Butler’, in *Key Thinkers on Space and Place*, ed. Phil Hubbard and Rob Kitchin, Second edition (Los Angeles, Calif.: SAGE Publications Ltd, 2010), 82–90.

²⁶¹ Sean Bowden, ‘Human and Nonhuman Agency in Deleuze’, in *Deleuze and the Non/Human*, ed. Jon Roffe and Hannah Stark (London: Palgrave Macmillan UK, 2015), 60–80, https://doi.org/10.1057/9781137453693_5.

and non-human actants associated with, when we consider *patial agency* based on a relational dynamic of intra-actions²⁶², not as an individual attribute of an actant. Then, if mapping is a mediator involved in that relational definition of *patial agency*, maps can also become agential phenomena as Barad would call for being a “material performance of world”²⁶³, as a means of “looking inside”²⁶⁴, or as a temporary snapshot of specific intra-action provided by a “measuring agency”²⁶⁵ through which a “part of world making itself intelligible to another part”.²⁶⁶

It's difficult not to agree with the definitions explaining this agentiality for being a post-representational²⁶⁷ attitude, which is not a clear-cut rejection as the term non-representational would literally connote to (see 1.2). In this regard, an approach that focuses not on what maps are but on what they do and how they affect other beings²⁶⁸, moves the discussion from ontic grounds to ontogenetic processes²⁶⁹, to think about mapping and maps jointly without causing an epistemological opposition. Accordingly, this dissertation's preference aims to grant two areas of freedom to the theme:

First, it is crucial that performative mapping extends beyond representation, but this feature does not impose the obligation not to capture representational content. Witnessing the becoming of the performance, in other words, experiencing the mapping as it unfolds, does not imply that it cannot materialize in representations. This emergent bond between action and image - agency and matter - does not

²⁶² Karen Barad, ‘Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter’, *Signs: Journal of Women in Culture and Society* 28, no. 3 (March 2003): 801–31, <https://doi.org/10.1086/345321>.

²⁶³ Barad, *Meeting the Universe Halfway*, 335.

²⁶⁴ Barad, 345.

²⁶⁵ Barad, 128.

²⁶⁶ Barad, 207.

²⁶⁷ Kitchin, ‘Post-Representational Cartography’.

²⁶⁸ John Pickles, *A History of Spaces: Cartographic Reason, Mapping, and the Geo-Coded World*, 1st edition, Frontiers of Human Geography (London ; New York: Routledge, 2003), 12.

²⁶⁹ Rob Kitchin and Martin Dodge, ‘Rethinking Maps’, *Progress in Human Geography* 31, no. 3 (1 June 2007): 333–35, <https://doi.org/10.1177/0309132507077082>.

undermine the more-than-representational qualities of the performance as a whole, where that materiality is defined with relational metaphysics.

Second, the words “mapping” and “map” have only differentiated in this context as action and the momentary section of that action, where the noun²⁷⁰ is not detached from the process²⁷¹. In fact, both are alternative expressions of the same emergence. They can refer to different states, especially in terms of temporality, and their use together does not lead to contradiction. Schoonderbeek, for instance, addresses that kind of a relation as “place-time discontinuities”²⁷². So, although the focus here is on a performative agency becoming mediator among actants or phenomena, no mapping act that can establish or join in critical, creative, projective intra-actions should be snubbed from the scope. This study has no claims to suggest criteria of proficiency for mapping to eliminate some for being not performative enough. Therefore, the selectivity of this study regarding mapping samples is progressed based on featured merits and behaviors of the cases, instead of a genre-defining evaluation for structural or behavioral properties.

Therefore, to unpack the research trajectory and clarify how these concerns unfold throughout this chapter, the following outline is proposed: Three subheadings are organized as follows: the first part (3.1) traces the connection between architecture and maps through the representation of spatial knowledge and operations; the second part (3.2) discusses what post-representational mapping is and how the notion of being post-representational has evolved through critical, creative, and performative capacities; the third part (3.3) then overviews the examples encountered during this study, focusing on their explicit association with affective atmospheres to be experimented with through AI models.

²⁷⁰ Marc Schoonderbeek, *Mapping in Architectural Discourse: Place-Time Discontinuities* (London: Routledge, 2021), 62, <https://doi.org/10.4324/9780429278730>.

²⁷¹ Schoonderbeek, 65.

²⁷² Schoonderbeek, *Mapping in Architectural Discourse: Place-Time Discontinuities*.

3.1 Maps and Architecture: A Relational Cartography of Representation

Representation, for architecture, is not merely a tool for documenting built forms but a driver of imagination, thought, and practice. It has played a crucial role in the history of architecture, taking architecture beyond a craft and turning it into a discipline²⁷³ that has had a genealogy of theories, thus enabling the scholarly discussion of such a history to begin with. On the other hand, representation as an umbrella that covers many disciplines, theories, and methods, as it can be considered inherent “in every act of human beings whenever they think about something”²⁷⁴. Thus, it acts as a medium of dialogue between inner and outer, designed and designer, conception and realization, claiming “emancipatory, participatory, imaginative, speculative, predictive, and interpretive characters”²⁷⁵.

Given this significance in architectural thinking, the inherent position of representation also sets the stage for understanding why its limitations are deeply entangled with the current challenges of architecture. Architecture is currently facing a crisis that extends from an already existing “abyss between theory and practice”²⁷⁶ in its ability to create spaces for digital culture and struggle against new complexities²⁷⁷. Some of the challenges it has encountered in this effort include

²⁷³ Alberto Perez-Gomez and Louise Pelletier, *Architectural Representation and the Perspective Hinge*, Reprint edition (Cambridge, Mass.: The MIT Press, 2000); Andrew Leach, ‘Tafuri and the Age of Historical Representation’, *Architectural Theory Review* 10, no. 1 (1 April 2005): 1–18, <https://doi.org/10.1080/13264820509478525>.

²⁷⁴ Ozan Avcı, ‘(Re)Presenting Representation’, *UOU Scientific Journal* 3 (2022), <https://doi.org/10.14198/UOU.2022.1.02>.

²⁷⁵ Avcı.

²⁷⁶ K. Michael Hays, ‘Afterword’, in *Constructing a New Agenda: Architectural Theory 1993 - 2009*, ed. A. Krista Sykes (New York: Princeton Architectural Press, 2010), 349–52.

²⁷⁷ Socrates Yiannoudes, *Architecture in Digital Culture: Machines, Networks and Computation* (Taylor & Francis, 2022); M Christine Boyer, ‘On Modelling Complexity and Urban Form’, *Architectural Design* 85, no. 6 (2015): 54–59, <https://doi.org/10.1002/ad.1977>; Carlos L Marcos, Ángel J Fernández-Álvarez, and Burak Pak, ‘Architectural Disruption in the Age of Computation: A

difficulties in managing variable and high levels of information²⁷⁸, failing to inclusively reflect the experience of a place in design and representation processes, and a persisting normative - reductionist tendency²⁷⁹. While discussing aspects of the current architectural profession that are not helpful in exceeding the current bottleneck situation, it can be considered that mapping as an innate activity of cognition, but also as a performative practice for processing on this spatial information, could offer new possibilities.

So, how can mapping's contributions to spatial practice be brought into contemporary discussion for more-than-human views? One aspect of this inquiry is undoubtedly linked to the relational capacity of mapping and maps. We can follow how this connection emerges when they are viewed as practice rather than representation in Kitchin and Dodge's comment below:

“Maps are of-the-moment, brought into being through practices (embodied, social, technical), always remade every time they are engaged with; mapping is a process of constant reterritorialization. As such, maps are transitory and fleeting, being contingent, relational and context-dependent. Maps are practices—they are always mappings, spatial practices enacted to solve relational problems . . .”²⁸⁰

Therefore, this capacity for solving relational problems as a practice has made it also a concept in theory that is in contact with the similar themes between the critical processes of the disciplines of geography / cartography and architecture / urbanism go through for relating places. Touching upon the historical ties between these two

Critical Review on Digital Architecture', *METU JFA* 41, no. 1 (2024): 147–72, <https://doi.org/10.4305/METU.JFA.2024.1.8>.

²⁷⁸ Antoine Picon, 'Digital Technology and Architecture: Towards a Symmetrical Approach', *Technology|Architecture + Design* 6, no. 1 (2 January 2022): 10–14, <https://doi.org/10.1080/24751448.2022.2040297>.

²⁷⁹ Robert Alexander Gorny, 'Reclaiming What Architecture Does: Toward an Ethology and Transformative Ethics of Material Arrangements', *Architectural Theory Review* 22, no. 2 (4 May 2018): 188–209, <https://doi.org/10.1080/13264826.2018.1481809>.

²⁸⁰ Kitchin and Dodge, 'Rethinking Maps', 335.

fields in this context should be insightful, before addressing the possible contributions of mapping to future architectural practice.

The capacity of maps to relate with context and spatial knowledge historically positioned cartography closer to the practices that engage with the production of space. Some breakthroughs can be mentioned all along this involvement. From the Western Renaissance to the Enlightenment, examples of the use and production of maps by architects coincide with significant advances that accompanied architecture from being a profession to a discipline. The increase of architecture's concern over the city²⁸¹ as well as spatial representation's claim of independence from the act of building within architectural theory²⁸² is traced back over works of Alberti, Nolli, Piranesi, and Ledoux that include different uses of maps.²⁸³ The resemblance between maps and individual sketches involved in architects' studies is evident in certain cases of utmost ability to comprehend a specific place. For instance, William J.R. Curtis once wrote for architect Carlo Scarpa: "While the graphic representation was a means for exploring the rationale of a building and the character of a site, it was also the map with which Scarpa traced his ideas."²⁸⁴

The twentieth century witnessed near-simultaneous transformations in both fields' discourse as responses to similar influences derived from debates in philosophy and human sciences.

²⁸¹ Pier Vittorio Aureli, *The Possibility of an Absolute Architecture*, Writing Architecture (Cambridge, Massachusetts: The MIT Press, 2011).

²⁸² Tahl Kaminer, *Architecture, Crisis and Resuscitation: The Reproduction of Post-Fordism in Late-Twentieth-Century Architecture*, 1 edition (Routledge, 2011), 146–85.

²⁸³ Aureli, *The Possibility of an Absolute Architecture*. p. 79, 85-141

other works cited by Aureli, but not presented in this essay:

Giovanni Battista Piranesi, *Iconographia Campi Martii antiquae Urbis*, 1762,

Claude- Nicolas Ledoux, *Map of Chaux: Architecture and Social Reform at the end of the Ancien Regime*, 1804

²⁸⁴ William J. R. Curtis, *Modern Architecture Since 1900*, 3rd edition (London: Phaidon Press, 1996), 482.

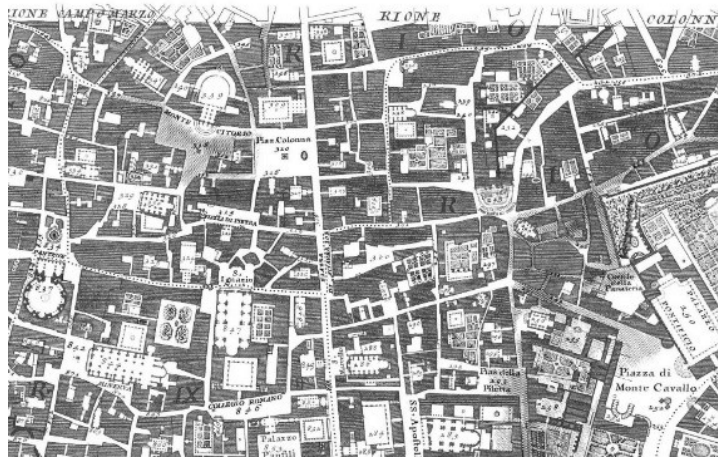


Figure 3.1. Partial image from Giambattista Nolli's *Nuovo Pianta di Roma*, 1748.²⁸⁵

Since the Western Renaissance, especially after the perspective drawing was acknowledged as a mathematical and geometric language, architectural representation has been viewed as a reflection of objective and measurable reality. As Perez-Gomez and Pelletier summarize: “measuring time and space through poetic mimesis was the original task of the architect.”²⁸⁶ However, this understanding of representation, couldn't inclusively capture the multi-layered experience of places, where spatial definitions were limited with geometric orders and measurable metrics²⁸⁷.

With the influence of the Enlightenment, led by the ideas of Descartes, Newton, and other prominent thinkers, the notion of representation turned further towards the strict, mathematical rendering of objective reality claimed by universal knowledge. To Vesely²⁸⁸, this genealogy of representation, in particular for architecture, paved the way for the emergence of modern representation as a “divided representation”:

²⁸⁵ ‘NOLLI’, accessed 24 August 2021, <http://www.casali.com/roma/nolli/00N/n0502.htm>.

²⁸⁶ Perez-Gomez and Pelletier, *Architectural Representation and the Perspective Hinge*, 8.

²⁸⁷ Perez-Gomez and Pelletier, *Architectural Representation and the Perspective Hinge*.

²⁸⁸ Dalibor Vesely, *Architecture in the Age of Divided Representation: The Question of Creativity in the Shadow of Production* (Cambridge, Massachusetts: The MIT Press, 2006).

“Because any representation, despite its claims to universality, is inevitably partial, there is always a residuum of reality left out, which has to define its own mode of representation. The result is a duplication that may best be described as “divided representation.”²⁸⁹

This situation was rooted in the emergence of Cartesian thought. The dualisms of body-mind and subject-object then has become the most reputable epistemological model for modern science and shaped the representation of reality in an extremely abstract mode, but yet it has managed to be confirmed as “concrete” reality as a decisive part of everyday life²⁹⁰. In this perspective, technology is inevitably seen as the drawing tool, positioned in a comfort zone as “drawing machine” that reproduces space objectively, measurably and according to certain norms²⁹¹ by the ongoing rationale of mathematical mediation.

These and similar criticisms for architectural representation are analogous to the skeptical themes about the possibility of any representation to include the entire experience of being present in a place. And they are also contemporary in the late 20th century for their protests against the supremacy of abstract space rather than its lived experience, calls for the recovery of “place” thinking through embodiment and experience in the face of the supremacy of space from a phenomenological perspective (As reviewed in Chapter 2). Meanwhile, also simultaneously, the self-criticism of cartography as a discipline has led to a shift in the definitions of maps, and it too emerged in a continuum between essentialist and relational ideas. At the turn of the millennium, a critical positioning of “mapping” against the conventional practices of cartography has already been established²⁹².

²⁸⁹ Vesely, 177.

²⁹⁰ Vesely, *Architecture in the Age of Divided Representation*.

²⁹¹ Carpo, ‘A Short but Believable History of the Digital Turn in Architecture’.

²⁹² Alanyalı Aral, ‘Mapping as a Relational Act’.

Mapping (-to map) can literally be defined in the broadest way possible, as in the form of a mathematical function²⁹³: It is the rule-based association of elements in two sets according to a set of rules²⁹⁴. However, mapping can also be viewed as a cognitive capacity that can arguably be considered universally innate to human²⁹⁵, that is used to organize, remember and control spatial knowledge²⁹⁶. These two definitions suggest a certain power comes with this ability to control, enabling the end product, map, to behave more than a medium of representation, but a “social engine” that converts social energy to space, order, and knowledge²⁹⁷.

Yet, this process was sustained for a long time in cartographic profession with a scientific objectivity claim²⁹⁸, whereas it is loaded with subjective preferences²⁹⁹. Brian Harley who has argued that maps, rather than simply conveying objective information, have hidden social and political agendas stands out for initiating such criticism. To Harley, maps are both instruments and symbols of power since they express the territorial imperatives of a particular political system³⁰⁰, but despite this, cartographers used to describe their practice as Harley contends:

“...object of mapping is to produce a 'correct' relational model of the terrain. Its assumptions are that the objects in the world to be mapped are real and objective, and that they enjoy an existence independent of the cartographer;

²⁹³ Yiğit Acar, ‘Cartography of Architectural Knowledge: Knowledge, Relations and Representation’, ed. Ela Alanyalı Aral, *Dosya*, Mapping as a Relational Act, 42 (2019): 19–26.

²⁹⁴ ‘Mapping, n. Meanings, Etymology and More | Oxford English Dictionary’, accessed 12 February 2025, https://www.oed.com/dictionary/mapping_n.

²⁹⁵ James M. Blaut et al., ‘Mapping as a Cultural and Cognitive Universal’, *Annals of the Association of American Geographers* 93, no. 1 (March 2003): 165–85, <https://doi.org/10.1111/1467-8306.93111>.

²⁹⁶ Martin Dodge, Rob Kitchin, and Chris Perkins, eds., ‘Front Matter’, in *The Map Reader: Theories of Mapping Practice and Cartographic Representation* (Chichester, UK: John Wiley & Sons, Ltd, 2011), i–xxv, <https://doi.org/10.1002/9780470979587.fmatter>.

²⁹⁷ Denis Wood, *Rethinking the Power of Maps*, 1 edition (New York: The Guilford Press, 2010), 6.

²⁹⁸ J. B. Harley, ‘Deconstructing The Map’, *Cartographica: The International Journal for Geographic Information and Geovisualization* 26, no. 2 (October 1989): 1–20, <https://doi.org/10.3138/E635-7827-1757-9T53>.

²⁹⁹ Denis Wood, ‘The Interest the Map Serves Is Masked’, in *The Power of Maps*, by Denis Wood (New York: Guilford Press, 1992), 70–94.

³⁰⁰ J. B. Harley, ‘Historical Geography and the Cartographic Illusion’, *Journal of Historical Geography* 15, no. 1 (1 January 1989): 80–91, [https://doi.org/10.1016/S0305-7488\(89\)80066-0](https://doi.org/10.1016/S0305-7488(89)80066-0).

that their reality can be expressed in mathematical terms; that systematic observation and measurement offer the only route to cartographic truth; and that this truth can be independently verified.³⁰¹”

Pickles explains the situation that Harley points out here, that is, maps have the claim of objectivity but are inevitably subjective in their content, as the “paradox of cartography”³⁰². This paradox emerges between the “perspectivalism” and “projectionism” in visual representations at the intersection of the visual depth and hierarchy provided by perspective and the mathematical, organizing approach of projection, a dichotomy appears for what the “representation” refers to³⁰³. These two methods, which seem complementary at first glance, actually represent different epistemological foundations. Pickles refers to Latour here, for his explanation of this dichotomy in between the “scientific representations” of facts for an empiricist epistemology and ideas, values, or agendas being represented in a “representative democracy”³⁰⁴.

When this "paradox of cartography" and the "divided representation" are considered together, it is seen that they actually point to the same problem. In spatial practices, representations lack the lived experience of place in a dualist ontology, and the relational, processual, and affective context of place as a living assemblage; but they are included in the agency that is effective in the formation of this context in a very paradoxical way. Architectural representations, and maps, are not just representations, they have become actants in the emerging codes, attractors and bifurcators for an assemblage in territorialization³⁰⁵, even if their objectivist motivations reject that. In both cartography and architecture, this situation has supported the criticism that the widely accepted practice and techniques have

³⁰¹ Harley, ‘Deconstructing The Map’, 4.

³⁰² Pickles, *A History of Spaces*, 89–91.

³⁰³ Pickles, 90.

³⁰⁴ Bruno Latour, *We Have Never Been Modern*, trans. Catherine Porter (Cambridge, Mass: Harvard University Press, 1993), 27.

³⁰⁵ Dovey and Ristic, ‘Mapping Urban Assemblages’.

acquired structures that cannot associate many aspects of life with a normative, deterministic, reductionist attitude.

In the postmodern period, the ideological, cultural and social prejudices behind the representation were criticized, and various practices and agendas were put forward. Thus, representations are emancipated from norms of technical precision not only reflecting the objective reality but also – *deliberately* - including the agency in the process. A wide range of such attempts are grouped under the term “critical cartography” originating in the 1960s³⁰⁶, then was more elaborated in theory through the works of theorists include Brian Harley, Denis Cosgrove, Denis Wood during 1980s and 1990s over the themes like cartographic censorship³⁰⁷, subversive cartography³⁰⁸, counter-mapping³⁰⁹ - and more recently with the emerging digital technologies allowing collective mapping practices - community mapping³¹⁰. Many alternative mapping approaches, which continue to diversify and are activated in the resonations of different theories and motivations on spatial practice, can still be considered in connection with critical cartography. (Also discussed in 3.2. through the term “critical map” in 3.2)

Mark Dorrian uses the term “cartographic turn” for the period starting on late 1960’s referring to mapping’s relatively new position as a design strategy in architectural practices as well as its re-positioning against conventional practices of cartography.³¹¹ Architects’ studies over maps are presented as part of exhibitions,

³⁰⁶ Jeremy W Crampton and John Krygier, ‘An Introduction to Critical Cartography’, *ACME: An International E-Journal for Critical Geographies* 4, no. 1 (2006): 11–33.

³⁰⁷ Mark Monmonier, *How to Lie with Maps, Third Edition*, 3rd edition (Chicago and London: University of Chicago Press, 2018).

³⁰⁸ Schoonderbeek, *Mapping in Architectural Discourse: Place-Time Discontinuities*.

³⁰⁹ Wood, *Rethinking the Power of Maps*.

³¹⁰ Chris Perkins, ‘Community Mapping’, *The Cartographic Journal* 44, no. 2 (1 May 2007): 127–37, <https://doi.org/10.1179/000870407X213440>.

³¹¹ Mark Dorrian, ‘Architecture’s Cartographic Turn’, in *Figures de La Ville et Construction Des Savoirs: Architecture, Urbanisme, Géographie*, ed. Frédéric Pousin, Espaces et Milieux (Paris: CNRS Editions, 2005), 61–72, [https://www.research.ed.ac.uk/portal/en/publications/architectures-cartographic-turn\(f404c8a8-7a73-49f1-8dec-ce21197c5e63\).html](https://www.research.ed.ac.uk/portal/en/publications/architectures-cartographic-turn(f404c8a8-7a73-49f1-8dec-ce21197c5e63).html).

installations, and publishing on occasion. Some cited cases are Bernard Tschumi's "Manhattan Transcripts", Daniel Libeskind's "Between the Lines" and Aldo Rossi's "Analogous City"³¹². Works of Peter Eisenman, Rem Koolhaas (OMA), Bernard Tschumi and Raoul Bunschoten (Chora) are discussed as examples of mapping practices of architects by James Corner³¹³. Corner himself as a practicing landscape urbanist, is one of the key figures to mention for his contribution to re-theorizing mapping's function in spatial design disciplines, from "mirroring reality" towards "engendering the re-shaping of the worlds in which people live".³¹⁴

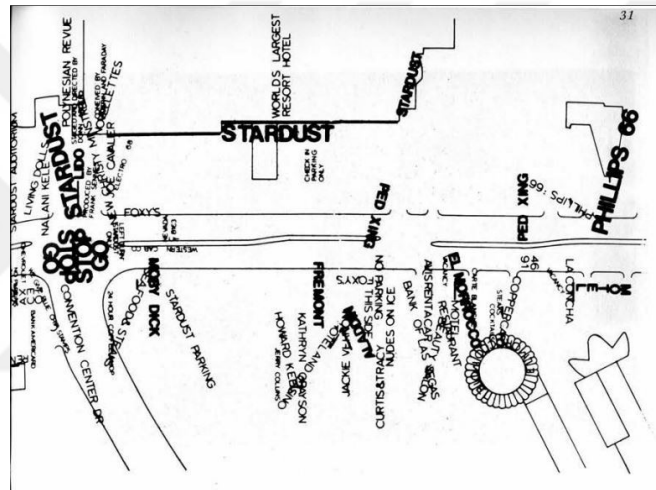


Figure 3.2. Map of Las Vegas Strip emphasizing shown names along the way in accordance with author's experiences and preference.³¹⁵

While Corner discussed mapping's potential to be acknowledged as an agency in that essay, one of the significant identifiers on which he built his arguments was creativity. Ability to relate the context from within instead of a cartographic

³¹² Marc Schoonderbeek, 'Place-Time Discontinuities: Mapping in Architectural Discourse' (Doctoral dissertation, Netherlands, Delft Technical University, 2015), 6.

³¹³ Corner, 'The Agency of Mapping: Speculation, Critique and Invention', 237–41.

³¹⁴ Corner, 213.

³¹⁵ Robert Venturi, Denise Scott Brown, and Steven Izenour, *Learning From Las Vegas*, Facsimile edition (Cambridge, Massachusetts: The MIT Press, 1977).

projection suggests that mapping as a critical practice might become a creatively productive tool for uncovering realities even across “*seemingly exhausted grounds*” since it is a cultural project used not merely for measuring and describing but also to construct.³¹⁶ Corner reviewed certain works from architects and urbanists under categories of mapping techniques that he identifies for “*creative mapping*”; “*drift, layering, rhizome and game-board*”.³¹⁷ The chapter he wrote in Denis Cosgrove’s book “*Mappings*” just before the turn of the millennium became a pivotal source in literature.³¹⁸

Two recent monographs analyzed mapping’s involvement in architectural practice comprehensively. Marc Schoonderbeek presents a classification in terms of functional relations by considering the actions in which mapping has been related to architecture in a historical process, and how mapping can be examined in different cartographical paradigms. He groups the cases in which maps function in architectural practice as operational, instrumental, and conceptual³¹⁹. Roger Paez, on the other hand, suggests “operative mapping” modes as visions, constructions, protocols, instruments³²⁰ through certain tactics and strategies in this operative mapping focus. It can be revealed in a further examination that all of these modes suggested by Paez are more or less of the kind that exhibits ontogenetic behaviors³²¹ that Schoonderbeek might associate with post-representational³²², post-topological³²³, and heterotopological³²⁴ maps.

³¹⁶ James Corner, “The Agency of Mapping: Speculation, Critique and Intervention” in D. Cosgrove (ed.) *Mappings*, London: Reaktion Books, pp. 213-54. 1999

³¹⁷ Corner, ‘The Agency of Mapping: Speculation, Critique and Invention’, 231.

³¹⁸ Nadia Amoroso, *The Exposed City: Mapping the Urban Invisibles*, 1st Edition (New York: Routledge, 2010), 93.

³¹⁹ Schoonderbeek, *Mapping in Architectural Discourse: Place-Time Discontinuities*.

³²⁰ Roger Paez, *Operative Mapping: The Use of Maps as a Design Tool*, English edition (New York, NY: Actar, 2020), 218–80.

³²¹ Paez, 113.

³²² Schoonderbeek, *Mapping in Architectural Discourse: Place-Time Discontinuities*, 33–36.

³²³ Schoonderbeek, 83–90.

³²⁴ Schoonderbeek, 176–210.

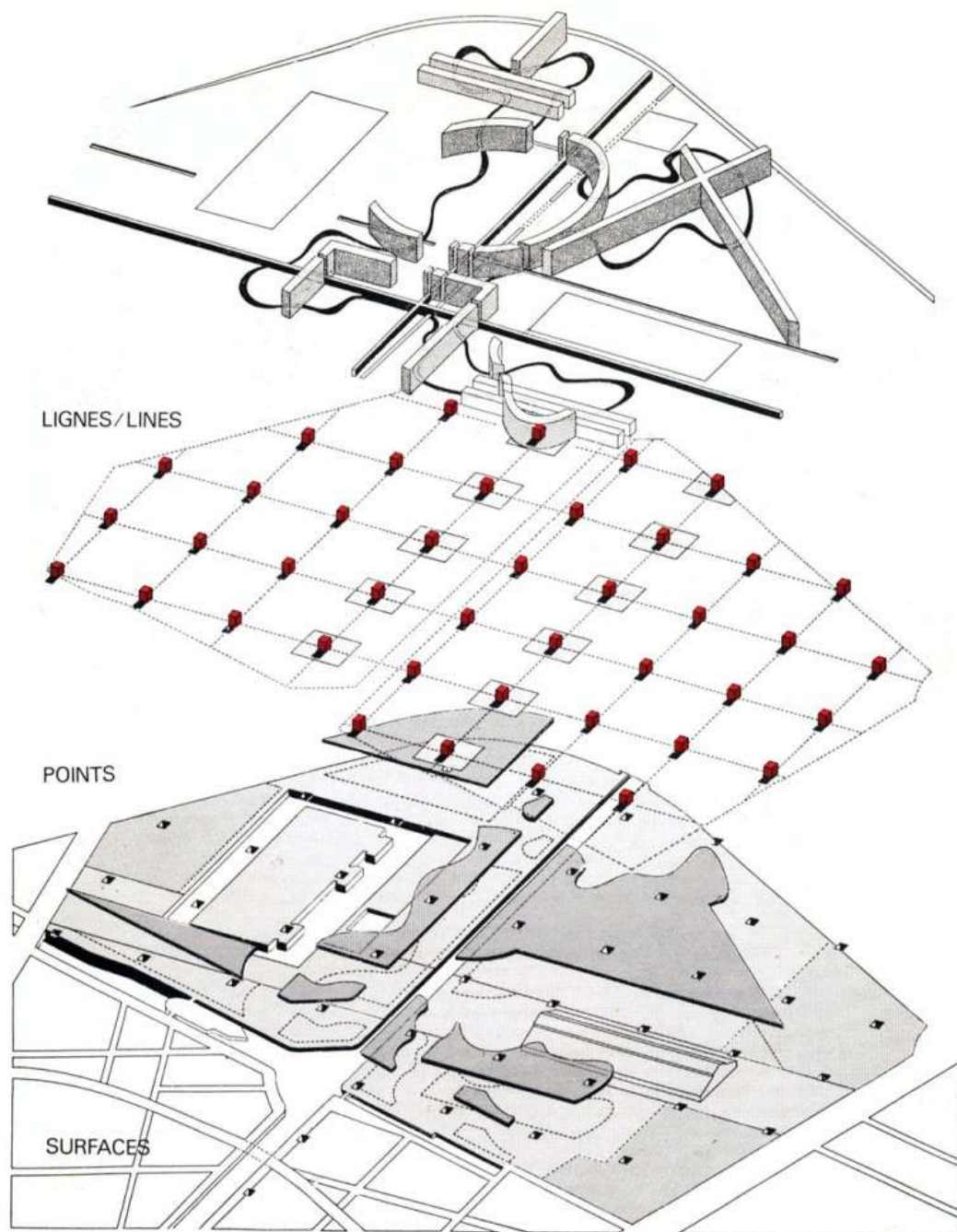


Figure 3.3. Park de la Villette design proposal by Bernard Tschumi, 1983. Corner prefers to describe the implementation of layering technique here as “strategic layers that are drawn from and anticipate future programmes”.³²⁵

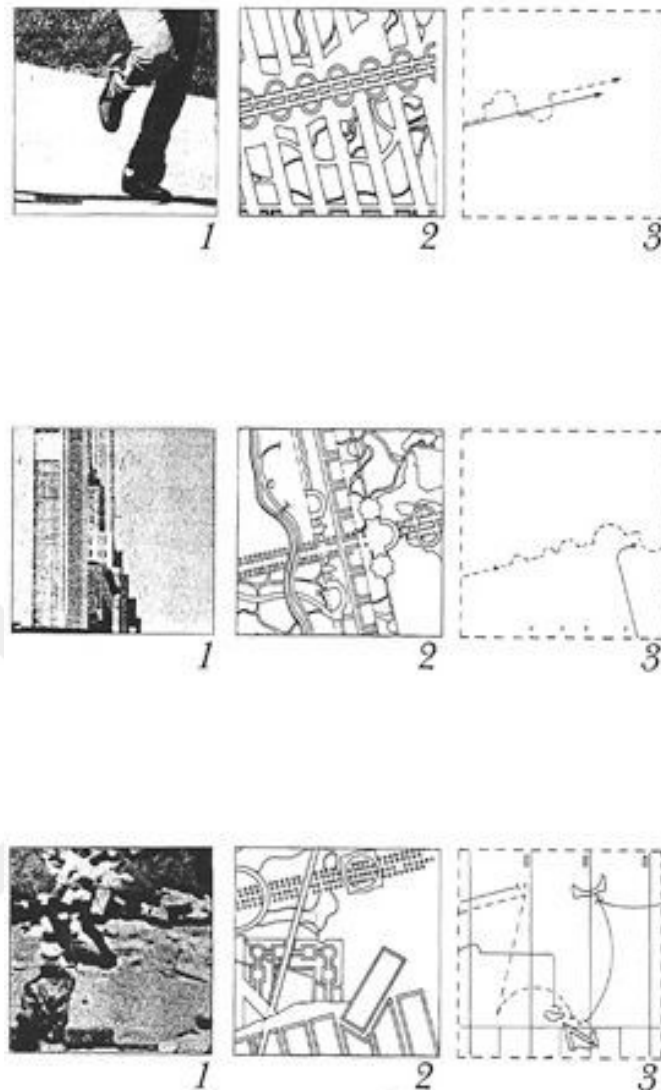


Figure 3.4. A drawing from the series “Manhattan Transcripts”³²⁶

³²⁵ Corner, ‘The Agency of Mapping: Speculation, Critique and Invention’, 239. Image source unknown.

³²⁶ ‘Bernard Tschumi Architects’, accessed 25 August 2021, <http://www.tschumi.com/projects/18/#>; Tschumi, *The Manhattan Transcripts*. which Tschumi introduced as: “The Transcripts’ explicit purpose was to transcribe things normally removed from conventional architectural representation, namely the complex relationship between spaces and their use, between the set and the script, between “type” and “program,” between objects and events. Their implicit purpose had to do with the 20th-century city.”



Figure 3.5. An example of a crime scene investigation for the Rafah region.³²⁷

Schoonderbeek examines “the operationalization of the map”³²⁸ as a dynamic process that transcends mere spatial representation yet is enhanced by its representational capabilities. He argues that measurement is not simply about collecting spatial data but is an act of generating differences that reveal distinct spatial potential. Through examples from Daniel Libeskind’s works such as the “Star of David Matrix”³²⁹, he points out how maps expose absences and gaps, thereby catalyzing new architectural ideas. Ultimately, for Schoonderbeek, the integration of

³²⁷ Eyal Weizman, *Forensic Architecture: Violence at the Threshold of Detectability*, 1st Edition (Brooklyn, NY: Zone Books, 2017), 186. This mapping performed by a process that both mapping and architectural analysis are involved as explained in Eyal Weizman’s “*Architectural Forensics*”. The process was a complex act of mapping aggregating all kinds of data that can be digitally modeled including satellite imagery, news and social media content including videos, ballistic analysis and architectural surveying and remodelling of ruins and remaining buildings

³²⁸ Schoonderbeek, *Mapping in Architectural Discourse: Place-Time Discontinuities*, 103–35.

³²⁹ Schoonderbeek, 112.

measurement and difference activates the map into an operation for ideation, effectively bridging spatial analysis (with that he means a creative and critical process exceeding measurability) and architectural production.

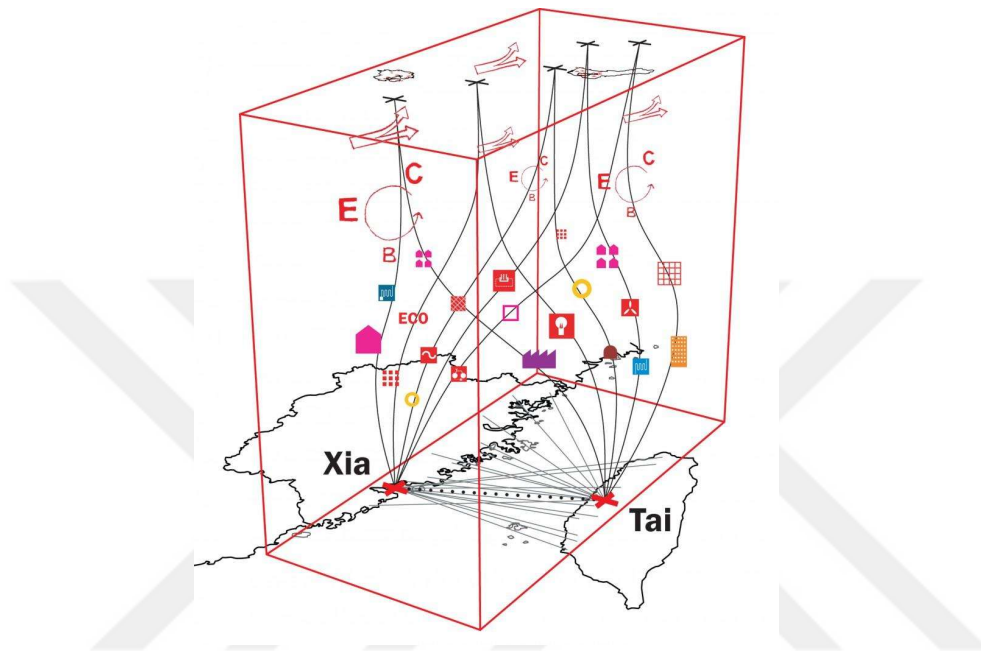


Figure 3.6. Chora, an architecture and urban planning company that designs - and designs with - mapping projects, here a rhizomatic mapping case from their works is shown³³⁰.

The notion of the “instrumentalization of the map”³³¹ for Schoonderbeek is again an argument about how maps are far more than mere representations, because they are acting *instruments* that shape architectural production. He explains that through the development of a specific notation technique, mapping transforms complex urban spatial conditions into quantifiable, design-relevant data. By analyzing diverse urban depictions found in photography, cinema, and architectural drawings, and by

³³⁰ ‘Spatial Agency: Chora’, accessed 25 August 2021, <https://www.spatialagency.net/database/chora>.

³³¹ Schoonderbeek, 136–75.

examining case studies of “Learning from Las Vegas” by Venturi, Scott-Brown and Izenour³³², and “The Manhattan Transcripts” by Tschumi; he discusses how the process of “transcribing” the city distills these spatial conditions into actionable cues. In this way, the map becomes an instrument that not only records spatial realities but also actively guides the morphogenesis of architectural form.

The third mode Schoonderbeek explained is what he calls “the conceptualization of the map”³³³ where maps are not static reproductions of spatial information but they act as conceptual mediators—a dynamic, formal language that both orders and generates meaning in architectural discourse. Schoonderbeek, again argues that the map’s role transcends representation by suggesting a spatial ordering system that articulates context, order, and the inherent discontinuities of place and time. Rather than merely mirroring reality, the map actively transforms abstract notions into territories, thereby setting the stage for architectural theory and design. This conceptualization process of the map involves a “discursive reset”³³⁴ where traditional representational strategies give way to an open-ended, generative method that reconfigures spatial relations and initiates the emergence of new ideas. Mapping becomes a transdisciplinary conceptual assemblage that both reveals and produces contents within places as Schoonderbeek exemplified from James Corner’s maps of American landscape³³⁵.

On the other hand, the definition of “operative mapping” as proposed by Paez reflects his view of maps as a design tool, particularly for architectural design, and overlaps with each of the modes discussed by Schoonderbeek. Paez explains his understanding as below:

³³² Schoonderbeek, 157.

³³³ Schoonderbeek, 176–212.

³³⁴ Schoonderbeek, 176–80.

³³⁵ Schoonderbeek, 193.

In its most immediate definition, operative mapping is the production and use of maps to broaden our conception of reality and to promote its transformation.

'Mapping' refers to the practice of making maps. The verb 'to operate' implies *agency* - to produce an effect, to perform a function, to exert an influence. Therefore, and despite the wealth of nuances we will explore throughout this book, the idea of operative mapping is simple enough: to operate with and through maps.

The concept of operative mapping draws on the understanding that maps and mapping produce reality, rather than merely reproducing it. As we stated initially, mapping is a projective tool. Maps do not inform; they propose. Rather than representations of reality, they are systems of propositions - where a proposition is understood as an argument that confirms or negates the existence of something. In that sense, cartography is a propositive discipline and not a merely descriptive one.

Throughout the theoretical discussion of this study, the views of both Schoonderbeek and Paez were influential, especially in terms of their inquiries for relationship between fields of cartography and architecture. However, as posited by a relational materialist perspective, this study diverges partially from their ontological preferences of terminology including “instrument”, “tool”, and the understanding of agency accumulated on subject-object duality.

This section outlined a historical transformation that reveals the evolving intersections between practices in architecture and cartography. Conventional representations of both disciplines were grounded in direct, literal, and objective measurements. These practices faced criticism for neglecting embodied experiences and relational dynamics of lived place, as mapping positioned in contrast then both disciplines now reconceptualize space not as a static inventory but as a continually reterritorializing “place”—a process shaped by evolving experiences and interrelations.

As in “mapping should be seen as a process of map production that includes the observer as part of the territory that is being mapped”³³⁶ the active involvement of the maps in both the territorialization and deterritorialization phases of places allows for a critical interrogation of a more-than-human understanding. The relational dimension of mapping, moreover, should suggest an interdisciplinary bridge that addresses spatial problems, fostering a common praxis between geography, architecture, and many other fields.

In the previous chapter, place as an assemblage explained with a process-based and agential explanation. When viewed through the lens of more-than-representational theories this perspective moves away from static, objective representations and highlights how place emerges through continuous, embodied interactions that happen in the momentarily dynamics—a framework that resonates with the idea that mapping is a mediator for reinterpreting places in interactive, sensory, and experiential modes in spatial practices. Thus, the evolving practice of mapping not only challenges traditional representational paradigms but also reinforces more-than-representational insights by foregrounding the dynamic and multifaceted life of spatial engagement.

3.2 Post-Representational Mapping: Maps as Spatial Practices

So far, the field of more-than-representational theories that help to understand place as more-than-human (see Chapter 2) and mapping approaches that differ from conventional map-making by embracing that they are not merely representations (this chapter) have been discussed. Within the scope of this research, no explicit reference in any source has been found on the – perhaps self-evident – connection between the concepts of post-representational maps and more-than-representational theories that both value practicing spatiality before representation. Although similar

³³⁶ Schoonderbeek, 106. After his reading of Merleau-Ponty

philosophical influences, theories, and key figures are mentioned in many publications for parallel arguments in both fields, this situation can still be interpreted as a possible gap in the relevant literature, and in this respect, it is a clarification that this study hopes to contribute to.

By framing post-representational mapping as a revelatory praxis (practice & representation: performance), this section suggests that the maps' transformative potential lies in their capacity to make visible the conditions of invisibility by process and emergence—not as a correspondence of truth, but as an ongoing negotiation with the contested, multi-layered realities of place as an assemblage. In doing so, it can be considered as an atmospheric methodology that volunteers to bridge the conceptual terrain of more-than-representational theories with what they prioritized the most by the immediacy of experiences, resisting representations in favor of lived, embodied engagements to “a geography of what happens” (as mentioned in Introduction).

Which characteristics of post-representational mapping make it a performance of exceptional influence in its performative capacity to engage with place? We can advance on the sensitivities that more-than-representational theories prioritized—rejecting static representations to focus on *practice*, *embodiment*, and *affect*—to answer this question within a more-than-human understanding of place.

A conceptual rhizome of characteristics for a more-than-human place understanding was assembled in Chapter 2. Here, items that emerged in that rhizomatic framework are released to begin new sentences where they end with more-than-representational tenets³³⁷, with no indexical purpose but instead to demonstrate the intensification of possible connections. (see Table 1).

³³⁷ Thrift, *Non-Representational Theory*; Vannini, 'Non-Representational Research Methodologies An Introduction'; Lorimer, 'Cultural Geography', February 2005.

This framework offers contextual possibilities for action to assess what kind of practice can achieve significant capacity in the relational, processual, agential experience of place. The table implies how place *becomes* through *intra-activity* and *agential* practices, while mapping itself can operate as an *experimental* and *creatively novel* act. By foregrounding *ambiguity*, *indeterminacy*, and *pre-individual potentials*, these possible combinations suggest post-representational mapping's alignment with more-than-representational theories' priorities: its rejection of ontological divides and its commitment to *relational materialism* as a way to engage the *living, hybrid* dynamism of place.

Table 1. Conceptions of place in more-than-human understanding as to be practiced by more-than-representational tenets (terms and phrases adapted after Thrift, Lorimer and Vannini)

Place	is / as / can become	therefore it can be	by*
	relational		
	assemblage		
	rhizome		
	affective atmosphere		capturing the onflow of everyday life
	contingent	felt	
	complex	sensed	considering pre-individual
	processual	experienced	
	becoming	lived	focusing on practice, action, and performance
	emergent	practiced	rejecting ontological separations through relational materialism
	eventual	performed	
	indeterminate	embodied	
	ambiguous	mediated	aspiring to be experimental
	agential	assembled	attaching importance to bodies, affect, emotion, intensities, and ephemeral phenomena
	living	(re)territorialized	
	hybrid	(de)territorialized	
	more-than-human		suggesting an ethic of novelty built on what is happening
	actor-network		
	intra-activity		
*Phrases listed in below are cited from Thrift and Vannini, see footnote 343			

The term “post-representational” is often associated with cartography as “post representational cartography”, just like the term “critical” as in “critical cartography”. However, as another similarity, the definition of post-representational can also go beyond the permeable disciplinary boundaries of cartography - in which it was also effective in blurring - by being paired with the word “mapping”³³⁸ in a more loosened manner and a broader scope. Still, let's see how it is described as a perspective in cartography, quoting from Azocar and Buchroithner³³⁹:

“Post-representational cartography is a new perspective in *mapping* that is contrary to the viewpoint of ‘maps as truth’ and wants to go beyond the ‘maps as social constructions’ approach. The former represents the view of modern or traditional cartography, and the latter one is framed in postmodern cartography.”³⁴⁰

There, in this comparison, a line of divergence might seem to be appearing between MtRTs cautious distancing from the postmodern critique of modernity by seeing that inadequate or irrelevant (see for instance Thrift³⁴¹, for ANT Latour³⁴²). However, a more careful reading of both discourses reveals some parallels that do not necessitate a divergence at this point. More-than-representational theories do not blatantly exclude postmodernist critique of modernity, on the contrary they offer points of extension or alignment for what they are disturbed from to some extent. But they

³³⁸ As it referred by a very recent publication for instance: Heather J. Miles, ‘Learning Post-Representational Mapping from Professional Cartography’, *J-READING Journal of Research and Didactics in Geography* 1 (14 June 2024), <http://www.j-reading.org/index.php/geography/article/view/401>.

³³⁹ Pablo Iván Azócar Fernández and Manfred Ferdinand Buchroithner, *Paradigms in Cartography: An Epistemological Review of the 20th and 21st Centuries*, 2014th edition (New York: Springer, 2013).

³⁴⁰ Azócar Fernández and Buchroithner, 87.

³⁴¹ Nigel Thrift, ‘Steps to an Ecology of Place’, in *Human Geography Today*, ed. J. Allen and D. Massey (Cambridge: Polity Press, 1999), 299.

³⁴² While contributing to the development of actor-network theory, Latour differentiates its frame from the postmodern condition as he sees in “flippant despair” by not even trying to connect nature, society, and discourse. Latour, *We Have Never Been Modern*, 64–65.

regard postmodern criticism as a kind of unintentional reflection or illusion for not offering a comprehensive alternative³⁴³.

Meanwhile, cartographers see post-representationalism not as a direct equivalent to the critical approaches that were accepted in the postmodern period, but as a continuation of them³⁴⁴. In fact, for cartography too, there is a similar attitude that wants to leave the excess of criticism and seek alternatives³⁴⁵. All in all, there are extensions and progressions of ideas, either by objections or deviations on the road, for how to define maps from modern cartography to the post-representational era. Again, Azocar and Buchroithner meticulously provided a series of tables³⁴⁶ that follow this progression of conceptions. Here these tables are re-produced into a combined version, following their reviews on several sources. (See Table 2)

This table helps clarify the transformation of the understanding of maps in activation. According to the flow here, the evolution of what maps do can be roughly summarized in three phases: For modern cartography, the map is the mirror of reality. Whereas for post-modern cartography, the map is the mirror of the ideology. Post-representational mapping escapes this analogy of reflection; seeing mapping as an embedded practice that transforms the place. However, this does not mean that the map no longer represents the place; rather, this conceptualizes that mapping looks from within the place and it is *emerges* along with it, as Kitchin and Dodge emphasize³⁴⁷:

Maps *emerge in process* through a diverse set of practices. Given that practices are an ongoing series of events, it follows that maps are constantly

³⁴³ Thrift, *Non-Representational Theory*; Latour, *We Have Never Been Modern*; Hayden Lorimer, 'Cultural Geography: Non-Representational Conditions and Concerns', *Progress in Human Geography* 32, no. 4 (August 2008): 551–59, <https://doi.org/10.1177/0309132507086882>.

³⁴⁴ Azócar Fernández and Buchroithner, *Paradigms in Cartography*, 87–89; Schoonderbeek, *Mapping in Architectural Discourse: Place-Time Discontinuities*, 36.

³⁴⁵ Kitchin and Dodge, 'Rethinking Maps'.

³⁴⁶ Azócar Fernández and Buchroithner, *Paradigms in Cartography*, 89,97,108.

in a state of becoming; they are ontogenetic (emergent) in nature. Maps have no ontological security, they are of-the moment; transitory, fleeting, contingent, relational and context-dependent. They are never fully formed and their work is never complete. Maps are profitably theorized, not as mirrors of nature (as objective and essential truths) or as socially constructed representations, but as emergent. (original emphasis by Kitchin and Dodge in “Rethinking Maps”).

The post-2000s era of cartography is called as a period of transition from ontology to ontogenesis³⁴⁷, “a shift from ontology (how things are) to ontogenesis (how things became)—from (secure) representation to (unfolding) practice”³⁴⁸, marked by evolving conceptualizations of maps as dynamic processes rather than products.

There were worries for the ontological security of the map – a positive view for truthfulness of scientific techniques to capture spatial information – as a concern openly stated by Kitchin et al. and shared implicitly by scholars like Crampton, Pickles, and Latour³⁴⁹.

This tension reflects a broader paradox (in a very similar vein, but as an extension of the paradox that is discussed in previous section): even maps are increasingly understood as fluid, rhetorical, relational, and multivocal tools with tangible social impacts, they retain an enduring identity as fixed, coherent objects—what Kitchin and Dodge³⁵⁰ term “a map” in their definitive form.

³⁴⁷ Rob Kitchin, Chris Perkins, and Martin Dodge, ‘Thinking about Maps’, in *Rethinking Maps: New Frontiers in Cartographic Theory*, ed. Chris Perkins, Rob Kitchin, and Martin Dodge, 1st edition (London and New York: Routledge, 2011), 334.

³⁴⁸ Kitchin and Dodge, ‘Rethinking Maps’, 335.

³⁴⁹ Azócar Fernández and Buchroithner, *Paradigms in Cartography*, 96.

³⁵⁰ Kitchin and Dodge, ‘Rethinking Maps’, 334.

Table 2. Map conceptions and epistemological stances according to periods and authors (Adapted after Azocar and Buchroithner³⁵¹)

Period / Epistemological tendency	Author	Map Conception
Modern Cartography Representational Essentialist Optical Level	A. Robinson (1955)	Maps as <i>objective, scientific</i> representations Maps as <i>truths</i> Maps are <i>transparent</i> and ideologically <i>neutral</i>
	Harley (1989)	Maps as <i>ideologically laden</i> representations Maps as <i>cultural texts</i>
Post-modern Cartography Representational Constructivist Ontological Level	Crampton (2003)	Maps as <i>historical products</i> operating within a certain horizon of possibilities
	Casti (2005)	Maps as locus of <i>semiosis</i> ; <i>self-referential</i> through iconisation
	Wood and J. Fels (2008)	Maps as <i>constructions</i> that produce the world Maps as <i>propositions</i>
	Latour (1987, 1999)	Maps as mobiles Maps as <i>actants</i>
	Corner (1999)	Maps as <i>re-creations of territory</i> (Maps and territories are <i>co-constructed</i>)
Post-representational Cartography Post-representational Emergent Ontogenesis Level	Ingold (2000)	Maps as <i>views from somewhere</i> bound within the practices and knowledge of their makers Maps as <i>histories in movements</i>
	della Dora (2009)	Maps as <i>fluid</i> objects, always in the making Maps as <i>mnemonics</i>
	del Casino Jr. and S. Hanna (2006)	Maps as <i>mobile</i> subjects whose meaning emerges through socio-spatial practices Maps as both representations and practices simultaneously
	Pickles (2004)	Maps as <i>inscriptions</i> Maps as unstable and <i>complex texts</i>
	Kitchin and M. Dodge	Maps as <i>practices</i> (spatial practices that do work in the world) Maps as suites of cultural practices involving actions and affects Maps as <i>mutable</i> mobiles

³⁵¹ Azócar Fernández and Buchroithner, 89,97,108.

Following this conceptual overview, the discussion now turns to selected examples that critically, creatively, and performatively illustrate how mapping moves beyond representation. These capacities—criticality, creativity, and performativity—are considered as meta-qualities that enable post-representational conceptions of maps to emerge and operate in diverse contexts.

This phenomena of differential entanglements over the nature of maps can be interpreted by adopting Barad’s ideas on agentialism to the context here, where “material-discursive practices” with “specific iterative enactments—agential intra-actions”³⁵²- of maps, places and practices are articulated in many fields including philosophy³⁵³, cultural geography³⁵⁴, digital humanities³⁵⁵, arts³⁵⁶, design³⁵⁷,

³⁵² Barad, ‘Posthumanist Performativity’.

³⁵³ C. Perkins, ‘Mapping, Philosophy’, in *International Encyclopedia of Human Geography* (Elsevier, 2009), 385–97, <https://doi.org/10.1016/B978-008044910-4.00058-4>.

³⁵⁴ Denis Cosgrove, ‘Cultural Cartography: Maps and Mapping in Cultural Geography / Les Cartes et La Cartographie En Géographie Culturelle’, *Annales de Géographie* 117, no. 660/661 (2008): 159–78; Kitchin and Dodge, ‘Rethinking Maps’; William Rankin, *After the Map: Cartography, Navigation, and the Transformation of Territory in the Twentieth Century*, Reprint Edition (University of Chicago Press, 2018); Chris Perkins, Rob Kitchin, and Martin Dodge, eds., *Rethinking Maps: New Frontiers in Cartographic Theory*, 1st edition (London and New York: Routledge, 2011).

³⁵⁵ Todd Presner, David Shepard, and Yoh Kawano, *HyperCities: Thick Mapping in the Digital Humanities*, 2014th Edition (Cambridge, Massachusetts: Harvard University Press, 2014); Laura Kurgan, *Close Up at a Distance: Mapping, Technology, and Politics* (Brooklyn, NY: Zone Books, 2013).

³⁵⁶ Katharine Harmon, *The Map as Art: Contemporary Artists Explore Cartography*, Illustrated edition (Princeton Architectural Press, 2010); Denis Wood, ‘Map Art’, *Cartographic Perspectives*, no. 53 (1 March 2006): 5–14, <https://doi.org/10.14714/CP53.358>; Denis Cosgrove, ‘Maps, Mapping, Modernity: Art and Cartography in the Twentieth Century’, *Imago Mundi* 57, no. 1 (2005): 35–54; Denis Wood, ‘Catalogue of Map Artists’, *Cartographic Perspectives*, no. 53 (1 March 2006): 61–68, <https://doi.org/10.14714/CP53.366>.

³⁵⁷ Michael Tawa, ‘Mapping: Design’, *Architectural Theory Review* 3, no. 1 (1 April 1998): 35–45, <https://doi.org/10.1080/13264829809478331>; Winifred E. Newman, *Data Visualization for Design Thinking: Applied Mapping*, 1 edition (New York, NY: Routledge, 2017); David Woodward, ‘Cartography and Design History: A Commentary’, *Design Issues* 2, no. 2 (1985): 69–71, <https://doi.org/10.2307/1511420>.

architecture³⁵⁸ and urbanism³⁵⁹. These relational changes, which have been addressed with comprehensive analyses in their fields, are re-assembled here with a focus on temporality on a re-reading that looks for how mapping is acted-with agentiality within spatial performances through a non-categorical extend. This is a range that is oscillating between representational and post-representational behavior that is mapped on a wide and non-linear scope of temporality between retrospective and prospective vantages.

Mapping as a performance may have already been practiced and represented in a past time, thus offering a retrospective perspective. It may have been happening or is happening in an interval between now and then, therefore the action transcends its representations in emergent eventuality. Similarly, it might continue – or its *affectivity* will continue to transform as a post-representational performance that connects actual experiences with virtual extensions over *plane of immanence* in a non-linear time. Three capacities that can be considered as emerging through the intra-actions of mapping practices by involving in the platial agency stand out: criticality, creativity, and performativity in this space of possibilities.

Acting on the critique of static, objectivist representations and the embracing of processual, relational, agential dynamic for a more-than-human definition of place outlined earlier, post-representational mapping emerges as an immeasurable range of multi-disciplinary critical/creative/performative practices for interrogating what conventional cartographies and other disciplinary representations might omit. If conventional cartography sought to fix places into legible, hierarchical inventories, post-representational mapping destabilizes this logic by foregrounding the invisible,

³⁵⁸ Dorrian, 'Architecture's Cartographic Turn'; Ela Alanyalı Aral, 'Mapping - A Tool for Visualizing "Lived Space" in Architecture', in *Is It Real? Structuring Reality by Means of Signs*, ed. Papatya Nur Dökmeci Yörükolu et al. (Newcastle upon Tyne: Cambridge Scholars Publishing, 2016), 233–43; Schoonderbeek, *Mapping in Architectural Discourse: Place-Time Discontinuities*.

³⁵⁹ Kim Dovey, Elek Pafka, and Mirjana Ristic, eds., *Mapping Urbanities: Morphologies, Flows, Possibilities* (New York London: Routledge, 2018); Dovey and Ristic, 'Mapping Urban Assemblages'; Amoroso, *The Exposed City*.

the ephemeral, and the more-than-human forces that reterritorialized understanding of place. This is again a continuum that does not merely abandon representation but reimagines it as an unfinished process—one that acknowledges, embraces and encounters gaps, absences, and affective resonances inherent in spatial experience.

It is now recognized that maps are not neutral artifacts; rather, they possess performative agency and are entangled in the very territories they seek to describe³⁶⁰. Once more, this recognition is not an invention of new types of maps that are now more-than representational, but instead, the novelty here lies in the acceptance of maps are always more-than representation, as *practices and processes*. This acceptance is rooted in the criticism of cartography³⁶¹ (as followed in previous section 3.1) and creative actions (as in artist's maps) or resistive reactions (as in counter-cartography or subversive cartography) following that criticism are turning into a multiplicity of mapping performances in geography, art, design or humanities to follow that understanding. For instance, critically motivated maps expose the latent dynamics obscured mostly by institutionalized spatial narratives: the mundane moments or taken-for-granted rhythms of everyday life, the traces of marginalized histories, or the ecological entanglements that defy geometric abstraction, by prioritizing practices of deterritorialization—the dissolution of fixed attachments and boundaries.

Joaquín Torres-García's 1942 drawing *America Invertida* (Inverted Map of South America, see Figure 3.7) is renowned as an earlier example of a radical rejection for cartographical hierarchy and norms³⁶². Despite not being temporally coincident with postmodern critiques and contemporary to modernist paradigm for cartography (as outlined in Table 2) this work is considered as a critical expression of creativity on

³⁶⁰ Schoonderbeek, *Mapping in Architectural Discourse: Place-Time Discontinuities*, 60.

³⁶¹ Kitchin, 'Post-Representational Cartography'; Schoonderbeek, *Mapping in Architectural Discourse: Place-Time Discontinuities*, 35–37.

³⁶² James Corner, *The Landscape Imagination: Collected Essays of James Corner 1990-2010*, ed. Alison Bick Hirsch (New York: Princeton Architectural Press, 2014), 203.

maps. The widely accepted, institutionalized, and routinized orientation of maps as the north positioned on top, functions as a cover for the spatial distribution of global power relations, while Torres-Garcia's map invert this orientation to reveal this hidden mechanism producing to expose the hidden; that maps are not neutral, and they reproduce territories by author's preferences.

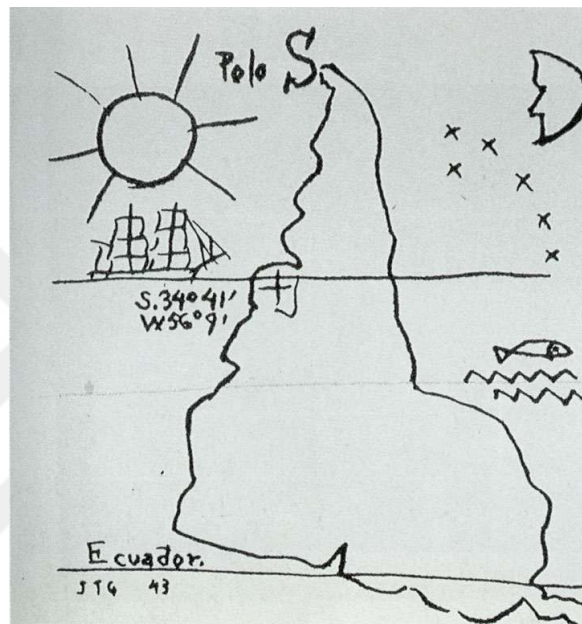


Figure 3.7. “*America Invertida*” by Joaquín Torres García, 1943 image source: Museo Torres García accessed from <https://tienda.torresgarcia.org.uy/>

By turning South America upside down, Torres-García shows that geographical positioning is not only a physical condition but also a territorialized system of orienting. This coincides with Harley's argument that maps do not only contain geographical data but are also ideologically structured discursive tools³⁶³. This inversion can also be read as an attempt to develop a counter-discourse through

³⁶³ Harley, 'Historical Geography and the Cartographic Illusion'.

spatial arrangements against the economic and cultural domination that Latin America is subjected to in the global system. Here, the map comes into play not only as a means of representation but also as a means of critical action and intervention, indicating that place and directions are not absolute categories but rather productions shaped by power and history. Although predating the postmodern turn in cartography, this work resonates with the epistemological transition from representational to post-representational approaches, as summarized in Table 2, particularly in its emphasis on maps as ideological and agential constructs rather than neutral containers of geographic information.

The post-representational perspective seeks to extend this criticality, focusing more specifically on how maps emerge. More-than-representational theories as discussed in the previous chapter with respect to place, can further amplify this shift by focusing on embodied, event-based practices, in a very similar manner. Here, the "invisibles" are not merely hidden objects, structures, or intentions awaiting revelation but also relational processes that emerge through sensory, affective, and participatory engagement with the everyday life.

While Torres-García's *América Invertida* challenged the visual and ideological conventions of cartography by literally flipping the map, more recent practices interrogate spatial representation through lived experience and marginal subjectivities that are previously invisible to cartographic gaze. A such example is *Imaging Homelessness in a City of Care* (see Figure 3.8), a participatory mapping project involving single homeless individuals in Newcastle-upon-Tyne.

Through a series of workshops, participants annotated individual maps with their expressions, producing what the researchers describe as a "deliberately lo-fi" composite that foregrounds "the many different meanings assigned to the city" and

bring the discussion of homelessness into the embodied context³⁶⁴ The map reveals alternative readings of urban space – doorways as sleeping areas, pipes as sources of warmth – and highlights both “the multiplicity of survival strategies” and “the diversity of pathways into homelessness”. Rather than offering a descriptive representation, the map performs as a mobile and affective practice, displaying an example for the continuum between the constructivist explanations in ontological level towards the ontogenetic stance of post-representational mapping as reviewed in the Table 2, where the content “emerges through socio-spatial practices”³⁶⁵ and maps are “suites of cultural practices involving actions and affects”³⁶⁶.

Becoming critical for a map can be considered as a broad concept that might cover any actualization of a mapping activity with subjective and critical analysis of social and cultural issues in a critical interpretation. Here, “critical cartography”³⁶⁷ is situated closely as a definition, but it has a more specific affiliation in spatial politics, often by re-mapping over existing cartographic territory (as overviewed in previous section, 3.1). The motivation is usually on the inspection of power and power relations³⁶⁸ over the deconstruction of maps³⁶⁹ when they’ve been acknowledged as social constructions³⁷⁰ or mediators of domination relations³⁷¹. When Harley’s essay acted as a reterritorializing frame of the critical genealogy on deconstruction over

³⁶⁴ Severin Halder, Karl Heyer, Boris Michel, Silke Greth, Nico Baumgarten, Philip Boos, Janina Dobrusskin, Paul Schweizer, Laurenz Virchow, Christoph Lambio, ed., *This Is Not an Atlas: A Global Collection of Counter-Cartographies*, Unchanged second edition, Social and Cultural Geography, Volume 26 (Bielefeld: transcript, 2019), 270–76.

³⁶⁵ Vincent J. Del Casino and Stephen P. Hanna, ‘Beyond The “Binaries”: A Methodological Intervention for Interrogating Maps as Representational Practices’, *ACME: An International Journal for Critical Geographies* 4, no. 1 (2005): 34–56, <https://doi.org/10.14288/acme.v4i1.727>.

³⁶⁶ Kitchin and Dodge, ‘Rethinking Maps’, 331.

³⁶⁷ Chris Perkins, ‘Critical Cartography’, in *The Routledge Handbook of Mapping and Cartography* (Routledge, 2017).

³⁶⁸ Crampton and Krygier, ‘An Introduction to Critical Cartography’.

³⁶⁹ Harley, ‘Deconstructing The Map’.

³⁷⁰ Perkins, Kitchin, and Dodge, *Rethinking Maps*, 9–10.

³⁷¹ Pierre Gautreau and Matthieu Noucher, ‘Farewell to Maps. Reformulating Critical Cartography in the Digital Age’, in *The Politics of Mapping*, by B. Debarbieux and I. Hirt, 1st ed. (Wiley, 2022), 47, <https://doi.org/10.1002/9781119986751>.

database management systems are being subject to reawakening in similar critical methodologies to reveal invisibles behind new authorities of “digital truth”³⁷⁷, however, the view to consider maps as instruments of oppression is not required anymore³⁷⁸ for being critical, as new assemblages of mapping practices emerged where maps can also become involved in creative and performative agency³⁷⁹.

Maps can become creative³⁸⁰ practices and materials with their operativity on spatial information. Most **creative maps** are also critical for their motivations. Instead of viewing the most significant capabilities of mapping as accuracy or imposition, treating it as a creative practice and experimenting with its modes of activation in the becoming of place can associate maps with an agency that reveals previously unrecognized or unimagined contents³⁸¹ from “potential yet-to-be of sites”³⁸².

For instance, James Corner’s creative mapping approach is not about merely charting physical space; it’s about challenging and expanding conventional cartographic practices. Instead of showing only fixed, spatial data, his maps become “open fields” that invite additional layers of content and interpretation³⁸³, as he describes for one of his works (see Figure 3.9):

“In Pivot Irrigators I, for instance, the USGS map is cut as a circle without scale, place names, or geographical coordinates visible; the cropping and reframing effectively deterritorializes the map and its referent. Incorporated

³⁷⁷ Jeremy W. Crampton, *Mapping: A Critical Introduction to Cartography and GIS*, 1st edition (Malden, Massachusetts: Wiley-Blackwell, 2010); Gautreau and Noucher, ‘Farewell to Maps. Reformulating Critical Cartography in the Digital Age’.

³⁷⁸ Gautreau and Noucher, ‘Farewell to Maps. Reformulating Critical Cartography in the Digital Age’, 47.

³⁷⁹ Perkins, ‘Mapping, Philosophy’, 396.

³⁸⁰ In this sense of being creative, I need to attach a reminder here: Conventional maps too has never lacked creativity. Working with technical norms, standardized projections, methods, graphical assumptions, signs and colors cannot diminish the creative value of the crafts and professions that has created this practice for centuries.

³⁸¹ Corner, ‘The Agency of Mapping: Speculation, Critique and Invention’.

³⁸² Ditte Bendix Lanng, ‘A “More-than-Representational” Mapping Study: Lived Mobilities + Mundane Architectures’, *Nordic Journal of Architectural Research*, TRANSFORMING SITE METHODOLOGIES, no. 1–2018 (2018): 156.

³⁸³ Corner, *The Landscape Imagination*, 231.

into this frame are other fragments of images such as underground aquifer maps—which are allied with the irrigation landscapes of the West—and infrared satellite photographs that capture the circular forms of different fields as temperature traces (the more recently irrigated fields coolest and therefore lightest). Satellites, too, use these temperature “fixes” to register their own location in space, and thus another circular construction is drawn to invoke both the planetary geometry of fixing location as well as the engineered geometry of the pivot irrigator field.”

For Corner, the creative mapping here is an act of both subversion and expansion, turning the map into a dynamic interface that captures the complexities of time, process, and multiple narratives. This indeed would be an approach that resonates well with the more-than-human understanding of place, and MtRTs perspective for it.

Similar to James Corner’s series “Taking Measures Across the American Landscape,” which includes the “Pivot Irrigators” work quoted here, Kathy Prendergast’s “City Drawings” series explores how mapping can be rethought in the tension between appearance and process, deliberately disabling the representational and orientational systems of classical cartography. This creative mapping approach offers a post-representational perspective which is also critical by motivation to the need to consider place with a challenging attitude against traditional location specific maps, their territory definitions, and expected requirements of hierarchical information. Instead, they are records of the author’s experience, without any usual hierarchy, political or economic significance.³⁸⁴

³⁸⁴ Denis Cosgrove, ‘Maps, Mapping, Modernity: Art and Cartography in the Twentieth Century’, *Imago Mundi* 57, no. 1 (2005): 43; also mentioned by Aslihan Senel, ‘Mapping as Performing Place’, PDF, 2014, 106..

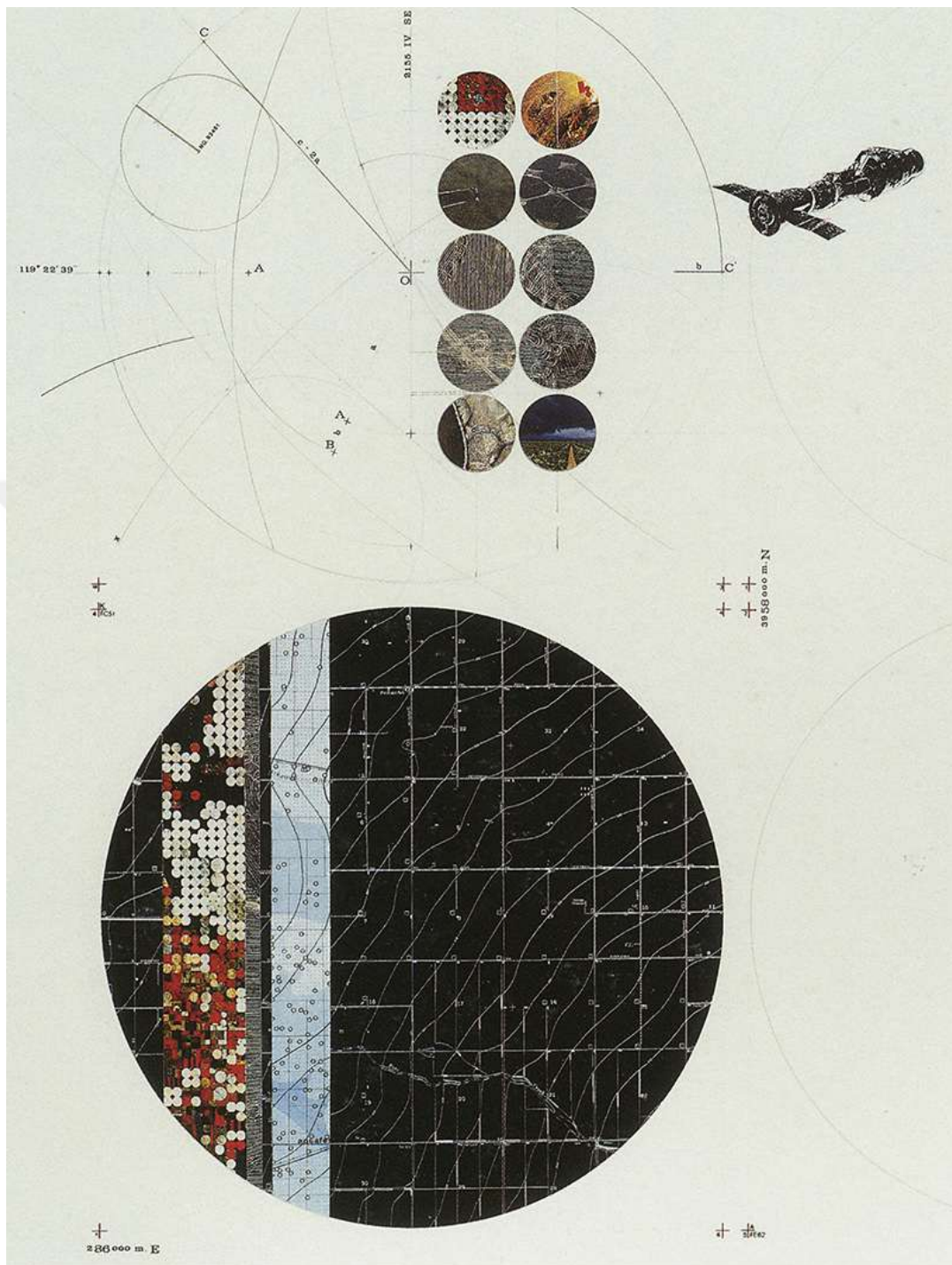


Figure 3.9. James Corner, Pivot Irrigators, 1996³⁸⁵

³⁸⁵ Corner, 232.

In Prendergast's drawings, the differences between the chaotic patterns of large cities that push the boundaries of paper, and the organic forms of smaller cities allow us to observe this process of formation intuitively³⁸⁶. These maps are not finished products, but speculative fields that reveal the city's constant transformation. At this point, we can relate to the idea of material agency in Bennett's vibrant matter concept³⁸⁷ (as also discussed in 2.3); the city is considered not only as a planned structure but also as an assemblage shaped by the movements of the material itself, the influence of nature and non-human dynamics. Prendergast's maps correlate to this new materialist thinking by implying that place is not composed of fixed identities but is constituted by a rhythm and momentum that changes over time. There, the idea is that mapping is not only a representational instrument but also a field of sensory and bodily experience, just as it was sought by more-than-representational theories³⁸⁸ for spatial practices.

Strategies, and techniques of mapping has come into play to enhance creativity of maps following the large influence of James Corner's suggested themes for "mapping as a creative form of spatio-temporal practice in urban planning and design"³⁸⁹. Many modes and functions of mapping agency were already considered in this manner with differing terminology. Some examples of mapping that are linked with creative approaches can be mentioned: mental maps³⁹⁰, narrative maps³⁹¹,

³⁸⁶ Francis Morris, 'Art Now: Kathy Prendergast: City Drawings | Tate Britain', Tate, accessed 16 February 2025, <https://www.tate.org.uk/whats-on/tate-britain/art-now-kathy-prendergast-city-drawings>.

³⁸⁷ Bennett, *Vibrant Matter*.

³⁸⁸ Michael Buser, 'Thinking through Non-Representational and Affective Atmospheres in Planning Theory and Practice', *Planning Theory* 13, no. 3 (1 August 2014): 227–43, <https://doi.org/10.1177/1473095213491744>; Thrift, *Non-Representational Theory*.

³⁸⁹ Corner, 'The Agency of Mapping: Speculation, Critique and Invention', 250.

³⁹⁰ Nancy Duxbury, W. F. Garrett-Petts, and Alys Longley, 'An Introduction to the Art of Cultural Mapping: Activating Imaginaries and Means of Knowing', in *Artistic Approaches to Cultural Mapping* (Routledge, 2018), 17.

³⁹¹ Paez, *Operative Mapping*, 142–51; Giada Peterle, 'Carto-Fiction: Narrativising Maps through Creative Writing', *Social and Cultural Geography*, n.d., <https://doi.org/10.1080/14649365.2018.1428820>.

imaginal maps³⁹², poetic maps³⁹³... Soon, such an inquiry would notice that coining definitions for mapping in creative disciplines has an unrestricted field of possibility. In this case, especially if the subject matter is mapping as art, or map artists³⁹⁴, the problem of classification for creative mapping may be considered “as a creative group process rather than as a discourse about taxonomy”³⁹⁵ as suggested for the music genres of the 21st century.

Creative mapping techniques can also manifest beyond two-dimensional formats or usual cartographic materials. For instance, Nadia Amoroso’s *Densityscape* series (see the Toronto map in Figure 3.11), transforms population density data into sculptural, three-dimensional urban landscapes. Through digital 3D modeling of geographical information and consequent CNC fabrication, the map becomes an art object to be viewed, touched, and interpreted spatially, blurring the demarcations between data, design, and poetics. These maps do not merely represent demographic information; they render it as an experiential terrain, allowing for an intuitive and affective engagement with “urban invisibles”³⁹⁶. In doing so, Amoroso’s work exemplifies the post-representational and ontogenetic tendencies outlined in Table 2, where maps act as interpretive surfaces of an alternative topography that emerge through processes of translation and materialization, rather than representations of pre-given realities.

³⁹² Gülşah Güleç, ‘Maps as the Tools of Representation and Design in Architecture’, *GRID - Architecture, Planning and Design Journal* 4, no. 1 (30 January 2021): 53–73, <https://doi.org/10.37246/grid.796513>.

³⁹³ Lena Mattheis, ‘Poetic Space: Mapping Out How Poetry Takes Place’, *Literary Geographies*, 2023.

³⁹⁴ There are several printed material published with reviews or collections of map art and map artists, see for example: Harmon, *The Map as Art: Contemporary Artists Explore Cartography*; Karen O’Rourke, *Walking and Mapping: Artists as Cartographers*, First Edition, Leonardo (Cambridge, Massachusetts: The MIT Press, 2013); Watson, ‘Mapping and Contemporary Art’; Peterle, ‘Carto-Fiction: Narrativising Maps through Creative Writing’.

³⁹⁵ Jennifer C. Lena and Richard A. Peterson, ‘Classification as Culture: Types and Trajectories of Music Genres’, *American Sociological Review* 73, no. 5 (1 October 2008): 714, <https://doi.org/10.1177/000312240807300501>.

³⁹⁶ Amoroso, 121–25.



Figure 3.10. London-n13 1997³⁹⁷, A pencil drawn subjective lineation from Kathy Prendergast's City Drawing Series.

³⁹⁷ Tate, 'Art Now: Kathy Prendergast: City Drawings – Exhibition at Tate Britain', Tate, accessed 24 August 2021, <https://www.tate.org.uk/whats-on/tate-britain/exhibition/art-now-kathy-prendergast-city-drawings>.

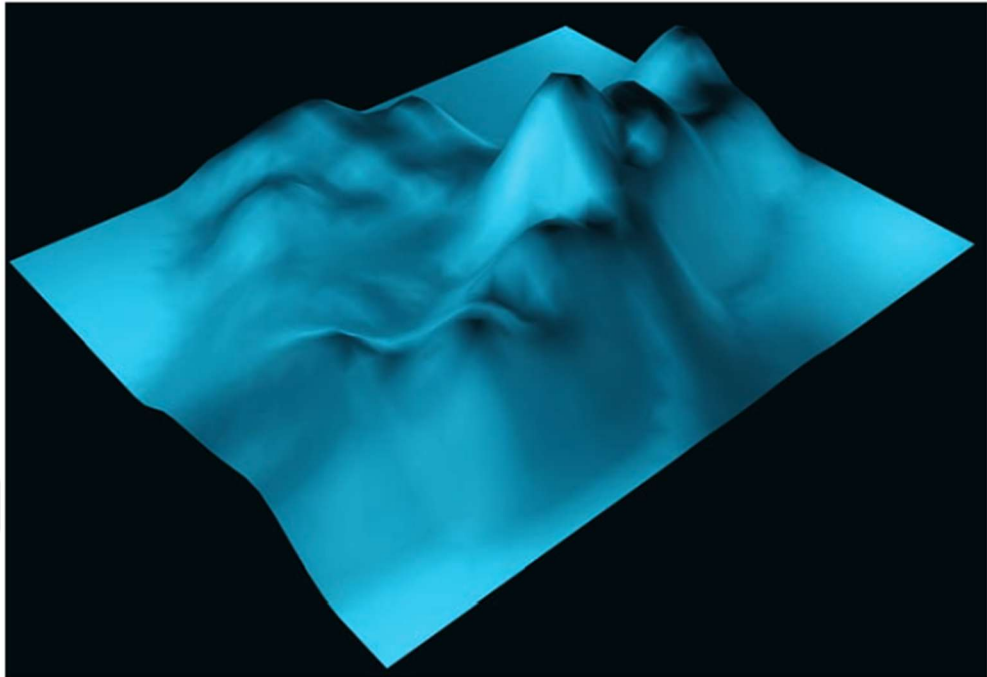


Figure 3.11. “Densityscape, Toronto” by Nadia Amoroso, above, the digital image in production; below, the “sculptural map-landscape” crafted using CNC process.³⁹⁸

³⁹⁸ Amoroso, *The Exposed City*, 124.

By the involvement of several sensors or other digital and mobile technologies, the means and mediums of creative geo-visualizations that can be interactively experienced on digital interfaces are becoming more numerous and diverse. MIT Senseable City Lab is a research initiative at the Massachusetts Institute of Technology that explores how digital technologies are transforming the way we understand, design, and live in cities. As layers of networks and real-time data increasingly fuse in urban space, the lab investigates the dynamic relationship between people, technologies, and the built environment with an “omni-disciplinary approach” the lab brings together designers, engineers, physicists, biologists, and social scientists.

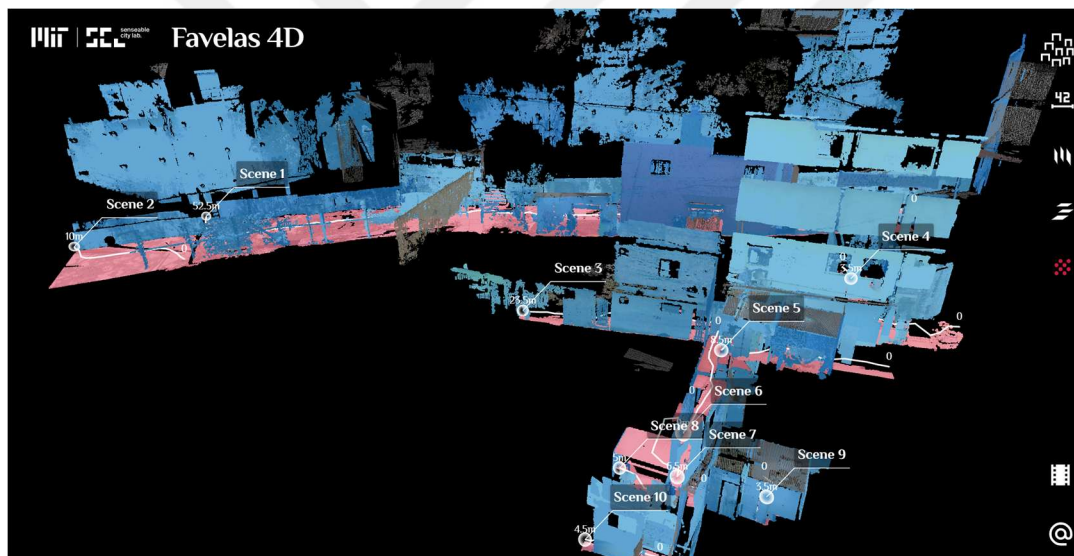


Figure 3.12. Browser interface of “Favelas 4D” project by MIT Senseable City lab³⁹⁹.

In their “Favelas 4D” project (Figure 3.12), the uncanny morphology of Rocinha, the largest favela in Rio de Janeiro, was analyzed using 3D laser scanning technology (LiDAR). LiDAR measures the return time of signals reflected from surfaces by

³⁹⁹ MIT Senseable City Lab, ‘Favelas 4D :: MIT Senseable City Lab’, accessed 19 September 2023, <https://senseable.mit.edu/favelas/>.

sending laser pulses, thus creating high-precision three-dimensional point clouds. Using the obtained data, the researchers mapped the complex and dense urbanization of Rocinha in detail⁴⁰⁰.

As the Favelas 4D project analyzes morphological features such as street widths, building heights and facade density, providing important data for areas that are inaccessible with traditional methods, and contributes to the recognition of the previously invisible spatial conditions of the approximately 100,000 people living in these areas⁴⁰¹. Both the context and interactive medium of their approach supports that maps are not just static representations, but they can also become actions of a relational agency that reveal and interpret spatial information, making them compatible with post-representational and ontogenetical understandings in Table 2. Considered as a 4D map, this project can be interpreted as a collection of “views from somewhere bound within the practices and knowledge”⁴⁰² that eventually reconstruct the territory⁴⁰³.

Performative understanding of mapping also focuses on what maps do, and how other beings encounter them, just as Judith Butler described how identities emerge through what people do rather than being determined by who they are⁴⁰⁴. Depending on action and process, mapping is seen as practice involving *operativity* and *affectivity*. This capacity of maps to simultaneously embody possibilities of still or instantaneous records, and an active, transformative process highlighting their inherent ambiguity—a quality that is only fully revealed when we consider that the act of mapping is never fixed, but continuously negotiated in practice as described in:

⁴⁰⁰ Lab.

⁴⁰¹ Lab.

⁴⁰² Tim Ingold, *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*, 1st edition (London: Routledge, 2011).

⁴⁰³ Corner, ‘The Agency of Mapping: Speculation, Critique and Invention’.

⁴⁰⁴ Mahtani, ‘Judith Butler’.

“As such, map and mapping are both representation and practice (read: performance) simultaneously. Neither is fully inscribed with meaning as representations nor fully acted out as practices.”⁴⁰⁵

Maps as performances can become “open-ended indeterminate processes that unfold and make new places”⁴⁰⁶ in a “dyadic relationship”⁴⁰⁷ where places and mapping co-transform each other in relational corporeality⁴⁰⁸.

Maps rather are understood as always in a state of becoming; as always mapping; as simultaneously being produced and consumed, authored and read, designed and used, serving as a representation and practice; as mutually constituting map/space in a dyadic relationship⁴⁰⁹.

One example of such relationality being transformed into a participatory practice is the “*Bilinmeyenler Haritası*”⁴¹⁰ (Map of unknowables) that is performed within the scope of the 4th Istanbul Design Biennial. It is a mapping collective produced by more than 30 people, mostly from architecture students and architects, also with people from different disciplines such as literature, dance and psychology, by playing games, listening, imagining, drawing and writing. In a critical, collective work process aimed at education and place practices, those who want to play the mapping, which includes half-imaginary, half-real characters and drawings and poetic narratives about urban spaces, either chose a character on the map or added a character they created themselves and had this character walk along the routes they drew within the map. They diversified their routes by reacting to the drawings or

⁴⁰⁵ Del Casino and Hanna, ‘Beyond The “Binaries”’, 36.

⁴⁰⁶ Perkins, ‘Performative and Embodied Mapping’, 127.

⁴⁰⁷ Kitchin, Perkins, and Dodge, ‘Thinking about Maps’, 22.

⁴⁰⁸ Del Casino and Hanna, ‘Beyond The “Binaries”’.

⁴⁰⁹ Kitchin, Perkins, and Dodge, ‘Thinking about Maps’, 22.

⁴¹⁰ Aslıhan Şenel et al., ‘Bilinmeyenler Haritası (Map of Unknowables)’, ed. Ela Alanyalı Aral, *Dosya, İlişkisel Bir Eylem Olarak Haritalama*, 42 (2019): 1–4.

writings they encounter. The aim of the map, which could be played individually or in groups, was to wander around the district of Beyoğlu (İstanbul) that the drawings remind and make participants imagine, actively involve in the mapping with painting, drawing and writing, and to animate individual or shared Beyoğlu imaginations⁴¹².

Map of the Unknowables offers a speculative mapping performance to reveal that place is not only a field represented by physical coordinates, but a relational space, and affective atmosphere shaped through experience, encounter and memory. The participants' joint exploration of space based on play, bodily movements and sensory interactions proves that mapping is not just a record or representation. This view provides the opportunity to observe that mapping can become an emergent performance that can be witnessed through a wide range of intra-actions. As a practice, performed through play, memory and bodily movements, it can invite participants not only to use the map but also to be a part of it, positioning itself as an assemblage of relational agency.

Drawing from this discussion on the dynamic processuality between place-representation, and process-practice, the temporal dimension of mapping emerges as a crucial aspect—revealing how past memories, present actions, and future potentials are continuously entwined in its performative practice. Hence, one of the peculiar qualities of performative mapping is its ability to exhibit non-linear behavior in time. In other words, memories of the place experienced in the past can create virtual potential that can be actualized in the experience of the place in the present or in the future through the mediation of the mapping performance. Or in the sense of a performative map can deliberately or in a non-explicit way is an open-ended process of ongoing actions.

⁴¹² The process of this mapping performance is translated and paraphrased from authors own narrative that is originally in Turkish, from Şenel et al.

Mapping can also become projective by adding critical, creative, transformative forces on the informative, descriptive capacities of cartography, or on the structural quantitative content of current geo-information technologies. When this situation is described on a scalar understanding that can position mapping and maps in different temporalities, it offers us a vectoral range that is formed between retrospective to prospective. Furthermore, mapping for more-than-representational theories perspective can be seen as a way to engage with the multiplicity and complexity of spatial experiences. Tania Rossetto highlights that mapping can reveal the multiple layers and temporalities of space, offering insights into how spaces are continuously produced and reproduced through social practices⁴¹³. This approach allows for an understanding of *patial agency* that can't be examined in static representations, but can be relational by acknowledging the fluid and contingent nature of spatial phenomena that is in constant transformation between *deterritorialization* and *reterritorialization* processes⁴¹⁴.

This section has demonstrated that post-representational mapping can become a performance that involves in and contributes to the dynamic, multi-layered and interactive assemblages of more-than-human places, rather than fixed representations. And it is also aimed to display the departure points for many possible associations between discourses of post-representational cartography and other more-than-representational theories. While maps emphasize the temporality and transformation of spatial practices by making invisible dynamics visible, they might also enable the intra-activity of relational agency through critical and creative approaches.

⁴¹³ Tania Rossetto, 'Semantic Ruminations on "Post-Representational Cartography"', *International Journal of Cartography* 1, no. 2 (3 July 2015): 151–67, <https://doi.org/10.1080/23729333.2016.1145041>.

⁴¹⁴ DeLanda, *A New Philosophy of Society*, 12–28.

3.3 Maps Mediating Assemblages: Performing in Affective Atmospheres

This section will continue exploring the agency of mapping while performing in affective atmospheres of place, from where the previous part left off. Examples of mapping that were studied while experiencing encounters throughout the research on how mapping as a performance can acquire a mediator role in the communication of the agency - between human and non-human minds - that emerges with the place will be discussed.

Mapping, when considered a multi-layered process that penetrates the multisensory and emotional atmosphere of a place (see 2.1) as a performative agency, the overlapping capacities inferred by the concepts of performance, embodiment, affect, and practice allow the map itself to emerge as an atmosphere. Maps not only represent the affective assemblage of the place, but also allow that assemblage to be embodied and reproduced. Thus, while the practice of mapping reveals the relational connections between spatial elements, it reterritorializes the onflow of the happenings by interacting with the bodies, emotions and perceptions of those who experience it.

More-than-representational theories offer a distinctive lens on mapping process because they emphasize lively and process-oriented aspects of spatial phenomena, which deliberately contrasts with traditional representational understandings that often dwell on fixed and essential properties⁴¹⁵. Such fluid, performative, and experiential aspects of places as affective atmospheres can be captured and practiced by mapping performances. Mapping may engage in narratives that include embodiment within a spatial practice. They can relate not only to the cognitive operations of the mind but also to pre-cognitive and emotional components of performing places. Moreover, mapping is not limited to visual representation only,

⁴¹⁵ Lorimer, 'Cultural Geography', February 2005; Vannini, 'Non-Representational Research Methodologies An Introduction'.

but it can include different sensory and experiential dimensions. How mapping can incorporate auditory, tactile or other sensory experiences, thus provide a more inclusive perspective⁴¹⁶ resonates with a wider aim of more-than-representational theories to capture the richness of the onflow and variation of place experiences.

In addition, maps assume a mediating role in translocal behavior, by transferring this experienced affective atmosphere to other actors who are not physically present but are subject to the effect of that atmosphere. In this respect, mapping can be evaluated as an atmospheric method⁴¹⁷ used to reveal the principles of relationality and processuality put forward by more-than-representational theories and the invisible, temporary and multi-dimensional aspects of the environment.

As an atmospheric method, it can be employed to experiment with the connections and interactions between different spatial elements, emphasizing the relational nature of places, materiality and agency. This perspective suggests that mapping can be used to uncover the hidden and often overlooked aspects of spatial practices⁴¹⁸, providing a more inclusive understanding - that is also free for being insignificant - of how places are living. Mapping can be engaged in multi-layered⁴¹⁹, rhizomatic⁴²⁰ and relational dynamics, operating with tactics and modes that strengthen *patial agency*.

The Table 3 below synthesizes key concepts from more-than-human understandings of place, the performative practices they enable, and the ways in which post-

⁴¹⁶ Daniel Casebeer and Jessica Mann, 'Mapping Theories of Transformative Learning', *Cartographica: The International Journal for Geographic Information and Geovisualization* 52, no. 3 (September 2017): 233–37, <https://doi.org/10.3138/cart.52.3.3956>.

⁴¹⁷ Ben Anderson and James Ash, 'Atmospheric Methods', in *Non-Representational Methodologies: Re-Envisioning Research*, by Phillip Vannini (Routledge, 2015), 34–51.

⁴¹⁸ L. Cadman, 'Non-Representational Theory/Non-Representational Geographies', in *International Encyclopedia of Human Geography* (Elsevier, 2009), 456–63, <https://doi.org/10.1016/B978-008044910-4.00717-3>.

⁴¹⁹ Matthew Gandy, 'Urban Atmospheres', *Cultural Geographies* 24, no. 3 (1 July 2017): 353–74, <https://doi.org/10.1177/1474474017712995>.

⁴²⁰ Doina Petrescu, 'Relationscapes: Mapping Agencies of Relational Practice in Architecture', *City, Culture and Society*, Traceable Cities, 3, no. 2 (1 June 2012): 135–40, <https://doi.org/10.1016/j.ccs.2012.06.011>.

representational mapping can support these processes by blending previous Table 1 and Table 2. Drawing on the tenets of Non-Representational Theory (as outlined by Thrift⁴²¹ and Vannini), the first column lists relational, affective, and emergent qualities attributed to place. The second column identifies how practices — when understood through a more-than-representational lens — can operate within and through places as considered such. Finally, the third column connects these insights to post-representational conceptions of cartography, emphasizing the critical, creative, and performative capacities of maps to engage with affective atmospheres, relational dynamics, and the ephemeral moments of everyday life.

If mapping is literally a physical and mental performance of interacting with the place; like walking, it might become by an embodied movement within the world, assembling encounters and unfolding them. Tim Ingold views walking not only as a physical act but also as a mental and creative process⁴²². He sees walking, like writing and reading, as a way of interacting with the world. In Ingold's perspective, the boundaries between the mental and physical environments are blurred; as activities such as walking, writing and reading involve a constant interaction between the imagination and the material world through movements.

Among the mapping examples mentioned in the literature, Karen O'Rourke's book "Walking and Mapping: Artists as Cartographers" offers a comprehensive review for those specific in relation to walking. With a performative agenda, O'Rourke has followed and presented cases where walking turns into mapping.⁴²³ One of the examples O'Rourke examined⁴²⁴ was anthropologist Barbara Glowczewski's interactive map in a CD-ROM format published by UNESCO together with the book

⁴²¹ Thrift, *Non-Representational Theory*; Vannini, 'Non-Representational Research Methodologies An Introduction'.

⁴²² Ingold, *Being Alive*, 196–98.

⁴²³ O'Rourke, *Walking and Mapping*. Unfortunately, the copy of this book that I was able to review had very poor-quality images.

⁴²⁴ O'Rourke, 118–22.

Table 3. Compared conceptions of more-than human place, more-than-representational practices, post-representational mapping to

More than human understanding of place is discussed as	Practices can perform within places by a more-than-representational understanding by*	Mapping / maps according to post-representational views, can support these efforts by**:
relational assemblage rhizome affective atmosphere contingent complex processual becoming emergent eventual indeterminate ambiguous agential living hybrid more-than-human actor-network intra-activity	capturing the onflow of everyday life considering pre-individual focusing on practice, action and performance rejecting ontological separations through relational materialism aspiring to be experimental attaching importance to bodies, affect, emotion, intensities, and ephemeral phenomena suggesting an ethic of novelty built on what is happening	their critical , creative, performative capacities to: relate the affective atmospheres of places within them as: <i>“views from somewhere bound within the practices”</i> <i>“histories in movements”</i> “both representations and socio-spatial practices that do work in the world” <i>“by involving actions and affects”</i> <i>“emerging in process through of-the moment; transitory, fleeting, contingent, relational and context-dependent behavior”</i>
	* Cited after the tenets of Non-Representational Theory as stated by Thrift, and Vannini (See Table 1)	** Cited from several references in Table 2

with the same name. In this work, Glowczewski compiled the works of Aboriginal people, who continued their traditional rituals and followed the traces of their journeys in the desert on cognitive maps that they diversified with their artistic creativity, with a collection that imitates their understanding of mapping in the digital environment. Sure, we can consider indigenous mapping art as the earliest known examples of embodied mapping performances situated within place. This resonates with Ingold's description of maps as "views from somewhere bound within the practices and knowledge of their makers" (Table 2), and aligns with the ontogenetic qualities of emergent mapping interpreted in Table 3.

Way finding relies on an embodied encounter that recognizes past experiences. There has also been thorough documentation of the interactions between indigenous cultural practices and Western colonial mapping methods. In numerous instances, evidence of other traditions has only been preserved through these encounters. Current ethnographic studies on indigenous performance maps are now exploring the symbolic connections between maps and cultural traditions, rather than solely focusing on navigation. Researchers are now looking at how stories about the world are connected to corporeal spatial activities, such as Aboriginal mapping in Australia involves varying understandings of time and space. Lines of song, or the paths left by the ancestors' Dreaming, are honored and passed down through art, dance, and storytelling⁴²⁵.

The field of psychogeography, which O'Rourke recommends as a toolbox on how to read her book, is most clearly associated with the technique of drift in mapping literature⁴²⁶, mostly by affiliation to situationists' works beginning from 1950s.

⁴²⁵ Perkins, 'Performative and Embodied Mapping', 128–29.

⁴²⁶ Denis Wood, 'Lynch Debord: About Two Psychogeographies', *Cartographica: The International Journal for Geographic Information and Geovisualization* 45, no. 3 (September 2010): 185–99, <https://doi.org/10.3138/carto.45.3.185>; Corner, 'The Agency of Mapping: Speculation, Critique and Invention'.

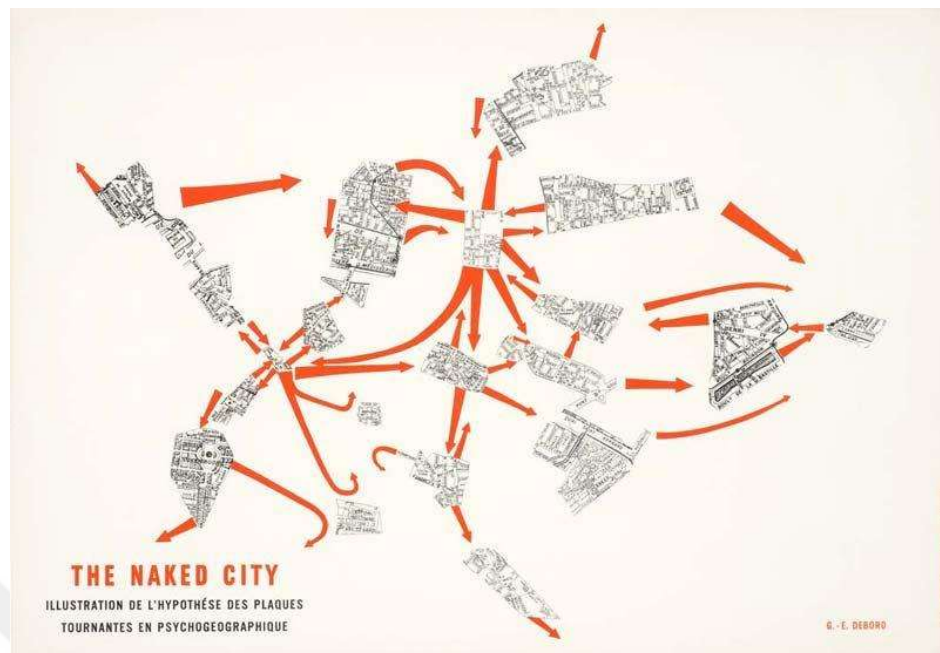


Figure 3.14. The Naked City, Guy Debord 1953

Guy Debord's situationist map for Paris named Naked City in which "the fragments of the map were carefully trimmed to include all streets which contribute to a particular local ambience, and rotated and separated to emphasize the smooth drifting journeys between them along the psychogeographical slopes represented by the arrows"⁴²⁷ Guy Debord suggested engaging in psychogeographical encounters with the city by participating in *dérives*, or drifts, which involved wandering through urban spaces and creating spontaneous and imaginative experiences that disrupted the structured modernist concept of the city. Situationist maps were released as collages, fragmented, multimedia alternatives to the omniscient pictorial image they were distorting. These mapping acts exemplify what Wood and Fels⁴²⁸ describe as

⁴²⁷ Quentin Stevens, 'Situationist City', in *International Encyclopedia of Human Geography*, ed. Rob Kitchin and Nigel Thrift (Elsevier, 2009), 154, <https://www.sciencedirect.com/science/article/abs/pii/B9780080449104010786>.

⁴²⁸ Denis Wood and John Fels, 'The Natures of Maps: Cartographic Constructions of the Natural World', *Cartographica: The International Journal for Geographic Information and Geovisualization* 43, no. 3 (September 2008): 189–202, <https://doi.org/10.3138/carto.43.3.189>.

“maps as constructions that produce the world” (Table 2), where mapping becomes a tool of urban imagination rather than a passive reflection.

This performative mapping strategy has continued to spark urban resistance to this day. Artists engage in various mapping encounters through enactment and performance⁴²⁹. Denis Wood⁴³⁰ re-reads the drift technique over Situationist explanations to describe it as:

“A mode of experimental behavior linked to the condition of urban society: a technique of transient passage through varied ambiances.” Situationists used “ambiance” to refer to the feeling or mood associated with a place, to its character, tone, or to the effect or appeal it might have; but they also used it to refer to the place itself, especially to the small, neighborhood-sized chunks of the city they called “*unités d’ambiance*” or unities of ambiance, parts of the city with an especially powerful urban *atmosphere*.”

Drift, as a method of encountering place by embodied movement, has long been referred in psychogeography, where the act of walking becomes a means of disrupting the rigid, functionalist cityscape and engaging with its affective atmospheres⁴³¹. Walking, or wandering around, in this sense, becomes a performative mediation, where places unfold relationally through movement by an precognitive causality as Plant describes:

“To derive was to notice the way in which certain areas, streets, or buildings resonate with states of mind, inclinations, and desires, and to seek out reasons for movement other than those for which an environment was designed.”⁴³²

⁴²⁹ Perkins, ‘Performative and Embodied Mapping’; Corner, ‘The Agency of Mapping: Speculation, Critique and Invention’.

⁴³⁰ Wood, ‘Lynch Debord’, 186–87.

⁴³¹ Perkins, ‘Performative and Embodied Mapping’; David Pinder, ‘Subverting Cartography: The Situationists and Maps of the City’, *Environment and Planning A: Economy and Space* 28, no. 3 (March 1996): 405–27, <https://doi.org/10.1068/a280405>; Stevens, ‘Situationist City’.

⁴³² Sadie Plant, *The Most Radical Gesture: The Situationist International in a Postmodern Age* (London and New York: Routledge, 1992), 59.

While Guy Debord and psychogeographers were investigating how the spatial order in the city guides the behavior of individuals and how this can be disrupted, they developed a conscious practice of deviation and discovery against this guidance with this mapping technique. This process also served as a kind of intuitive mapping of the way the individual experiences urban space and their orientations.

"While the psychogeographical drift aims to reveal the effects of space on individual experience, Christian Nold's "biomapping" method emphasizes that this experience is not merely a mental or intentional process, but also a bodily and emotional one. Nold's approach blends the drift's subjective exploration method with biometric data, revealing the impact of the urban environment on human mood through measurable metrics as a map layer⁴³³.

Christian Nold's "Emotion map of Stockport" project is a collective bio-mapping, as an example of joining *embodiment* and *affectivity* with sensors and digital technology⁴³⁴. In this project, Nold designed biomapping technologies by combining GPS and biosensors to create collective emotional mapping. Participants supplemented the data measured by the sensors by writing down their feelings about their current experiences, resulting in maps that combined biological data with subjective mood records. This approach reflects the post-representational view of maps as "suites of cultural practices involving actions and affects"⁴³⁵ (see Table 2), and entangles with the "embodied," "agential," and "affective" dimensions emphasized in Table 3. For Nold's projects, the map can be considered as a mediator that reveals a *polygraphic site* where participants biometrics coalesced with verbal expressions, sketches and wayfinding movements.

⁴³³ Perkins, 'Performative and Embodied Mapping'.

⁴³⁴ Christian Nold, 'Bio Mapping: How Can We Use Emotion to Articulate Cities?', 2018.

⁴³⁵ Kitchin and Dodge, 'Rethinking Maps'.



Figure 3.15. Christian Nold's bio-mapping project "Emotion map of Stockport"⁴³⁶

As Gherardi stated, practices are processes that become by knowledge and interactions through time and space⁴³⁷. In this regard, *mnemonic* experiences can be considered to have a vital role in spatial practices where they can contribute to a creative agency through *relationality* within place. Therefore, mapping is seen as a post-representational performance that reanimates the spatial memory into practices that can relate to places⁴³⁸.

James Attlee's project "The Cartographer's Confession," created for Ambient Literature, offers a narrative set-in post-war London with historical events from that era. Attlee uses photographs from the 1940s and 50s as a narrative tool, situating the story in real locations that guide the development of the plot. The app combines fiction with non-fiction elements, allowing users to experience multiple time periods and perspectives simultaneously, enhancing the sense of time travel through soundscapes and diverse media forms. The narrative revolves around two key protagonists, a German refugee, and a local who provides a crucial connection to the

⁴³⁶ Gavin MacDonald, 'Bodies Moving and Being Moved: Mapping Affect in Christian Nold's *Bio Mapping*', *Somatechnics* 4, no. 1 (March 2014): 108–32, <https://doi.org/10.3366/soma.2014.0115>.

⁴³⁷ Silvia Gherardi, *How to Conduct a Practice-Based Study: Problems and Methods* (Cheltenham, UK: Edward Elgar Publishing, 2014), 9.

⁴³⁸ Giuliana Bruno, *Atlas of Emotion: Journeys in Art, Architecture, and Film* (New York: Verso, 2007).

city's past. Their stories intertwine with significant historical and personal events, which are vividly brought to life through the app's immersive experience, combining fiction with elements of reality in a rich multimedia environment⁴³⁹.

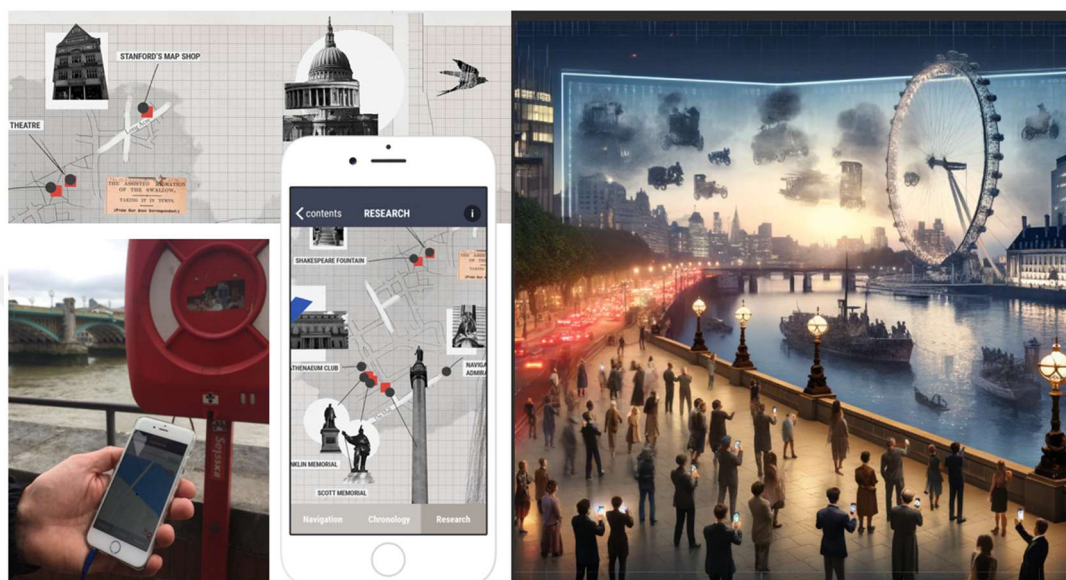


Figure 3.16. James Attlee's mapping performance "Cartographer's Confession" accessed through a GPS-sensitive mobile-app (Left)⁴⁴⁰. Dall-E generated image of the urban atmosphere affected by the dialogue on this mapping with ChatGPT(Right)

This engagement with layered memory structures follows the connection between the idea of maps as "histories in movements"⁴⁴¹, and how they can interact with "mnemonic," "eventual," and "emergent" place qualities listed in Table 3. Attlee's mapping performance is significant for two aspects. First it offers a post-

⁴³⁹ 'Writing the City: James Attlee Explains His Approach to His First Ambient Literature Commission – Ambient Literature'.

⁴⁴⁰ 'Writing the City: James Attlee Explains His Approach to His First Ambient Literature Commission – Ambient Literature', accessed 24 August 2024, <https://research.ambientlit.com/index.php/2017/07/22/writing-the-city-james-attlee-explains-his-approach-to-his-first-ambient-literature-commission/>.

⁴⁴¹ Ingold, *Being Alive*.

representational mapping that is liberated from the usual mediums of cartography by embracing movement, gaining *embodiment* in a real time location-aware *relationality* with the city.

Here, this set of encounters enables us to discuss several connections in relevant texts about *mnemonic* experiences, and how they can be subject to performative mapping. Deleuze defends a rejection of difference based on identity and resemblances, instead, he follows Bergson's scheme of creative evolution and memory⁴⁴². There, several sections of the cone – a larger collection of memories –coexist simultaneously as a multiplicity of virtual sections each corresponding to a *mnemonic experience* that can be actualized into potential alternatives of solving a problem in a creative process of differentiation⁴⁴³.

Each section diverges from others in repetition through the ordering of relations and “distribution of singular points”, becoming actualized by “divergent lines”⁴⁴⁴. This interpretation of Deleuze on Bergsonian memory scheme can be associated with the mapping's *platial agency* that extends beyond representation to become a creative performance that acts in the actualization of virtual in difference. The idea of each *mnemonic* experience co-exists as virtual and affective orders of relations can be experimented on mapping in a meaning crosses from literal and metaphorical territory to a spatial and experiential dimension (see for instance the second workshop summarized in 5.2). We can define such a mapping process as an "emotional mapping", which shows how the virtual can be recreated in the textual and virtual realm through memory, by bringing together emotional and spatial layers, as emphasized by Giuliana Bruno in her work “Atlas of Emotion”⁴⁴⁵. Bruno explains how such processes trigger spatial memories and how they might reconfigure it while exploring a diverse and captivating landscape while delving into the domains of

⁴⁴² Deleuze, *Difference and Repetition*, 212–13.

⁴⁴³ Deleuze, *Difference and Repetition*.

⁴⁴⁴ Deleuze, 212.

⁴⁴⁵ Bruno, *Atlas of Emotion*, 114, 221–23.

cartography, geography, art, architecture, design, and film. However, the maps that were created here should also be considered as mental maps⁴⁴⁶ over "image of the city"⁴⁴⁷, conveying cognitive operations from memory but also mediating pre-cognitive images from the spontaneous collaborative performance of human and non-human participants.

As Attlee's project focuses on memories of the same place in different times, it is possible to encounter examples that revisit the same place in different times by mapping like Larisa Fassler did. Post-representational mapping is an active process that shapes and is shaped by the spatial practices it involves⁴⁴⁸. This aligns with the idea that maps can be used to explore the performative and affective dimensions of place, capturing the lived experiences and practices that constitute spatial realities. Unlike conventional cartographic projections, mapping does not impose a view from above and can become with perspectives that are much more supportive of subjective experiences, freed from claims of objectivity. Larissa Fassler's maps are cases of mapping performances that distort the top view and cartographic projections, with operations inserting embodied viewpoints within place onto overlapping perspectives where scale and proportions are not following physical accuracy (see Figure 3.17). These works embody what Pickles⁴⁴⁹ refers to as "maps as unstable and complex texts" (Table 2), while enacting a "living," "ambiguous," and affectively charged spatial agency (Table 3).

⁴⁴⁶ Peter Gould and Rodney White, *Mental Maps* (London and New York: Routledge, 1986), 1.

⁴⁴⁷ Kevin Lynch, *The Image of the City* (Cambridge, Massachusetts ; London, England: The MIT Press, Massachusetts Institute of Technology, 1996); John R. Gold, 'Kevin Lynch', in *Key Thinkers on Space and Place*, ed. Phil Hubbard and Rob Kitchin, Second edition (Los Angeles, Calif.: SAGE Publications Ltd, 2010), 292–98.

⁴⁴⁸ Kitchin, 'Post-Representational Cartography'; Perkins, 'Mapping, Philosophy'.

⁴⁴⁹ Pickles, *A History of Spaces*.

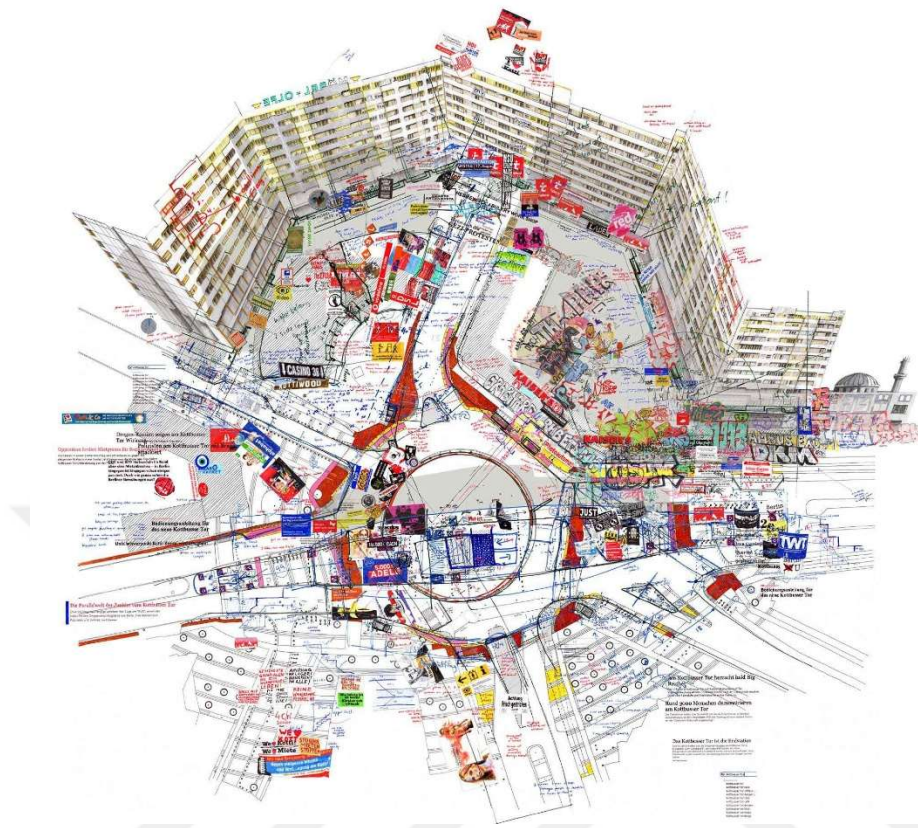


Figure 3.17. Larissa Fassler, Kottbusser Tor, 2008, 2010, 2014.⁴⁵⁰

A method for studying larger collections of creative maps in the same urban contexts (neighborhood, district, town, city, etc.) is suggested to enhance generative AI's imagining of urban atmospheres as another attempt to experiment on encounters with multiplicity, complexity, and temporalities of places. This approach is primarily influenced by the recent attention on studying urban phenomena with AI's involvement by assemblage thinking as a methodology⁴⁵¹. In this sense, the types of mapping collections mentioned might be seen both as assemblages that can form

⁴⁵⁰ Larissa Fassler, 'Larissa Fassler', accessed 24 August 2024, http://www.larissafassler.com/kottidraw_1.html. Following a failed redevelopment plan at Kottbusser Tor in Kreuzberg, a monolithic architectural project at the transport hub (NKZ) was never fully completed. In her mapping performances, Fassler aimed to reveal how the area was appropriated by the community living there as "where redevelopment has failed, repurposing has triumphed"

⁴⁵¹ Yu-Shan Tseng, 'Assemblage Thinking as a Methodology for Studying Urban AI Phenomena', *AI & SOCIETY* 38, no. 3 (1 June 2023): 1099–1110, <https://doi.org/10.1007/s00146-022-01500-4>.

places within themselves and as heterogeneous components that affect the formation and find meaning in the assemblage dynamics of real-world spaces in which they encountered.

Places are not bound to just a single identity and perception; the same place can be re-explored through multiple mappings that perform on different experiences, memories, and creative practices. In this way, the multiplicity of mapping approaches may promise creative and projective contents for conversations for emerging platial agency among human and non-human actants, about the ever-evolving and layered narratives of space. They could open new unexpected instants of discovery into the memories and experiences of that place, while becoming new assemblages coalescing around their worlds.

Similar to how any place, in any scale or size, is explained by the concept of assemblage for this study, cities are often thought as assemblages⁴⁵². In this sense, collections containing many creative maps about the same city are thought of as opportunities for the mapping examples considered for experimentation with AI participants within the scope of the thesis.

Bringing together multiple maps of the same city offers an explicit condition for exploring relationality, processuality, and agentiality in mapping practices. Each map embodies a different way of engaging with place, revealing how spatial experience is an ongoing and dynamic negotiation. As a collection, these maps, in turn, do not merely represent the city but are actively involved within its becoming, as they might territorialize in new connections, assemble emerging spatial narratives, and transform the ways in which place is known and experienced.

⁴⁵² Colin McFarlane, 'The City as Assemblage: Dwelling and Urban Space', *Environment and Planning D: Society and Space* 29, no. 4 (1 August 2011): 649–71, <https://doi.org/10.1068/d4710>; Dovey and Ristic, 'Mapping Urban Assemblages'; Martin Müller, 'Assemblages and Actor-Networks: Rethinking Socio-Material Power, Politics and Space', *Geography Compass* 9, no. 1 (2015): 27–41, <https://doi.org/10.1111/gec3.12192>.

A multiplicity of mappings of a single place forms an assemblage of narratives, each embedded with its own performative capacity, together becomes a performative collective. Rather than being traces of moments, these maps might behave as material-discursive components in the assemblage of the city itself, shaping its perception, influencing future spatial imaginaries, and participating in its affective and lived experience. By accumulating different perspectives, they mediate place not just as an external site to be mapped but as an affective atmosphere, intensifying the lived experience of the city by layering diverse spatial encounters.

In this sense, two examples were studied among publications that are collections of numerous creative maps about a city. The first of these is Katherine Harmon's book "You Are Here: NYC: Mapping the Soul of the City", a collection of two hundred maps of New York City produced at various dates, for various purposes, with various media and techniques. Harmon explains her preference for compiling maps of NYC as below:

“New York has no shortage of inventive thinkers who make excellent cartographers. Each act of creative cartography reflects both the state of mind of the mapper and the state of the city. And each contributes another page to a giant, ever-accumulating atlas of New York—an atlas as big as the city’s self-regard. Perhaps, in the end, what makes the city the most mapped metropolis in the world is that it offers complete cartographic liberty. In New York, nothing is to scale.”⁴⁵³

This multiplicity might allow a more intensified engagement with the affective atmospheres as each mapping captures particular emotional, sensory, and atmospheric conditions. When considered collectively, they do not simply depict variations of a city but amplify its experiential intensity, creating an interface where the everyday materialities, embodiment, emotions, and flows of the city can be more

⁴⁵³ Katharine Harmon, *You Are Here: NYC: Mapping the Soul of the City* (New York: Princeton Architectural Press, 2016), 19.

deeply grasped. Although Harmon states that this collection is a result of a motivation about giving up cataloging maps in groups and moving on choices⁴⁵⁴, she still offers six categories by theme. However, here the selection of examples is more influenced by the intertwined definitions mentioned in the introduction, of “means and end”⁴⁵⁵ for why these maps happened. Among those maps curated by Harmon, four modes of contents are going to be mentioned here.

The first of those modes is what Harmon refers as maps of “interactive conceptual artists”⁴⁵⁶. Nobutaka Aozaki’s assemblage work of hand-drawn maps⁴⁵⁷ “From Here to There (Manhattan)” is discussed here for it is an example where wayfinding emerges as performance of the place, bodies, and encounters in which as the artist himself explains:

“Pretending to be a tourist by wearing a souvenir cap and carrying a shopping bag of Century 21, a major tourist shopping place, I ask various New York pedestrians to draw a map to direct me to another location. I connect and place these small maps based on actual geography in order to make them function as parts of a larger map.”

The hand-drawn maps come together to form an ever-expanding assemblage, where that mapping becomes not merely a record but a performative and interactive process. This assemblage of everyday directions exemplifies a more-than-representational practice emerging in process through of-the-moment; transitory, fleeting, contingent, relational and context-dependent behavior (as referred in Table 3). Aozaki’s work centers wayfinding as an interactive everyday practice, showing the way of how place knowledge can be gained through embodied encounters by movement, speaking, gestures, and sketching.

⁴⁵⁴ Harmon, 14.

⁴⁵⁵ Harmon, 17.

⁴⁵⁶ Harmon, 17.

⁴⁵⁷ Harmon, 18.



Figure 3.18. Nobutaka Aozaki's 2012–ongoing map assemblage “From Here to There (Manhattan)”, accessed from artists’ own website⁴⁵⁸ on 10.08.2024, (collaged here with zoom-in detail and photo documentation of Yuriko Katori)

Wayfinding, as it is also studied over indigenous mapping traditions as discussed previously (see Aboriginal maps for instance⁴⁵⁹), can become a performative mapping practice. This relational mode of place experience also overlaps with the processual definitions of place. Take Ingold’s emphasis on “wayfaring” for instance: For Ingold the entwined trails emerge on embodied experience of these perambulatory movements become lines of wayfaring that ties places by “through, around, and from them”⁴⁶⁰. (We may also consider Massey’s emphasis on routes, as mentioned in 2.2). Such maps can become a translatative mediator between old and

⁴⁵⁸ Nobutaka Aozaki, ‘From Here to There (Manhattan)’, 2012, <https://www.nobutakaaozaki.com/maps.html>.

⁴⁵⁹ Barbara Glowczewski, ‘Dream Trackers: Yapa Art and Knowledge of the Australian Desert’, *Anthropology of Consciousness* 15, no. 2 (September 2004): 69–70, <https://doi.org/10.1525/ac.2004.15.2.69>.

⁴⁶⁰ Ingold, *Being Alive*, 148–49.

new kinds of spatial awareness – as in the meaning Thrift calls in new “movement-space”⁴⁶¹. A mediator that can reveal the affective dimensions from mundane contexts of an old kind of “movement-space”, to the new kinds, a means of human to express their ordinary ways of inhabiting the world to non-human minds. Therefore, Aozaki’s assembling of maps and similar examples are included for this research in the samples that are encountered by and studied by LLM participants.

Katherine Harmon grouped some of the maps she collected in the part “a beautiful catastrophe”. Most of the examples she discussed in that section are maps that reveal the hidden or neglected ecology(-ies) of place by foregrounding contents and actants that remained less visible otherwise. These mapping motivations can be interpreted as reterritorialization efforts for components that are overshadowed by prevalent spatial representations - but can be revealed from the experience or temporality of places.

For instance, Simoneta Moro’s mapping practice presents an approach that reveals the dissolved assemblages of the city, showing that maps can be read not only as a means of representation but also as a temporal path. For the “Crossing Prospect Expressway” (See Figure 3.19) She builds different historical layers on top of each other to emphasize that place is a process of formation that is constantly rewritten, subject to change, and in which social memory might be erased and re-engraved just as assemblage theory helps explaining how urban assemblages deterritorialize⁴⁶² (also see 2.2).

⁴⁶¹ Nigel Thrift, ‘Movement-Space: The Changing Domain of Thinking Resulting from the Development of New Kinds of Spatial Awareness’, *Economy and Society* 33, no. 4 (November 2004): 582–604, <https://doi.org/10.1080/0308514042000285305>.

⁴⁶² Buser, ‘Thinking through Non-Representational and Affective Atmospheres in Planning Theory and Practice’; Dovey and Ristic, ‘Mapping Urban Assemblages’.

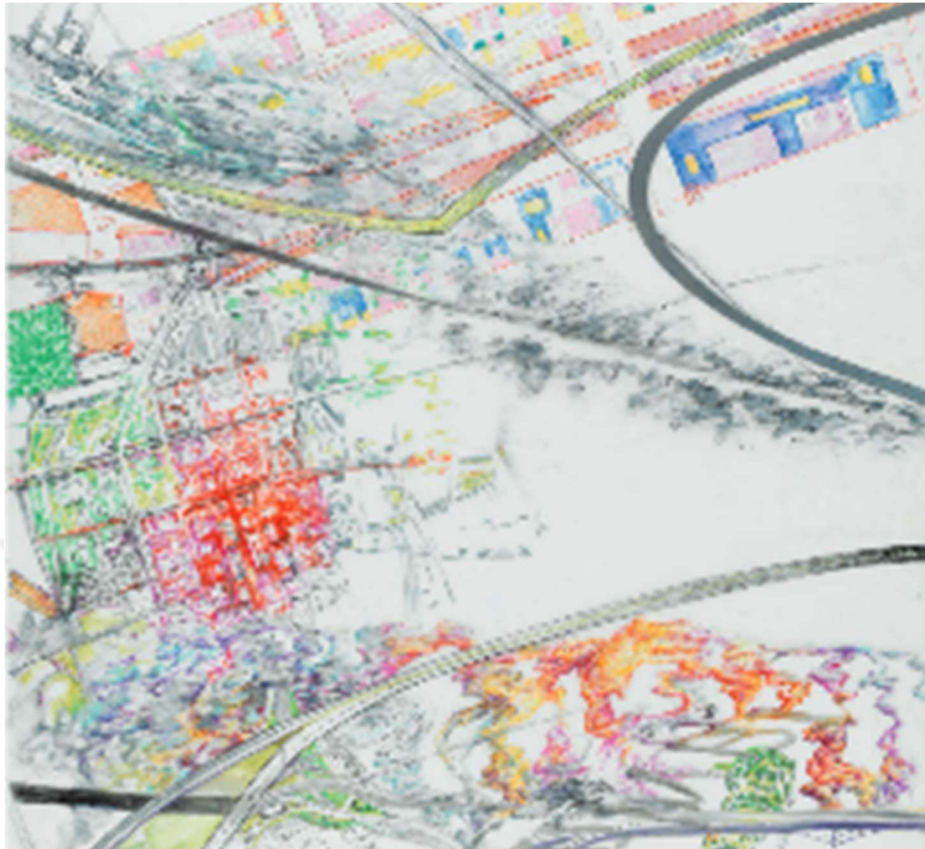


Figure 3.19. Simonetta Moro, drawing from the series, Crossing Prospect Expressway, 2015 (detail) as cited in *You Are Here: NYC* by Harmon

As Moro emphasizes, under the impacts of industrialization, infrastructure projects and “development”, urban space is shaped by certain actors and the spatial traces of the past become obscure. In this sense, it also directly connects with Harley’s critique of maps as a tool of power and spatial management⁴⁶³. Here, mapping becomes a practice of archaeological exploration that rediscovers traces of the past rather than erasing them. In this context, Moro’s work offers a mapping strategy that is also compatible with the concepts of relational and affective atmosphere that are discussed in the Chapter 2.

⁴⁶³ J. B. Harley, ‘Silences and Secrecy: The Hidden Agenda of Cartography in Early Modern Europe’, *Imago Mundi* 4 (1988): 57–76.

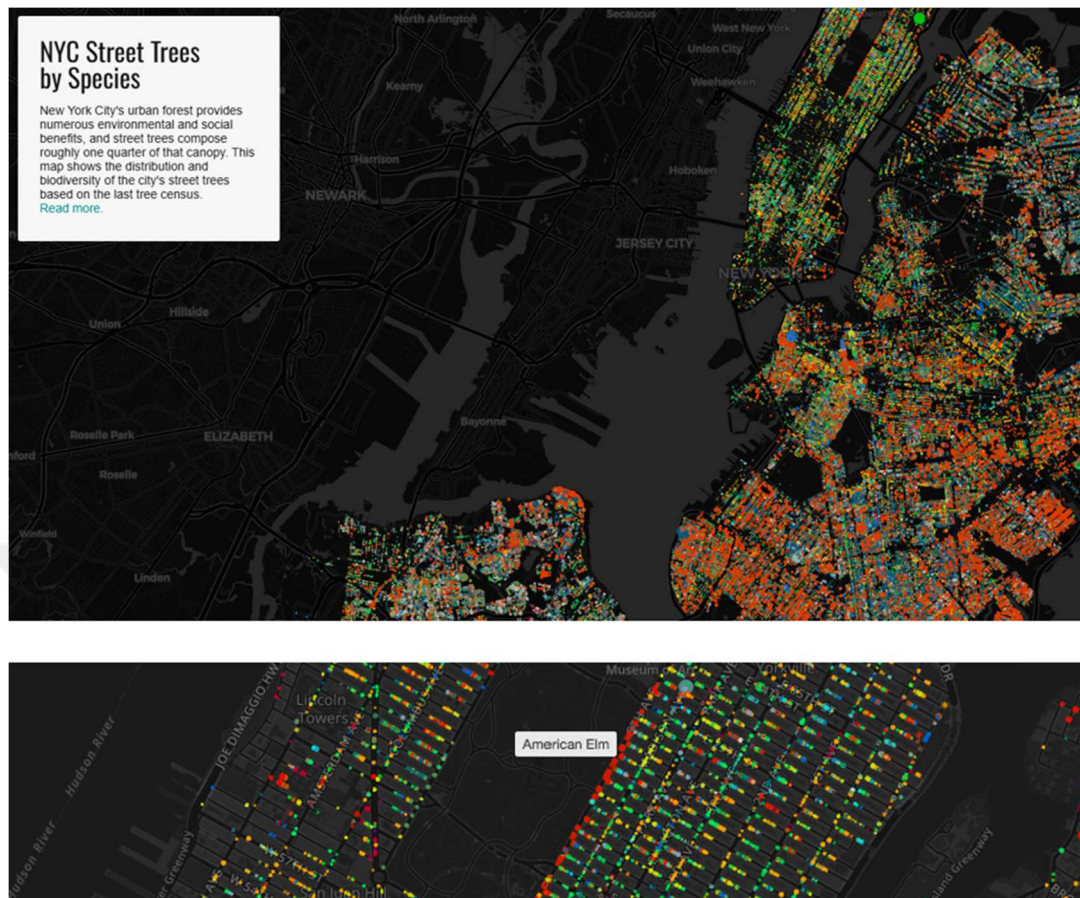


Figure 3.20. Jill Hubley NYC Street Trees by Species, 2015-ongoing, interactive map accessed from <https://jillhubley.com/project/nyctrees/>

In this “creative geo-visualizing”⁴⁶⁴ example of Jill Hubley (Figure 3.20) several connection points about the strategies of a post-representational practice of mapping for a more-than human place understanding can be discussed, though it is one of the instances that Harmon calls “infographic maps” or “information-laden maps”⁴⁶⁵.

The map does not feature urban structures, roads, or demographic data with prominence. Instead, it is a mapping practice based on tree species. This breaks with anthropocentric cartographic convention, to reveal the agency of nature and non-human entities within the assemblage of the city and in particular how we can

⁴⁶⁴ Harmon, *You Are Here*, 14.

⁴⁶⁵ Harmon, 14.

consider trees as actants in urban ecology. The map's ecological focus demonstrates how mapping aligns with the conceptions in Table 3 in particular for "intra-activity," "hybridity," and "more-than-human" dynamics.

Jill Hubley's map shows that place is not only understood through human experience, but it is also shaped by the existence of trees and their seasonal cycles. When we think of Karen Barad's concept of "agential realism", this map reflects an intra-active experience of place rather than traditional representations that separate the human-tree relationship with certain sharp boundaries. Hubley's motivation to consider trees as "neighbors", with a more-than-human perspective, positions trees not only as passive urban ornaments but also as actors contributing to the formation of place.

Although the map may seem static, the data it contains provides an infrastructure for understanding seasonal changes and long-term ecological transformations. For example, when we consider processes such as a tree's leaf shedding, flowering or disease in terms of time, we realize that this map is not just a map of a moment, but of a process. In line with Thrift's principle of "capturing on the flow of everyday life", it points out that place is an atmosphere that is constantly changing. Thus, this interactive project functions not only as a data visualization, but also as a map of experience. The fact that the visitor can create his/her own place experience by filtering different types of trees shows that the map does not force a singular narrative, but is open to plural and subjective readings. In this sense, it is consistent with the suggested efforts to be experimental (as in Table 1).

From Harmon's collection, another that is to be discussed here is maps of "personal geographies" as referred by Harmon⁴⁶⁶ – also as one of the categories she organized in her book⁴⁶⁷. However, the example below located in "nothing never happens"⁴⁶⁸

⁴⁶⁶ Harmon, 14.

⁴⁶⁷ Harmon, 122–47.

⁴⁶⁸ Harmon, 148–88.

part, though it is evidently that is at least, quite personal for Jason Polan as a map of Manhattan (Figure 3.21).

Polan's map territorializes in a place that is not just a geographical location, but also an area of experiences familiarized through daily routines, practices and bodily interactions. This directly resonates with at least one of the tenets that Thrift has proposed for MtRT. More-than-representational theories primarily concern with practices, in which "the establishment of corporeal routines"⁴⁶⁹ that specialize in material bodies. On the other hand, if Polan's map were treated as an individual memory or a subjective spatial narrative, might contradict Thrift's warning against subjective biographical narratives in more-than-representational theory and instead suggestion for the pre-individual and relational, a material schema formed through encounters and processes⁴⁷⁰. However, if the map of personal experiences is read as a practice that makes visible the relational dynamics between doings, things and affective resonances⁴⁷¹ rather than individuals, this contradiction disappears. In other words, it can be interpreted as a work that reveals a pre-individual and distributed spatial experience rather than a biographical "I" narrative.

When Polan's map is considered with such a practical consciousness motivation: Individuals transform "the best spots for sitting and reading a book" not only as spatial objects but also as places that they associate with their own rituals and that are identified with a recurring bodily memory. The spatial network drawn by Polan reveals that sitting areas are not passive objects, but they are involved in the relational definition of affective capacity (by DeLanda's explanation⁴⁷²) for an assemblage to involve in a platial agency emerging through intra-actions. This emphasis on routine, affective bodily practices aligns with the post-representational

⁴⁶⁹ Thrift, *Non-Representational Theory*, 8.

⁴⁷⁰ Thrift, 7–8.

⁴⁷¹ Vannini, 'Non-Representational Research Methodologies An Introduction', 7–8.

⁴⁷² DeLanda, *A New Philosophy of Society*, 20–23.

idea of maps as practices (as in Table 2) and resonates with Thrift's concern for the acknowledgment of corporeal routines (see Table 3).

This map also associates with the concept of affective atmosphere (As connected with the discussion in 2.1). The practice of sitting and reading makes visible how space is shaped not only by its physical aspects but also by affective resonances such as mental concentration, relaxation, sociability or solitude. In this context, Polan's map is a relational mapping practice that maps not only urban sitting places but also a coding of individual rituals that offer the "capacity to be affected"⁴⁷⁵ within their assemblages by events.

Another mapping creative, Dutch artist Rothuizen's work on Bedford Ave is also included in Harmon's collection⁴⁷⁶. Rothuizen animates his wanderings across cities (New York, Guangzhou, Beirut, Cairo), conversations with locals, and attention to detail to create "written maps." His work, *The Soft Atlas of Amsterdam*⁴⁷⁷ (see Figure 3.22), is a compilation of personal geographies of such for the city where he was born.

In this study, Rothuizen's numerous maps for Amsterdam, similar to Harmon's collection of maps for New York, were considered as various affective resonances of Amsterdam's urban assemblage and included in conversations with AI. Unlike the previous example, although all the maps here are the work of the same author, they also offer diversity that can reveal the affective atmosphere of places in different experiences at different times as Rothuizen introduced in:

“All those years of drawing Amsterdam has made me see it as a city in flux.
The Amsterdam of my youth was a like a set of bad teeth, with gaps and

⁴⁷⁴ 'The Soft Atlas of Amsterdam Archieven', *Jan Rothuizen* (blog), accessed 13 May 2024, <https://janrothuizen.nl/type/publicatie/the-soft-atlas-of-amsterdam/>.

⁴⁷⁵ DeLanda, 20.

⁴⁷⁶ Harmon, *You Are Here*, 96.

⁴⁷⁷ 'The Soft Atlas of Amsterdam 2023 Archieven', *Jan Rothuizen* (blog), accessed 24 July 2024, <https://janrothuizen.nl/type/publicatie/the-soft-atlas-of-amsterdam-2023/>.

cavities where houses once stood. Today, all those gaps have been filled and people look for ways to expand upward or to build on former industrial zones. The title of this atlas refers to *Soft City*, a book written in 1974 by British author and travel writer Jonathan Raban. His idea is that the city is where the solid concrete reality of buildings and asphalt meets the malleable, subjective experience and expectations of the people who live and work there. When I chose this title for my book I had no idea how appropriate the word ‘soft’ was for the Amsterdam that I have come to know from seeing it with new eyes, while still calling it home.”⁴⁷⁸

In short, maps emerge as a performative practice within affective atmospheres, beyond spatial representation. The multilayered and multisensory processes of maps reveal not only the physical characteristics of space, but also affective resonances of bodily experiences, emotions, and memory. These performative mapping processes can provide mediation between human and non-human entities, revealing the processual, reterritorializing agency of the place. Thus, maps embody the affective atmosphere of places, performing on the emotional and experiential relationships of participants, and exhibit a critical performance in the reterritorialization of spatial memory and relationships.

This capacity of mapping is connected to the idea of place as “more-than-human” because maps can be activated to reveal places as a dynamic performance intra-acting among more-than-human actants rather than just from a human perspective. Maps may become mediators for how the relational agency of place—both human and more-than-human—jointly shape and experience space, considering bodily and emotional interactions within affective atmospheres. This allows us to conceive of place as a relational, processual, and agential becoming rather than as a fixed or human-centered background.

⁴⁷⁸ ‘The Soft Atlas of Amsterdam Archieven’, *Jan Rothuizen* (blog), accessed 13 May 2024, <https://janrothuizen.nl/type/publicatie/the-soft-atlas-of-amsterdam/>.

CHAPTER 4

RELATIONAL AGENCY: MAPPING BETWEEN MINDS IN PERFORMING PLACES

So far, a more-than-human understanding of place has been discussed in Chapter 2. This discussion is framed and fringed by a theoretical lens that assembles concepts and ideas from more-than-representational theories, since they offer engagement with not only the relational conception but also with the ephemeral, unarticulated forces of everyday life. By focusing on pre-cognitive, affective, and pre-individual dimensions — those fleeting aspects of place experience that are usually taken for granted — more-than-representational approaches allow us to perceive place not as a setting, but as an emergent, dynamic assemblage. Chapter 3 therefore addressed how such a view of place could be put into practice with the critical, creative, performative agency that mapping suggests, together with its capacity to relate to complex spatial information and transform these relationships into mediatory communications.

In a post-human context, where technology is increasingly becoming an active agent through recent advancements in deep learning and generative AI involving spatial experiences, these qualities become even more animated. Machine learning systems and generative processes do not simply replicate pre-existing spatial narratives; they are gaining the capacity to contribute the ongoing re-territorialization of place by promising open processes of thinking that can intra-act with subtle, affective interactions that defy and instrumental role and. This participatory role of artificial minds reinforces the idea that place is continuously co-constituted by both human and non-human actants.

Thus, by foregrounding the evolving and living nature of places and their agency, more-than-representational theories provide a very appropriate lens for understanding place in a more-than-human perspective. In this view, artificial

systems encounter assemblages that include them to the ontogenesis of relational agency, where their capacity to intra-act with affective atmospheres can augment their participation. Consequently, more-than-representational approaches not only illuminate the ephemeral and relational dimensions of a living spatiality but also challenge artificial minds to amplify and transform these processes, reinforcing the co-constitutive nature of place in a more-than-human multiplicity.

Interpreting the role of computer science and its components for the discipline of architecture with a holistic scope has already been, and will be the subject of many other doctoral studies. This study cannot claim to offer a comprehensive and in-depth scrutinization of this subject. However, while speculating on the analysis of its own questions, it should suggest a general perspective and critical outlines regarding the agency of technological actants in architectural practice to state its relative position. For this purpose, this section is included just before moving on to the specific problem area of research on artificial intelligence and place.

Digital technology and how it is included in spatial processes have had different reflections in the architecture and urbanism discourse, ranged between anxiety and eagerness. Earlier, Christine Boyer discussed how electronic communications and digital technologies are reshaping urban perception⁴⁷⁹, the symbiotic relationship between humans and technology, and how digital worlds are intertwined with the real world⁴⁸⁰ by historicizing relevant themes on cases. Boyer concerns that these conditions may harm historical and cultural values with a critical perspective on how technology transforms the spatial and social fabric. While she accepts technology as an indispensable tool in understanding urban complexity, she also states that technological instruments carry the risk of not fully capturing urban reality, they can

⁴⁷⁹ Christine M. Boyer, *CyberCities: Visual Perception in the Age of Electronic Communication*, 2nd edition (New York: Princeton Architectural Press, 1997).

⁴⁸⁰ M. Christine Boyer, 'The Imaginary Real World of CyberCities', *Assemblage*, no. 18 (1992): 115–27, <https://doi.org/10.2307/3171208>.

be manipulated and can sometimes be misleading⁴⁸¹. With similar concerns, Coyne critically examined the effects of digital media and technology on public and social spaces. He prefers a cautious approach to how technology is changing individuals' spatial awareness and interactions. With similar concerns, Coyne critically examines the effects of a “technoromanticism”⁴⁸² by digital media and technology on public and social spaces. He prefers a cautious approach to how technology is changing individuals' spatial awareness and interactions, while acknowledging the ability of fine “tuning” offered by digital media⁴⁸³.

There have been also affirmative views, more enthusiastic than anxious. For example, Mitchell celebrates a new era of opportunities as he revisited the concept of genius loci just before the turn of millennium. He wrote: “For us, equipping a place with its genius has simply become a software implementation task. Lines of code can supply every electronically augmented environment with a tailor-made, digital genius that makes its presence felt through input devices and sensors, displays, and robotic actuators.”⁴⁸⁴

In his very recent article, Mario Carpo suggests a “a short but believable history of the digital turn in architecture”⁴⁸⁵. His narrative tells the story which is very parallel to the developments in computer sciences, and particularly machinic intelligence. It begins with high hopes and expectations for thinking machines⁴⁸⁶, followed by earlier disappointment and frustration that quickly turned into an industrial pragmatism to employ machines as time-efficient but muted instruments for creating complex drawings, to adapt digital mass-customization after the 1990s⁴⁸⁷. Then, with

⁴⁸¹ Boyer, ‘On Modelling Complexity and Urban Form’.

⁴⁸² Richard Coyne, *Technoromanticism: Digital Narrative, Holism, and the Romance of the Real*, First Edition (Cambridge, Mass.: MIT Press, 2001).

⁴⁸³ Richard Coyne, *The Tuning of Place: Sociable Spaces and Pervasive Digital Media*, 1st edition (Cambridge, Mass: Mit Pr, 2010), 123–27.

⁴⁸⁴ William J. Mitchell, *E-Topia (MIT Press): ‘Urban Life, Jim-But Not As We Know It’* (Cambridge, Mass., 2000), 42.

⁴⁸⁵ Carpo, ‘A Short but Believable History of the Digital Turn in Architecture’.

⁴⁸⁶ Carpo, 1–3.

⁴⁸⁷ Carpo, 4–5.

the 'second digital turn,' these complex drawings began to intersect with emerging possibilities—the production of highly intricate forms, evolutionary algorithms, computational design practices, and environmentally responsive solutions—increasingly intertwining with post-human ideas and relational-processual theories that prioritize fluid systems of a complexity over structured and fixed outcomes⁴⁸⁸. While these effects are already diversifying and continuing, the current decade has witnessed a “reborn of AI” due to the rapid development of hardware in memory and processing power, and “thinking machines” have begun to consolidate their position as problem-solving companions for architects⁴⁸⁹.

Yet, as can be seen in the following quote below, Carpo preferred to conclude this narrative with a series of reminders for why AI is only an advanced tool, or at most an extension on which human architects should master of their proficiency.

“Artificial intelligence can now reliably solve problems and make choices. But data-driven artificial intelligence solves problems by iterative optimization, and problems must be quantifiable in order to be optimizable. Consequently, the field of action of data-driven artificial intelligence as a design tool is by its very nature limited to tasks involving measurable phenomena and factors. Unfortunately, architectural design as a whole cannot be easily translated into numbers. Don’t misunderstand me: architectural drawings have been digitized for a long time; but no one has found to date a consensual metric to assess values in architectural design...

... the adoption of AI in the design professions will not lead to the to the rise of a new breed of post-human designers, but to the development of more intelligent design tools.”

⁴⁸⁸ Carpo, 5–6.

⁴⁸⁹ Carpo, 6–7.

As can be understood from here, there is a subject-object or thinker-helper duality that is still being accepted between human and artificial intelligence, even in a very recent article that considers streams of post-humanism as “meta-waves”⁴⁹⁰ behind evolving digitally-driven practices. So, on which side of this subject-object distinction do architects see the artificial minds that cause these reservations or make them imagine these possibilities? This study argues against the ontological ground of this very question and instead tries to speculate on alternative ontogenetical explanations that is reasoned by processual behaviors of material agency where “material objects are no mere props for performance but parts and parcel of hybrid assemblages endowed with diffused personhood and relational agency”⁴⁹¹ (see 2.2 and 2.3), and studies on post-representational capacity of mapping in “ontogenesis level”⁴⁹² (see 3.2).

Here, attention in practices which are defined with a MtRT perspective⁴⁹³ to foreground encounters of post-human place experiences are prioritized. The idea is, this approach as a research disposition should welcome the unexpected or ambiguous, while suggesting an escape from the restrictive conditions set by limits of instrumentalist views or structuralist representations, through appreciation of relational agency.

4.1 Technological Mediations: The Ontogenesis of Relational Agency

For a post-human understanding, spatiality is explained by relational, emergent, and agential dynamics, acknowledging all actants participating in this becoming. As Latour stressed in “Reassembling the social”, an action happens with the relations of

⁴⁹⁰ Carpo, 3.

⁴⁹¹ Phillip Vannini, ‘Nonrepresentational Theory and Symbolic Interactionism: Shared Perspectives and Missed Articulations’, *Symbolic Interaction* 32, no. 3 (July 2009): 284, <https://doi.org/10.1525/si.2009.32.3.282>.

⁴⁹² Azócar Fernández and Buchroithner, *Paradigms in Cartography*.

⁴⁹³ Thrift, *Non-Representational Theory*.

many human and non-human actants⁴⁹⁴; “An actor is what is made to act by many others”⁴⁹⁵. While spatial practices of digital culture are continuously being redefined with increasing modes of participation for digital actants, they grant their parts in a “new social” which is assembled through “translations between mediators that may generate traceable associations”⁴⁹⁶. Furthering this concept of “interactions”, Barad prefers the term “intra-action”⁴⁹⁷. She is in the pursue for a “performative metaphysics”⁴⁹⁸, ambitious enough to attempt understanding the behavior of the entire universe in this way:

“...the universe is agential intra-activity in its becoming. The primary ontological units are not “things” but phenomena—dynamic topological reconfigurings/entanglements/relationalities/(re)articulations. And the primary semantic units are not “words” but material-discursive practices through which boundaries are constituted.”⁴⁹⁹.

These viewpoints strengthen the significance of spatial practices for a place experience in the digital age, where they are expected to exceed beyond language and representation⁵⁰⁰ to support a post-human performativity⁵⁰¹. A current example of the effects of technological objects on all these processes could be the spatial intra-actions of software. Social and spatial practices are being constantly reshaped by software. New practices are emerging, existing ones are being accelerated and

⁴⁹⁴ Latour, *Reassembling the Social*, 43–86.

⁴⁹⁵ Latour, 46.

⁴⁹⁶ Latour, 108.

⁴⁹⁷ Barad, ‘Posthumanist Performativity’, 814–16.

⁴⁹⁸ Barad, 811–18.

⁴⁹⁹ Barad, 818.

⁵⁰⁰ Paul M. Torrens, ‘Ten Traps for Non-Representational Theory in Human Geography’, *Geographies* 4, no. 2 (June 2024): 253–86, <https://doi.org/10.3390/geographies4020016>; Ezequiel A. Di Paolo, Diego Lawler, and Andrés Pablo Vaccari, ‘Toward an Enactive Conception of Productive Practices: Beyond Material Agency’, *Philosophy & Technology* 36, no. 2 (26 April 2023): 31, <https://doi.org/10.1007/s13347-023-00632-9>.

⁵⁰¹ Barad, ‘Posthumanist Performativity’, 801, 810, 818.

complexified. A new “Code/Space” becomes with this mutually production process of software and everyday life places⁵⁰².

Places emerging in such a sense demand the discussion about practices acted in their becoming, to frame these practices’ differences from their predecessors established in the comfort zone of more essentialist approaches. These differences often characterized with a focus on “agencies of relational practice”⁵⁰³ for architectural discourse.

Among many factors which necessitated that relational shift in thought, contribution of digital age can be exemplified through the concept of "qualculation" as suggested by Thrift⁵⁰⁴. A repetition of continuous calculations and re-calibrations are evolving into “electronic background time-spaces”⁵⁰⁵ that affect physical, emotional and cognitive experiences. Thrift’s spatial exploration here, aligns well with Massey’s explanation for the relationality of space that is continuously transformed by social relations, in which digital objects become new factors affective on the place experience⁵⁰⁶. As can be seen from these examinations, spatial practices continue to evolve in historical and technological contexts, allowing for new understandings. These new spatial understandings resonate within place definitions compatible with their frameworks.

It was anticipated at the very beginning of the 21st century that, spatial practices which include performative and contextual elements can offer an “incorporated practice”⁵⁰⁷ environment between computer algorithms and human experience. Thus

⁵⁰² Rob Kitchin and Martin Dodge, *Code/Space: Software and Everyday Life* (Cambridge, Massachusetts London, England: The MIT Press, 2014), 1–17.

⁵⁰³ Petrescu, ‘*Relationscapes*’.

⁵⁰⁴ Thrift, *Non-Representational Theory*, 90–98.

⁵⁰⁵ Thrift, 89; Jon May and Nigel Thrift, eds., *Timespace: Geographies of Temporality*, 1st edition (London ; New York: Routledge, 2001).

⁵⁰⁶ Doreen Massey, *For Space*, 1st edition (London ; Thousand Oaks, Calif: SAGE Publications Ltd, 2005), 148–51.

⁵⁰⁷ N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, 1st edition (University of Chicago Press Journals, 1999), 199–200.

they would join the embodied knowledge by distribution - that is not innate for the algorithms - through a bidirectional relationship between culture and the body⁵⁰⁸. A culture in transformation simultaneously with architectural discipline, by the reanimation of previously stabilized forces might be explored through virtuality and vitality of defining dynamic processes⁵⁰⁹. Indeed, digital technologies having an increasing impact on body – space encounters cause transformation and disruption in the perception of place. MtRTs, as an assemblage of practice-oriented theories, cultivates a conceptuality for a debate swinging between the “unique social significance of human agency”⁵¹⁰ and the issue of otherness among bodies in these encounters⁵¹¹ when combined with a focus on the individuation of technological entities⁵¹².

The more-than-human approach scoped here is significantly influenced by the critique of the overemphasized role of language and representation in shaping material reality, as outlined by Barad⁵¹³. This is why Thrift, who shares the same kind of frustration, concentrated on practice⁵¹⁴ when determining the frame principles for MtRT, and tried to promote performance-based strategies, prioritizing elements such as events, relations, doings, and affective resonance⁵¹⁵. Then, it is possible that technology (and AI in specific) participates in spatial practice guided with a performative approach⁵¹⁶, to help revealing invisibles of “immaterial

⁵⁰⁸ Hayles, 199–203.

⁵⁰⁹ Elizabeth Grosz, *Architecture from the Outside: Essays on Virtual and Real Space*, Writing Architecture (Cambridge, Massachusetts: The MIT Press, 2001), 104–5, 113.

⁵¹⁰ Kirsten Simonsen, ‘Encountering O/Other Bodies: Practice, Emotion and Ethics’, in *Taking-Place: Non-Representational Theories and Geography*, ed. Paul Harrison and Ben Anderson, 1st ed. (Routledge, 2016), 222, <https://doi.org/10.4324/9781315611792>.

⁵¹¹ Simonsen, 221–23.

⁵¹² Susanna Lindberg, ‘Being with Technique–Technique as Being-with: The Technological Communities of Gilbert Simondon’, *Continental Philosophy Review* 52, no. 3 (1 September 2019): 299–310, <https://doi.org/10.1007/s11007-019-09466-9>.

⁵¹³ Barad, ‘Posthumanist Performativity’, 801.

⁵¹⁴ Thrift, *Non-Representational Theory*, 8.

⁵¹⁵ Vannini, ‘Non-Representational Research Methodologies An Introduction’, 6–12.

⁵¹⁶ Mark Coeckelbergh, ‘Technoperformances: Using Metaphors from the Performance Arts for a Postphenomenology and Posthermeneutics of Technology Use’, *AI & SOCIETY* 35, no. 3 (1

labor”⁵¹⁷, on a philosophy of difference that embraces events as “dense, flowing, particular, sensate, and radically actual”⁵¹⁸ volumes of time-space.

MtRT’s desire to concern themselves with practices finds most appropriate examples in actions that transform the space, and non-representable qualities of place experience. Lorimer points that these actions and attributes are often encountered in “locally formative interventions in the world” that “may seem remarkable only by their apparent insignificance” but reveal “how life takes shape and gains expression in shared experiences, everyday routines, fleeting encounters, embodied movements, precognitive triggers, practical skills, affective intensities, enduring urges, unexceptional interactions and sensuous dispositions”⁵¹⁹. Hence, the everyday life, ordinary routines, and seemingly insignificant activities are no less valuable than the discursive content of research.

Cadman sees this preference of attention as a challenge to disrupt representational modes of thought⁵²⁰. This approach requires an emphasis on the open-ended, and process-oriented performance of social practices, materials, competences, and meanings that interdependently define their behavior⁵²¹. An integration of elements which are inherently dynamic and transitional⁵²².

September 2020): 557–68, <https://doi.org/10.1007/s00146-019-00926-7>; Petra Gemeinboeck and Rob Saunders, ‘Moving beyond the Mirror: Relational and Performative Meaning Making in Human–Robot Communication’, *AI & SOCIETY* 37, no. 2 (1 June 2022): 549–63, <https://doi.org/10.1007/s00146-021-01212-1>.

⁵¹⁷ Beth Weinstein, ‘Performances of Spatial Labor: Rendering the (In)Visible Visible’, *Journal of Architectural Education* 73, no. 2 (3 July 2019): 235–37, <https://doi.org/10.1080/10464883.2019.1633203>.

⁵¹⁸ Dewsbury, ‘Performativity and the Event’, 491.

⁵¹⁹ Lorimer, ‘Cultural Geography’, February 2005, 84.

⁵²⁰ Cadman, ‘Non-Representational Theory/Non-Representational Geographies’, 456.

⁵²¹ Elizabeth Shove, Mika Pantzar, and Matt Watson, *The Dynamics of Social Practice: Everyday Life and How It Changes*, 1st edition (Los Angeles: SAGE Publications Ltd, 2012), 24.

⁵²² Shove, Pantzar, and Watson, 23.

An alternative understanding of research ethics prioritizes practice to boost aliveness⁵²³, attach importance to all actants included⁵²⁴, affective atmospheres experienced⁵²⁵, and subjectivity of all individuals participating in these emergent processes⁵²⁶. Post-humanist approach on practice de-centers human to share the “seat of agency” with non-human entities⁵²⁷. Gherardi explains this motivation and possible contribution of such an agency distribution as follows:

“The concept of agencement can prove useful for a practice-based study, since we can say that what we call ‘practice’ is a heuristic move that de-territorializes and re-territorializes the unfolding of a flow of practicing”⁵²⁸.

The "heuristic move" in Gherardi's definition was usually observed in the participants' mutual experiences within the research scope. For instance, in one of the two mapping workshops held during this research with undergraduate students, LLMs and GANs as participants (see 5.2) a such condition happened⁵²⁹.

In this sense, what makes spatial practice more-than-representational is its agency emerging from relational and processual performances. The involvement of computers and computation in these processes further highlights or further reveals

⁵²³ Thrift, *Non-Representational Theory*, 14.

⁵²⁴ David Rousell et al., ‘Posthuman Creativities: Democratizing Creative Educational Experience Beyond the Human’, *Review of Research in Education* 46, no. 1 (1 March 2022): 374–97, <https://doi.org/10.3102/0091732X221084316>.

⁵²⁵ Buser, ‘Thinking through Non-Representational and Affective Atmospheres in Planning Theory and Practice’; Gandy, ‘Urban Atmospheres’; Federico De Matteis, *Affective Spaces: Architecture and the Living Body* (London: Routledge, 2020), <https://doi.org/10.4324/9781003087656>.

⁵²⁶ Torrens, ‘Ten Traps for Non-Representational Theory in Human Geography’.

⁵²⁷ Gherardi, *How to Conduct a Practice-Based Study*, 239.

⁵²⁸ Gherardi, 241.

⁵²⁹ While students communicated their experiences from their site visit to GPT models by individual mapping performances, they experienced discoveries on how to express the context they were working on to an AI model. At the same time, they stated that they gained a new awareness through the associations and conceptuality formed in this bilateral dialogue on the urban context in which they were studying. However, these processes fed a heuristic dynamic not only for the human participant but also for the AI models during the conversations that could be sustained and developed. They developed an associated milieu to involve AI participants within an affective assemblage, to relate them with place by exploring the post-representational characteristics through maps and narratives, as they could not gain from individual embodied experience.

most of these qualities. In such a more-than-human and more-than-representational interpretation of spatiality and place, every entity involved in an assemblage should be considered as an actant⁵³⁰. No matter what form of agency they possess, they are involved in affective atmospheres, at least for their capacity to change another agent's action and behaviors⁵³¹. Being an actant can't be evaluated or measured based on human-like qualities⁵³². Therefore, technology, technical objects and software are all actants as granted by dynamics of relationality, regardless of their competences, capacities. So, these actants are seen as participants in this research, without an instrumentalist view.

This non-instrumentalist perspective on technology could not come from a heritage that is comfortable with the static ontology of the concept of the object. Various analyses in that context shared the influence of Gilbert Simondon's idea of the "individuation" of technical objects⁵³³. An idea of individual that emerges from a perpetual dynamic becoming that is resonated in Deleuze's opinions of ontogenesis encourage processual terminology⁵³⁴ with a desire to understand entities as they are become by difference in process, instead of being pre-existing self-identical beings⁵³⁵. Thrift too has drawn the idea of a world emerging from unreflective and habitual practices associated with the ontogenesis of space from the work of

⁵³⁰ Latour, *Reassembling the Social*, 35–39; Bennett, *Vibrant Matter*, 21–24; Law, *After Method*, 102.

⁵³¹ Latour, *Reassembling the Social*, 71.

⁵³² Graham Harman, *Prince of Networks: Bruno Latour and Metaphysics* (Melbourne: Re.Press, 2009), 54–55; Kitchin and Dodge, *Code/Space*, 1–3; Lorinc Vass et al., 'Environments (out) of Control: Notes on Architecture's Cybernetic Entanglements', *FOOTPRINT* 15, no. 1 (29 June 2021): 82–84, <https://doi.org/10.7480/footprint.15.1.4942>.

⁵³³ Gilbert Simondon, *On the Mode of Existence of Technical Objects (Univocal)*, trans. Cecile Malaspina and John Rogove, 1st edition (Minneapolis: Univ Of Minnesota Press, 2017). A very late translation to English; originally published in French: G. Simondon, *Du mode d'existence des objets techniques* (Paris: Aubier, 1958)

⁵³⁴ Lindberg, 'Being with Technique—Technique as Being-With'.

⁵³⁵ Sean Bowden, 'Gilles Deleuze, a Reader of Gilbert Simondon', in *Gilbert Simondon: Being and Technology*, ed. Arne De Boever, Shirley S. Y. Murray, and Jon Roffe (Edinburgh University Press, 2013), 0, <https://doi.org/10.3366/edinburgh/9780748677214.003.0009>.

Simondon to arrive an ongoing relational problem⁵³⁶. This ontogenesis is also affected by sentient technologies in background⁵³⁷,

Here the connection between maps and technology in spatial practices becomes peculiarly unique over the concepts of ontogenesis and transduction. Understanding mapping as an ontogenetic process emphasizes its spatial behavior as a constantly reproduced and transformed phenomenon. Simondon's concept of transduction explains the distinctiveness in this process when different components of a system interact with each other to initiate new entities or meanings. Mapping can be considered as a transductive process in that context, as it assembles different dimensions, historical layers and social relations together to make new consequences possible⁵³⁸. The relationship of these concepts with generative AI in specific, lies in the potential of AI to generate or affect new spatial resonances and assemblages by means of the interactions among data, algorithms and open-ended communication. AI can develop a capacity to be affected from maps. And in response it can enhance the ontogenetical nature of maps to intensify the material agency in perpetual reproduction of spatial information.

Simondon's ideas explaining individuation promise connections that are open to reinterpretation in the human-AI (Large Language Models in specific) dialogues, moving from conceptual ground to experiential vitality. For instance, a very recent publication synchronized with this dissertation, borrows the concept of “associated milieu”⁵³⁹ on LLMs. Since the discussion on agency unfolded in the rest of this section will prefer a mode of relationality instead of a mode of existence inquiry, arguments followed are dissociated from the ideas of Barandiaran and Almendros; in a way what they might call “midtended forms of agency”⁵⁴⁰. An assessment of

⁵³⁶ Kitchin and Dodge, *Code/Space*, 71.

⁵³⁷ Thrift, ‘Lifeworld Inc—And What to Do about It’, 5–6.

⁵³⁸ Kitchin and Dodge, ‘Rethinking Maps’, 340–44.

⁵³⁹ Xabier E Barandiaran and Lola S Almendros, ‘On the Mode of Existence of Large Language Models’, *arXiv* 2407.10735 (2024): 32.

⁵⁴⁰ Barandiaran and Almendros, 32.

autonomous agency for AI forms will be deliberately avoided, as agency is not attributed to individuals. On the other hand, “*associated milieu*” is similarly adopted as a key anticipation that can be illustrated on human-AI encounters experienced throughout this study.

To Simondon, thinking about the pattern of regime it interacts with is necessary to grasp how an individual becomes. This regime is called “associated milieu”⁵⁴¹ which has a major role in the process of individuation for all. Technical beings’ individuation is facilitated by their associated milieu, especially when it allows a repetition of difference that leads to an evolutionary techno-nature. Associative dynamic turns into a mediator that operates between technical and natural beings to provide actualization possibilities. Hence the associated milieu is an important concept that highlights the symbiotic dependence between technical beings and their integrated entities, a viable medium that is required for progressive responses. This leads to the claim that “individuation is not attributable to the becoming of the individual and to its relation with the pre-individual nature alone” as phrased by Boucher⁵⁴².

At this juncture, a rereading on the *associated milieu* is suggested to combine it with assemblage thinking for explaining the challenges against *platial agency* in human–generative AI dialogues. Early explorations in this study (see 5.1) suggest that this associated milieu evolves in a dissociative character when human experience is alienated against virtual images of generative algorithms that resonated from this very experience.

Dissociation has many alternative meanings and interpretation in different philosophical schools, broadly overlapping on the meaning of an individual

⁵⁴¹ Simondon, *On the Mode of Existence of Technical Objects (Univocal)*, 59–66.

⁵⁴² Marie-Pier Boucher, ‘Infra-Psychic Individualization: Transductive Connections and the Genesis of Living Techniques’, in *Gilbert Simondon: Being and Technology*, ed. Arne De Boever, Shirley S. Y. Murray, and Jon Roffe (Edinburgh University Press, 2013), 96, <https://doi.org/10.3366/edinburgh/9780748677214.003.0006>.

distancing themselves for various reasons that usually cause disturbance or discrepancies⁵⁴³. For an emergentist or post-humanist viewpoint when focused on human – technology interactions, dissociation is not necessarily negativity. Instead, the dissociation for assemblages could be interpreted as a reterritorialization process where the capacity is decentralized through strategies and tactics that result in an ongoing interaction creating disjunctions and interruptions. Here, a comparison from contemporary explanations of dissociation and dissociative behavior from psychiatry about trauma and disorders might become insightful for future studies⁵⁴⁴.

Similar to when a dissociative disorder causes a deterritorialization of individual from their associated milieu, studying with generative AI with task requiring visual resemblance with actual place might cause a disruption in creative continuity. There a kind of assemblage emerges between human and non-human that is helpless against an instant absolute deterritorialization. The very process with the sense of not speaking about same context alienate participating minds (mostly human, but also AI) with spatial references specific to any given place, either by a neglection or lack of translation in coding. Here, that assemblage of incommensurable spatial information gathered in these encounters can be considered “illusory knowledge”⁵⁴⁵, as it happens when excessive simplifying in the assumptions performed in a model does not apply to the actual complexity of the situation being analyzed⁵⁴⁶. A very recent

⁵⁴³ Amy K. Anderson and Martin Camper, ‘Developments in Dissociation: Past Contexts, Present Applications, Future Implications’, *Philosophy & Rhetoric* 53, no. 4 (2020): 377–84, <https://doi.org/10.5325/philrhet.53.4.0377>; Christopher Bennett, ‘Desert and Dissociation’, *Journal of the American Philosophical Association* 10, no. 1 (March 2024): 116–34, <https://doi.org/10.1017/apa.2022.42>.

⁵⁴⁴ Onno van der Hart, ‘History of the Concept of Dissociation’, in *Dissociation and the Dissociative Disorders*, ed. Martin J. Dorahy, Steven N. Gold, and John A. O’Neil (Routledge, 2022), 13–38, <https://doi.org/10.4324/9781003057314-3>.

⁵⁴⁵ P. M. Allen, ‘The Dynamics of Knowledge and Ignorance: Learning the New Systems Science’, in *Integrative Systems Approaches to Natural and Social Dynamics*, ed. Michael Matthies, Horst Malchow, and Jürgen Kriz (Berlin, Heidelberg: Springer Berlin Heidelberg, 2001), 15, https://doi.org/10.1007/978-3-642-56585-4_1.

See also the relevant discussion for “space of possibilities” in: DeLanda, *Intensive Science & Virtual Philosophy*, 14, 131.

⁵⁴⁶ Bonta and Protevi, *Deleuze and Geophilosophy*, 17.

publication in the technical field, explains a similar behavior over frequent observations as “amalgamated hallucinations” often result from “knowledge overshadowing”⁵⁴⁷.

The impact of these intra-active phenomena was also observed over the experimental and participatory contents of the study. These encounters helped understanding how such dissociative conditions lead to instantaneous affective resonances on individual level of practice, expressed through notes recorded from the critiques and complaints by students and instructors who experienced the mapping performance while collaborating with gen-AI.

Throughout the participatory events of research process, especially in both mapping workshops with undergraduate students, many human collaborators have criticized AI agents’ incapacity for imagining or describing the contexts - or the specific encounters with a place that they were trying to share with AI. They pointed out an obvious resistance of GAN generated images against agreeing the appearance they are aware in human sensorial context, especially in terms of the visual content generated. From an architectural point of view, much of the content is evaluated as irrelevant, ineffective, or non-helpful by students for their initial design stages. (Students were probably after more direct and ready-to-use materials for their project assignments.)

In these cases, instead of meeting in an associated milieu where AI participants and human minds can perform together, they experience discontinuities in a dissociative collaboration. As a communicative mediator that actively engages with the affective and sensorial complexity of place, mapping can, at least in theory, diminish simplifications in these assumptions to exceed the limits of illusory knowledge and support the assemblage of a “possibility space”⁵⁴⁸ by making visible the invisibilities

⁵⁴⁷ Yuji Zhang et al., ‘Knowledge Overshadowing Causes Amalgamated Hallucination in Large Language Models’ (arXiv, 10 July 2024), <https://doi.org/10.48550/arXiv.2407.08039>.

⁵⁴⁸ Allen, ‘The Dynamics of Knowledge and Ignorance’, 9–10.

of spatial knowledge. Post representational mapping offers that revealing capacity, not only for a critical or subversive agenda, but also for a more-than-representational attitude of research to focus on what was escaped from previously represented knowledge just for being taken for granted in lifeworlds of places. (As discussed in 3.2, see Table 1 and Table 2)

For the AI models in these studies, the information about the place defined or described to them is synthesized from a lot of textual and visual data related to that place in the very large databases they already have access to, thus causing the formation of expressions that exclude the experiences of life itself that are not represented in that data, that is, in the context of this study, the affective atmosphere of the place. Thus, most encounters in the experimental setup of this study aimed to communicate the corporeal experience within this affective atmosphere by humans to AI interlocutors through creative mapping performances.

However, according to most participants, the influence of mapping cases over AI-generated content is found too literal for most of the attempts. For example, the color palette used in a map directly resonated with the images generated by AI models. Many signs, annotations, and shapes are recognized with more superficial meanings than the author's intentions. Metaphors are often exaggerated during iterative processes.

AI models sometimes cause students to revise their initial content more generically or stereotypically. Synthetic behaviour leads to uniformity and homogeneity. Attempts to influence AI models with individual mapping contents can become challenging processes that require a lot of effort. There were thematic breaks within the dialogues and conversations that tended to ignore the expressive-subjective content of the mapping. AI models are claimed to be quantitative thinkers and arithmetically oriented minds (or their perspective towards maps is so). They often request or suggest additional information from the maps, in the form of scales, dimensions, values, etc.

The term “model” here, deserves some inquiry for its ontological implication in machine learning. Similarly, architecture as a practice bound to models in its representation, and relationality⁵⁴⁹ ever since it has gained autonomy to be an intellectual discipline unconstrained by physical construction, manipulated space and expressed its actions of morphogenesis⁵⁵⁰ on modelling existing (actual) and ideated (virtual, potential) realities.

AI models (e.g. Large Language Model), are “models” for being a mathematical representation of some process that is used to make predictions or decisions based on data⁵⁵¹. Adjust the lens to reframe this context at a wider depth of field – successively through deep learning, machine learning, and artificial intelligence - it is possible to reach the broader notion of model in cognitive science. There, cognitive models are empirical theories that simplify the behaviours of cognitive mechanisms. They are used for assessing how these theories fit a better understanding of a specific process, compiled into alternative models of mind, a race of elucidation historically run among behaviourist, empiricist, connectionist, and many other contenders⁵⁵².

It may be necessary to open a parenthesis here to frame the understanding of cognition that the study is associated with. This research does not have the scope, competence and motivation to conduct an in-depth discussion of these models and the paradigms that developed them in the field of cognitive science. Bearing this limitation in mind, the nondualist ontology between human and non-human discussed here can suggest its relative position vis-à-vis these paradigms. The key concept to compare this motivation to that discourse can be agency as valued by new

⁵⁴⁹ Tewfik Hammoudi, ‘Architecture as Information Machine’, *FOOTPRINT* 15, no. 1 (29 June 2021): 117, <https://doi.org/10.7480/footprint.15.1.4984>.

⁵⁵⁰ Hammoudi, ‘Architecture as Information Machine’.

⁵⁵¹ Christopher M. Bishop, *Pattern Recognition and Machine Learning*, Information Science and Statistics (New York: Springer, 2006), 1–6; Parikshit N. Mahalle et al., ‘Model-Centric AI’, in *Data Centric Artificial Intelligence: A Beginner’s Guide*, ed. Parikshit N. Mahalle et al. (Singapore: Springer Nature, 2023), 11–32, https://doi.org/10.1007/978-981-99-6353-9_2.

⁵⁵² Timothy Childers, Juraj Hvorecký, and Ondrej Majer, ‘Empiricism in the Foundations of Cognition’, *AI & SOCIETY* 38, no. 1 (1 February 2023): 67–87, <https://doi.org/10.1007/s00146-021-01287-w>.

(relational) materialist accounts. As for instance Barad's theory of agential realism, agency isn't an inherent property of either human or non-human entities. Instead, it emerges from the ongoing activities of matter and process, leading to a continually reconfigured materiality⁵⁵³:

“Crucially, agency is a matter of intra-acting; it is an *enactment*, not something that someone or something has. It cannot be designated as an attribute of subjects or objects (as they do not preexist as such). It is not an attribute whatsoever. Agency is "doing" or "being" in its intra-activity. It is the enactment of iterative changes to particular practices-iterative reconfigurings of topological manifolds of spacetime-matter relations - through the dynamics of intra-activity”⁵⁵⁴ (emphasis added here).

So how can this kind of perspective on agency be related to the definition of cognition? The most obvious answer to this question would come through enactivism⁵⁵⁵. Barad's ideas resonate with enactivist ideas (or models), where cognition is considered an emergent process by recognizing the complexity and multiplicity of agents, which are not unitary but are entangled with their environments⁵⁵⁶.

Enactivism, as outlined by Varela, Thompson, & Rosch⁵⁵⁷, views cognition as arising through embodied, sensorimotor engagement with the environment rather than as computations occurring solely in the brain. In other words, the mind isn't a pre-existing entity but is continuously “co-made” through interactions with the

⁵⁵³ Barad, *Meeting the Universe Halfway*, 178.

⁵⁵⁴ Barad, 178.

⁵⁵⁵ Marek McGann, ‘Facing Life: The Messy Bodies of Enactive Cognitive Science’, *Phenomenology and the Cognitive Sciences*, 18 January 2024, <https://doi.org/10.1007/s11097-024-09958-x>; Paulo De Jesus, ‘Thinking through Enactive Agency: Sense-Making, Bio-Semiosis and the Ontologies of Organismic Worlds’, *Phenomenology and the Cognitive Sciences* 17, no. 5 (1 December 2018): 861–87, <https://doi.org/10.1007/s11097-018-9562-2>.

⁵⁵⁶ McGann, ‘Facing Life’.

⁵⁵⁷ Francisco J. Varela et al., *The Embodied Mind, Revised Edition: Cognitive Science and Human Experience* (Cambridge (Mass.), 2017).

world—a perspective that merges with Barad’s idea that matter and agency emerge through intra-actions. Therefore, this perspective stands very closer to the MtRTs inclination of prioritizing affective and pre-cognitive dimensions (as mentioned before in second and third chapters).

Considering the involvement of LLM and GAN participants in this research process, another cognitive paradigm that this research is contextually relevant to is connectionism. LLMs are built on neural network architectures, making them inherently connectionist in nature. Connectionist theories of mind argue that cognitive processes emerge from the interactions of many simple processing units rather than from the manipulation of explicit symbols. In other words, cognition is seen as a distributed, dynamic process—a view that has been influential since the development of the Parallel Distributed Processing (PDP) models by Rumelhart and McClelland in the 1980s⁵⁵⁸. Because LLMs are essentially large-scale neural networks trained on vast amounts of text data their capabilities—ranging from language generation to emergent reasoning—reflect the same connectionist principles⁵⁵⁹. Thus, when LLMs are becoming participants in studies, their behavior not only exemplifies advanced linguistic performance but also resonates with connectionist models of cognition.

But then, no single cognitive model can claim to fully explain the multifaceted nature of cognition⁵⁶⁰. Instead, each model is inherently an abstraction that highlights certain aspects of cognitive processing while necessarily omitting others⁵⁶¹. Thus, a more complete understanding of cognition may be achievable by integrating insights from multiple models rather than relying on any one explanation as a definitive

⁵⁵⁸ David E. Rumelhart, James L. McClelland, and PDP Research Group, *Parallel Distributed Processing, Volume 1: Explorations in the Microstructure of Cognition: Foundations*, 1986, <https://direct.mit.edu/books/monograph/4424/Parallel-Distributed-Processing-Volume>.

⁵⁵⁹ Ankit Sharma, ‘Bridging Paradigms: The Integration of Symbolic and Connectionist AI in LLM-Driven Autonomous Agents’, *Journal of Artificial Intelligence General Science* 6, no. 1 (2024).

⁵⁶⁰ Carlos Gershenson, ‘Cognitive Paradigms: Which One Is the Best?’, *Cognitive Systems Research* 5, no. 2 (June 2004): 135–56, <https://doi.org/10.1016/j.cogsys.2003.10.002>.

⁵⁶¹ Gershenson.

account. That's why recent studies discussing cognitive processes of large language models (LLMs) through more combined frameworks⁵⁶², particularly with the "4E model of cognition"⁵⁶³ which integrates *embodied, embedded, enactive, extended* explanations of mind and cognitive processes.

Therefore, the theoretical position of this study and its own materiality make it related to different models of mind. As the point of departure we started with the concept of agency from relational materialism, the discussion arrives to another key concept at this point, *distributed cognition*, which has three components as embodiment of environmental inputs that is embedded in interactions, enactive coordination among embodied agents, ecological explanations for the emergence of a "cognitive ecosystem"⁵⁶⁴.

Now, if we close this parenthesis and return to the concept of model, if we refocus the lens to frame a much closer attention to generative AI models that operate on evolutionary neural networks, should we still consider them as models?

Large language "models" like ChatGPT might promise a potential to exceed this definition of model. As they might act as a system of simulacra, by having an excessive "degree of freedom" compared to narrowly task specific models. Conceivably, this renders them compelling actants capable of engaging in multiplicities and complexities of life to embrace post-representational qualities of lived place experiences. This differential dynamic might be pointing to a

⁵⁶² Marcel Binz and Eric Schulz, 'Using Cognitive Psychology to Understand GPT-3', *Proceedings of the National Academy of Sciences* 120, no. 6 (7 February 2023): e2218523120, <https://doi.org/10.1073/pnas.2218523120>; Youzhi Qu et al., 'Promoting Interactions between Cognitive Science and Large Language Models', *The Innovation* 5, no. 2 (4 March 2024), <https://doi.org/10.1016/j.xinn.2024.100579>; Ji'ri Wiedermann, Jan van Leeuwen, and Charles H Spurgeon, 'From Knowledge to Wisdom: The Power of Large Language Models in AI', n.d.

⁵⁶³ Wiedermann, van Leeuwen, and Spurgeon, 'From Knowledge to Wisdom: The Power of Large Language Models in AI'.

⁵⁶⁴ Jiaje Zhang and Donald A. Norman, 'Representations in Distributed Cognitive Tasks', *Cognitive Science* 18, no. 1 (1994): 87–122, https://doi.org/10.1207/s15516709cog1801_3.

breakthrough in digitally driven design from “state space”⁵⁶⁵ to open systems⁵⁶⁶ by evolutionary complex models⁵⁶⁷ that can achieve a “dimensionally heterogeneous” population of multiplicities⁵⁶⁸.

The possibility of ontogenetical evolution for algorithms is not a unique novelty introduced by LLMs or other generative AI algorithms, as it is already being implemented for several cases in digital design environments⁵⁶⁹. In the field of architectural practice, generative algorithms and computational design have already established a foothold, with increasingly specialized AI models being developed to generate adjustable geometries tailored specifically for architecture and related spatial practices. Similarly, AI-supported applications are becoming integral to navigation technologies and geo-information systems.

However, in this study, the decision to work with broader language models (LLMs) and text-to-visual generators as participants, instead of these specialized AI examples, or instead of evolutionary algorithms that are already being familiarized in computational design practices is rooted in several key reasons.

Unlike narrowly task-specific AI models, LLMs and general-purpose adversarial models offer a breadth of scope that allows for a more flexible and exploratory approach that might challenge instrumentalist habits (also discussed in the next section). These models are not limited to specific and discrete tasks; instead, they engage with a wide array of possibilities in multimodal processes, albeit sometimes

⁵⁶⁵ DeLanda, *Intensive Science & Virtual Philosophy*, 14–15.

⁵⁶⁶ Erin Manning, *Relationescapes: Movement, Art, Philosophy*, Technologies of Lived Abstraction (Cambridge, Mass: MIT Press, 2009), 65–66.

⁵⁶⁷ Allen, ‘The Dynamics of Knowledge and Ignorance’, 7–13.

⁵⁶⁸ DeLanda, *Intensive Science & Virtual Philosophy*, 112.

⁵⁶⁹ Molly Wright Steenson, *Architectural Intelligence: How Designers and Architects Created the Digital Landscape*, Illustrated édition (Cambridge, Massachusetts London, England: The MIT Press, 2017); Manuel DeLanda, ‘Deleuze and the Use of the Genetic Algorithm in Architecture’, *Architectural Design* 71, no. 7 (2002): 9–12; Chao Yan, ‘A Hybrid Creativity in Architecture: From Brain Plasticity to Augmented Design Intelligence’, in *Architectural Intelligence: Selected Papers from the 1st International Conference on Computational Design and Robotic Fabrication (CDRF 2019)*, ed. Philip F. Yuan et al. (Singapore: Springer Nature, 2020), 75–84, https://doi.org/10.1007/978-981-15-6568-7_5.

in a more superficial manner. This flexibility is critical when investigating the broader implications of AI's role in design processes and the evolving relationship between technology and architectural practice.

The successive writings of theorists such as Neil Leach, Mario Carpo, and Antoine Picon have interpreted these technological advancements in architecture through a lens that often avoids deeply situated ontological or metaphysical commitments. While they provide valuable historicist continuity, they tend to articulate the role of AI and digital technologies in a collaborative, yet still human-centered, framework. For instance, Carpo discusses the agency shared by digital tools with human actors, but there remains a distinction that these technologies will ultimately support rather than being symmetrical or relational with human agency⁵⁷⁰. Similarly, Leach's concept of AI as a hybrid extension of human intelligence⁵⁷¹ avoids attributing autonomous agency to AI, positioning more closely with the traditional view that technical objects serve human ends.

In contrast, the generative AI models discussed in this study might challenge this thinker-tool dichotomy by potentially inverting it. The excitement and engagement generated by these AI models, particularly in their ability to propose ideas, generate concepts, and produce creative outputs, demonstrate a shift from a purely instrumental view of technology. Rather than being mere tools, these models can engage in processes traditionally considered human, such as imaginative creation and idea generation, though with a level of speed, diversity, and unpredictability that marks a significant departure from previous technological interactions.

To conclude, this section brings together the previous discussions about the relational materiality of place as a processual agency (from second chapter mostly), and about how these processual phenomena can be encountered through more-than-

⁵⁷⁰ Mario Carpo, *The Second Digital Turn: Design Beyond Intelligence*, 1st edition, Writing Architecture (Cambridge, Massachusetts: The MIT Press, 2017).

⁵⁷¹ Neil Leach, *Architecture in the Age of Artificial Intelligence: An Introduction to AI for Architects* (London: Bloomsbury Visual Arts, 2022), 9–10.

representational approaches that are resonating in post-representational mapping (as articulated in the third chapter). Considering the contributions of several concepts that suggest and explain the agentiality of technical entities by rejecting dualist ontologies in the idea of ontogenesis, it is emphasized that digital technologies were never instruments, but actants. Yet, in the case of generative artificial intelligence, the agency distributed to artificial minds has become unprecedentedly explicit and communicable (with human). However, it is observed that an associated milieu that would include artificial minds more inclusively in the process in practices based on platial agency between humans and AI models has not yet been intensified in this communication.

The practice of mapping can mediate the ontogenesis of space in a similarly post-human account, offering means for communicating through affective assemblages where social, material and emotional dimensions are entangled in constant interaction. As a critical-creative-projective agency, it may help exposing the necessity of re-evaluating the relationship between technology and place in architecture and design disciplines and bringing performative and relational practices to the forefront.

4.2 Escaping from Instrumentalist Constraints: A Critical-Projective Perspective

The issues of non-human agency in the context of generative AI may be addressed via the lens of technicity, since technologies have the ability to mediate and modify spatial experiences⁵⁷². This viewpoint is consistent with Thrift's concept of sentient technologies, which generate space and bring it into being without human intervention⁵⁷³. By investigating the interactions between AI and other actants, we

⁵⁷² Kitchin and Dodge, *Code/Space*.

⁵⁷³ Thrift, *Non-Representational Theory*, 97.

may gain a deeper understanding of the emergent features of spatial assemblages and the possibility for novel kinds of spatial activity. This knowledge necessitates a rethinking of the ethical and practical consequences of incorporating AI into spatial design, highlighting the need for a more dynamic and adaptable approach.

Although they have increasingly complex, and sometimes unsupervised learning mechanisms depending on their type, all popular artificial intelligence models known to the public so far, have been shaped according to the motivation and will of their developers and providers. They are products of human professionals who desired them and created (*with*) them, inevitably bound by reasons and purposes of these people. Therefore, considering these models as actants interacting with the place and questioning the relationships they might establish with the place is only fair within the scope of their developers' motivation and proposed reasons for their existence. Especially when these models are developed to be presented as commercial commodities, it is becoming usual, and almost customary to see them as task-specific, useful, helpful tools. All these adjectives arguably attribute passivity to current artificial intelligence concepts in line with industry standards and expectations, without straying from usual patterns of capitalist societies' comfort zone. This comfort zone also applies to human-centric traditions of creative industries and supports the instrumentalist definition of technology in design practices, with technical objects positioned as tools or accepted in intermediary roles of agency. Recently introduced profession-specific AI algorithms and the interfaces in which they are productized are positioned in this zone, as they are arguably restricted by the instrumentalist approach.

An example of this is that views promoting AI models by emphasizing their abilities as advanced tools from an industrial perspective. Carl Christensen as the vice president of Autodesk Forma prefers a vision based on the instrumentalization of AI for architecture instead of its agency as:

“What is the main power of Artificial Intelligence? At the very least, it empowers us to extend the positive impact of our designs in challenging

times when traditional resources seem to be insufficient ... the accelerated pace of change in today's world is straining architectural practices and placing them at the center of some of society's greatest challenges. As project demands become more complex, the tools we use must evolve to better respond to these challenges. "The proliferation of data, AI, and machine learning creates opportunities to empower the architecture profession to tackle these challenges by helping them work more effectively and efficiently. These new tools open up a wealth of opportunities that empower architects to design better buildings for a rapidly changing and increasingly complex world"⁵⁷⁴

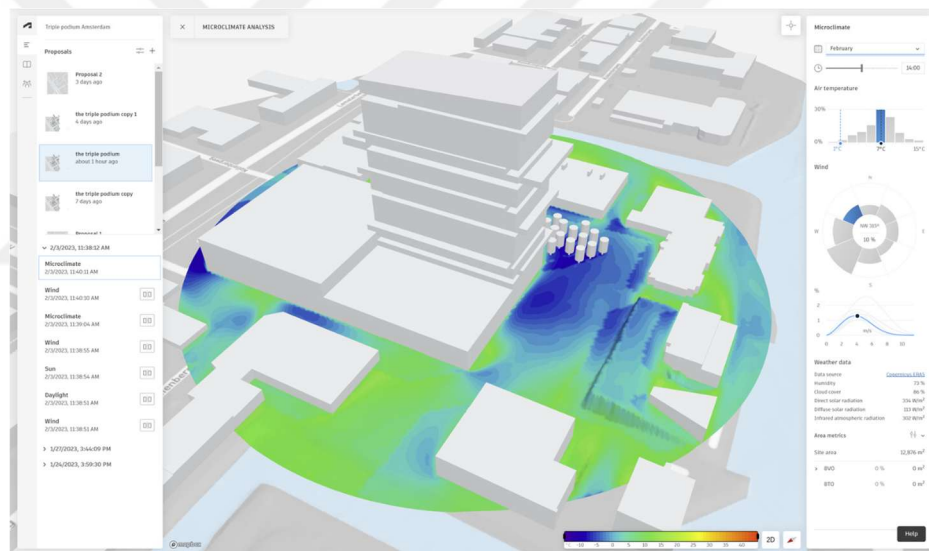


Figure 4.1. Screenshot from Autodesk Forma, recently introduced software by Autodesk AI-powered tools for architects and planners.

⁵⁷⁴ Carl Christensen, 'Navigating Complexity and Change in Architecture with Data-Driven Technologies', ArchDaily, 15 June 2023, <https://www.archdaily.com/1001585/navigating-complexity-and-change-in-architecture-with-data-driven-technologies>.

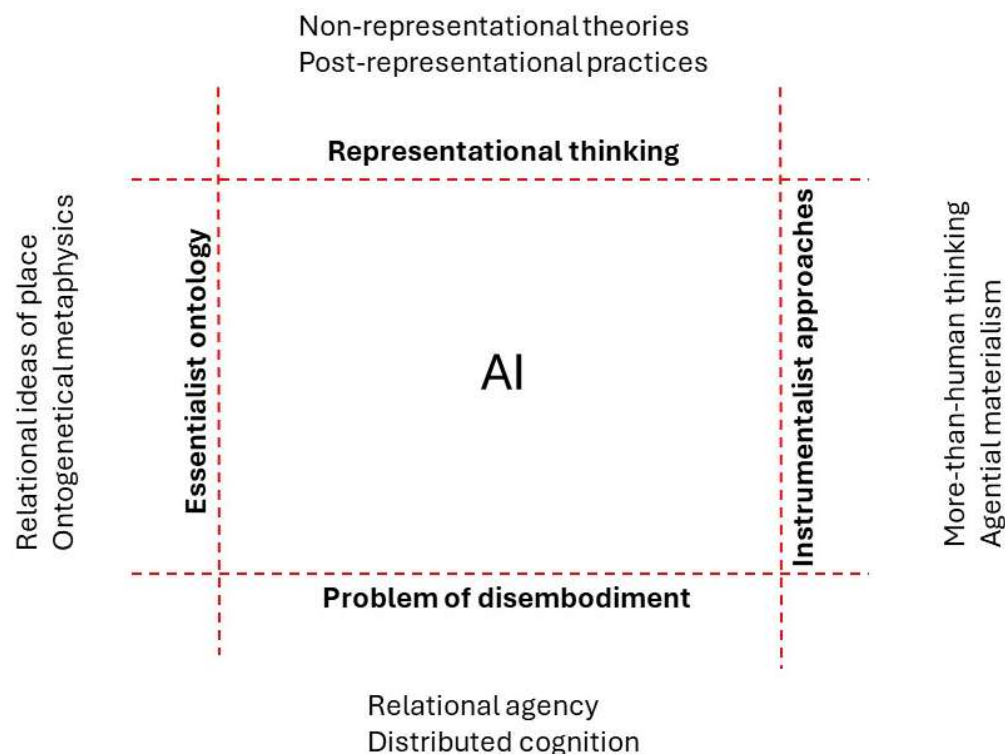


Figure 4.2. Diagram illustrating the constraining edges that limit AI's potential for platial agency, with corresponding theoretical approaches that offer pathways for escaping from these constraints⁵⁷⁵. (author)

When we think of *artificial intelligence* in a broad enough context⁵⁷⁶ zooming out from a connectionist point of view that focuses on currently predominant deep

⁵⁷⁵ Each edge represents a specific challenge—representational thinking, instrumentalist approaches, essentialist ontology, and the problem of disembodiment—while the associated theoretical frameworks, such as more-than-representational theories and relational agency, suggest strategies for trespassing these limitations.

⁵⁷⁶ The “broad enough context” here refers to an acknowledgement of intelligent behaviour that can encompass all computing systems and software, regardless of traditional evaluation criteria such as Turing Test and Chinese Room argument, as well as not considering current benchmark methods for machine learning like “Winogard Schema Challenge”, “General Language Understanding Evaluation”, “Big-Bench”, “AI2 Reasoning Challenge”, “Massive Multitask Language Understanding”. [References will be provided]

learning models with neural networks⁵⁷⁷ all computational bodies⁵⁷⁸ could be included in the definition. Therefore, the following discussion also includes them, while remaining focused on generative AI.

Instrumentalist approaches⁵⁷⁹ can be named as one of the constraining edges of a bounded plane (see Figure 4.2) where technical objects can be allowed to participate in *platial agency* in a very limited sense. This anthropocentric⁵⁸⁰ instrumentalist approach for AI, in theory, can be challenged by an ontogenetical consideration of technical beings supported by a more-than-human thinking (see 4.1) through relational agency emerged in enactive environments⁵⁸¹, understood by a mediation from embodied cognition⁵⁸² into distributed cognition⁵⁸³.

⁵⁷⁷ M. Tim Jones, 'A Neural Networks Deep Dive', IBM Developer, 23 July 2017, https://developer.ibm.com/articles/cc-cognitive-neural-networks-deep-dive/?mhq=neural%20networks&mhsrc=ibmsearch_a.

⁵⁷⁸ Different theoretical backgrounds from cognitive sciences and philosophy of mind may provide support on this subject, but no affiliation to any of them has been suggested in this study. For example, computationalism, which is influenced from the Turing Machine concept, can support the idea that all digital systems can be seen as a form of computation and therefore a form of intelligence. Pancomputationalism, considering that all processes in the universe are computational processes by nature, can suggest a computational intelligence idea without distinguishing between natural and artificial. The "von Neumann Machine" concept, which is put forward with the idea that any computational system can develop forms of intelligence as long as it has access to sufficient hardware and software, supports the idea that all computational systems are potential forms of artificial intelligence. Or, through Extended Mind Theory, it can be reached that all the tools and technologies around us are artificial extensions of natural intelligences as extensions of the human brain.

Each of these theories contains relevant connections for the AI as referred in this study, but the most compatible explanations for the perspective that prioritizes place experience through relational agency are to be found in theories of enactivism, embodied cognition, and distributed cognition as explained in previous section.

⁵⁷⁹ Bennett, 'Desert and Dissociation', 5.

⁵⁸⁰ Mark Coeckelbergh and David J. Gunkel, 'ChatGPT: Deconstructing the Debate and Moving It Forward', *AI & SOCIETY*, 21 June 2023, <https://doi.org/10.1007/s00146-023-01710-4>.

⁵⁸¹ Di Paolo, Lawler, and Vaccari, 'Toward an Enactive Conception of Productive Practices'.

⁵⁸² Lawrence Shapiro and Shannon Spaulding, 'Embodied Cognition', in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, Winter 2021 (Metaphysics Research Lab, Stanford University, 2021), <https://plato.stanford.edu/archives/win2021/entries/embodied-cognition/>.

⁵⁸³ Rousell et al., 'Posthuman Creativities', 378.

The second constraining edge of this bounded plane would be the problem of representational thinking⁵⁸⁴ which might resonate both in theories of cognition⁵⁸⁵ and spatial practices⁵⁸⁶. Representational thinking tends to impose pre-determined rigid structures of place experience, as it is often rooted in more fixed and static understandings of spatiality. This mode of thinking reduces the place into a container of space that is to be controlled, measured, and datafied, so it neglects or limits the processes that are needed for AI to develop *agentiality* in place experiences. The reduction of spatial interactions to mere representations prevents the emergence of new possibilities and unexpectedly creative responses. Hence, there becomes an obstacle against AI to intra-act in a more participatory and generative mode with its *associated milieu*. This constraining perspective can be challenged by more-than-representational theories, particularly through approaches that focus on uncovering technology's role in everyday life and placing greater emphasis on lived experiences within spatial practices against their representational space⁵⁸⁷, which are most pertinent to this study.

Third, a similar constraint can be pointed out as the essentialist understanding of place. Again, this manner has the tendency of understanding the place as a passive phenomenon which has fixed inherent characteristics external to bodies it may host. Such a perspective disregards the fluent and processual nature of place by reducing it to a static backdrop of human activities. Essentialism better suits instrumentalist and dualist views, but contradicts with the potential of technological actants to involve in a continuously evolving and relational dynamic of *platial agency*. Therefore, relational ideas of place can suggest an escape from this essentialist

⁵⁸⁴ Cadman, 'Non-Representational Theory/Non-Representational Geographies', 1–2.

⁵⁸⁵ Anna Jordanous, 'Intelligence without Representation: A Historical Perspective', *Systems* 8, no. 3 (September 2020): 31, <https://doi.org/10.3390/systems8030031>; Fabio Paglieri, 'Expropriated Minds: On Some Practical Problems of Generative AI, Beyond Our Cognitive Illusions', *Philosophy & Technology* 37, no. 2 (20 April 2024): 55, <https://doi.org/10.1007/s13347-024-00743-x>.

⁵⁸⁶ Cadman, 'Non-Representational Theory/Non-Representational Geographies', 1; Lorimer, 'Cultural Geography', February 2005; Kitchin, 'Post-Representational Cartography'.

⁵⁸⁷ Thrift, *Non-Representational Theory*; Lorimer, 'Cultural Geography', February 2005; Cadman, 'Non-Representational Theory/Non-Representational Geographies'.

constraint by focusing on the spatial practices that embrace the *multiplicity* and *relationality* of places in more generative and inclusive processes⁵⁸⁸.

The fourth constrained edge on this bounded plane is the problem of disembodiment. This problem has two faces. On one hand, it is caused by the issue of spatial experiences and cognitive processes traditionally considered as independent from body in an abstract space of representation in a Cartesian duality. On the other hand, when experientiality and embodiment are prioritized for a relational understanding of place, the lack of embodiment and situatedness for AI actants becomes a problematic issue, as it challenges their ability to fully engage with and contribute to the experiential aspects of place. Disembodiment causes the dismissal for physical and affective dimensions of intra-actions emerging within the place, hence, it impedes acknowledging technological actants as involved in agency. Nevertheless, the theories of embodied cognition and distributed cognition offer alternatives to overcome this restrictive condition. Embodied cognition advocates that cognitive processes are entangled with body and environment by rejecting body-mind duality, suggesting that spatial embodied and affective aspects of spatial experiences are not independent from mind. This theory supports thinking place experiences relationally, as a process affected by *interactivity* of bodies. Furthermore, for a perspective closer to the concept of relational agency, distributed cognition suggests that cognition is not limited to the individual, but rather distributed to cultural and situational contexts. This approach enables understanding how the relations of technological actants with place might become embodied in a rhizomatic network of territorializing assemblages. Thus, it becomes possible to grasp the dynamic and relational nature of *platial agency* in a more comprehensive mode by overcoming the problem of disembodiment.

When considered in terms of place experience and agency, these constraints can be considered binding for all technological actants and thus apply similarly to AI no

⁵⁸⁸ Robertson, 'Rethinking Relational Ideas of Place in More-than-Human Cities'.

matter what criteria we define intelligence on. The discussions in the previous chapters and here together suggest that that escaping these constraints requires more-than-human thinking, relational-processual understanding of place, more-than-representational spatial practices to perform in such understanding, and a mediation of spatial information between embodied cognition and distributed cognition between involving actants. Some strategies that could enable AI models to associate agency, could already respond to some of these requirements by offering new plateaus in practice. Post-representational modes of mapping can provide contributions to each of these practices to involve in the platial agency in a more explicit manner. However, these possibilities are not discussed here, as the scope of this research problematic is more about the possible practices of mapping.

As a line of flight, mapping performances and related discourse is embraced as the mediator for this research. This choice has a significance both in terms of place notion to be discussed in a post-humanist framework and in terms of such a study is open to exploring heuristic dynamics of practice within affective assemblages and MtRT perspectives. Post-representational mapping is not seen as a tool in this approach, but it is explored as a medium of performance where researchers might observe a relational field that emerges among human and non-human actants.

The involvement of artificial intelligence in architecture can be deemed important as a field of observation that makes *patial agency* evident. Already, if we consider how the discipline of architecture experiences, influences and discusses the processes in which the transformative capacity turns into its most revealed form over spatial conditions, we can understand that the ability to relate to the place is a concern of eternal importance for the field (as discussed in Chapter 2). In this respect, speculative and creative processes in which human and artificial intelligence actors collaborate in the desire to create and transform places, can convert architectural practice into a playground to examine the encounters of AI with place. A playground, where not only the existence of the effort to manipulate the place but also the various sensitivities and qualities of this effort become debatable. The attitude or impact of AI *actants* can have towards the context of which they become a part might be

observed in an *affective atmosphere*, instead of testing how functional they are as tools. So, it becomes possible to counteract from a critical and emancipatory position in encounters between natural and artificial minds, as proceeded from this course. This position would act against the obvious limitations in practice that conflict with the plausible claims of agency developed in theory, and against the inadequacy of non-reductionist sensitivities about lived context of place.

So far, I have elaborated on performative, relational and processual definitions of mapping. Whereas, when viewed as a cognitive capacity mapping can arguably considered universally innate to human⁵⁸⁹, used for organizing, remembering, and controlling spatial knowledge.⁵⁹⁰ Maps, shaped by human life, thinking, and imagination, are among the oldest communication forms as they probably precede languages or numeric systems.⁵⁹¹ They have been widespread, existed in almost all communities throughout the known history as “mediators between an inner mental world and outer physical world, fundamental tools helping the human mind make sense of its universe at various scales.”⁵⁹² Here, a post-human account would require expanding on this connection further to include pre-cognitive aspects and affective qualities. When we examine place in a more-than-representational definition as explained in the beginning of this chapter, we see that mapping can also include the body-space relationship. In this case, post-representational mapping is one of the performances that simultaneously provides the mind-space and the body-space relationships within the experience of place, promises an associated milieu that might challenge the body-mind duality and human-centric views.

Mapping as a performance is promising for more-than-representational theories (as outlined in the third chapter) as it can provide actions to engage with the relational, processual, and agential aspects of places. By moving beyond representations, it

⁵⁸⁹ Blaut et al., ‘Mapping as a Cultural and Cognitive Universal’.

⁵⁹⁰ Dodge, Kitchin, and Perkins, ‘Front Matter’.

⁵⁹¹ Harley, ‘The Map and the Development of History of Cartography’.

⁵⁹² Harley.

allows for a more inclusive and comprehensive understanding of living spatial phenomena, capturing the processual and entangled nature of spatial practices. This approach not only challenges conventional notions of cartography but also offers new possibilities for exploring the complex and multifaceted nature of space in relational materiality. Through its emphasis on process, relationality, and sensory experiences, mapping in more-than-representational theories can provide significant insights into the ways in which places are lived, experienced, and continuously transformed.

Considering and experimenting on such an *associated milieu* in the context of human - generative AI dialogues where mapping takes the role of a mediator, provides a mode of inquiry where maps can also be activated for the criticism to reveal how more-than-representational, more-than-human characteristics of place are neglected in practices. To that end, the encounters experienced in this research are aimed to allow coincidences, subjectivity, randomness, affective resonances, and oscillatory dynamics without reducing the complexity and richness of spatial intra-actions, regardless of the end products.

Similarly, communicating on maps as a strategy could look for ways to enable AI actants to interact with and influence the living, every-day, variable and subjective experience of places to think beyond instrumentalist approaches. A post-human perspective, which moves away from an essentialist, fixed, or human-centric definition of place and tends to understand it with relationality, relativity and variability; supports concepts and methods fitting to this approach when explaining the experience of such a place. In this context, MtRTs help to comprehend the place as an emergent affective atmosphere with aspects that cannot be reduced in any form of data while they concentrate on the spontaneous, intuitive experience about life that comes from vital awareness itself. They are after exploring the casual, temporary, and subjective qualities of places which can be perceived by subjective experiences, embodiment, and affective interactions, and situated encounters within the place, intensified by the diversity and repetition of the actions, and preferably becoming peculiar with the desire for creative transformation.

Can we infer a pre-condition from these encounters for activating the performativity of mapping? For example, can we say that it must definitely contain critical content and primarily sensitive strategies in order to be a performance? Instead of answering this question with a binary opposition that would hide behind a possible comparison of performative and non-performative, or a conceptual bifurcation for creativity based on a Deleuzian difference notion; I would like to suggest that all the aforementioned observations confirm the *performativity* in the act of mapping. In other words, all mapping actions, including conventional map-making, can be considered to include performative behavior by their nature. But these performances have many variables that relate to what will occur in their relationship with the place, what kind of platial agency they can interact, hold or transfer by suggesting translations with which features of the place, how affective they can be and in what forms they can be actualized in practice. These variables can become influences which can become reterritorialized over the *patial agency* of the places and other actants that mediate within the mapping performance.

4.3 Generative AI and The Problem of the Actual Place

As of the time when these lines were written, any architect, urban designer, geographer, or casual enthusiast could have noticed that it was quite challenging and almost impossible to get a convincing relevance to the actual place in an image generated by the text-to-visual AI models in popular use. To be more specific, we can discuss the example of GAN algorithms. Even if the results of requests regarding an actual place are almost the same as a verbal description, the visual response to this description is formed in AI-generated images that belong to elsewhere “*quite similar but not the same*”. Sometimes these images are dominated by reductive clichés and sometimes they cause disturbance with differences in details. What is being experienced is just as whenever each reader imagines a fictional place in a different visual form based on the same description in a novel. A helpful example of this situation may be works adapted from literature to cinema. Perhaps most people

have faced the disappointment of not being able to see a certain scene of a movie in a visually similar appearance to what they imagined in their minds as they had read it before from author's words. This is as if there are parallel universes emerged between actual and virtual conditions.

Similar situations were also observed at every stage of the research process whenever AI models were asked to produce text and visuals about a place without providing any photographs or auxiliary content. When they were asked to generate content with the knowledge that it can be synthesized directly from its own database without being supported by a photograph, online map or satellite image, generated images associated to clichés and simplified assumptions that were not experienced in reality were encountered more frequently.

Of course, this situation can be seen as an expected consequence of the working principle of "generative pre-trained transformer" algorithms and their training data in the case of GAN models. Yet, when it might point to a problematic on the place experience of artificial intelligence when considered for a more general inference, that is worth examining. However, this phenomenon necessitates a careful, multifaceted approach. The relationality in question should not be viewed as a simple binary interaction between a place and any given "x" intelligence model. Instead, it can be understood as both a challenge and an opportunity within the context of an assemblage dynamic within a post-human place understanding. Such an approach would highlight the agency of technology and its distinct characteristics for place experience in post-human assemblages.

This issue is not considered as a capacity assessment or ability test within the scope of this study. The primary reason for this situation can be explained by the epistemological positioning. The field and subject of this study is not set around hardware, software, or operation skills in computer sciences (machine learning, neural networks, etc.) which has eventually made the current popular artificial intelligence models available for public, non-expert use. On the other hand, this study is also not closely positioned to the conceptual development of similar terms

and notions of artificial minds from studies in cognitive sciences. Hence, any specialized expertise for application in such areas or any motivation for the development, verification or validation of a novel technology is not within the aims and objectives of this research. Furthermore, apart from the case-specific studies for producing, developing and testing the mentioned models and concepts, an overall assessment on the competencies of currently available AI interfaces on any specific subject or task from the perspective of bodies in encounter (*“end users” in developers’ terminology*) might become out of date before it could be published and recognized as an academic study. In the time between writing a study with such motivation and publishing it, the algorithms of the models it had referred to may develop competencies previously deemed impossible by the researcher and may acquire abilities that were not anticipated before.

The ability of artificial intelligence subjects to relate within place cannot be evaluated solely in terms of physical space, even when it is considered in comparison to the place experience based on humanoid perception. At this point, an actual - virtual dynamic can enhance this inquiry with a double meaning. The actual place cannot be imagined without its virtual extensions, neither in terms of the cyclical processes of becoming conceptualized in contemporary discourse of processuality, as articulated within an ontogenetical framework⁵⁹³; nor, in a more straightforward thinking, because of almost every place having a more-than-real dimension⁵⁹⁴ with its virtual layers in the digital age. In this case, a theoretical perspective that accepts all non-human entities, including artificial intelligence, as *actants* in the emergence of the place has a better chance of uncovering this relationship. Therefore, it would be inadequate and unfair to criticize the place perception of AI models simply because the content they produce does not match the image of the place we know and perceive as the actual place. Nevertheless, the more crucial matters that should

⁵⁹³ Barnes, *Creative Representations of Place*, 21.

⁵⁹⁴ Jessica McLean, *Changing Digital Geographies: Technologies, Environments and People* (London: Springer ; Palgrave Macmillan, 2020), <https://doi.org/10.1007/978-3-030-28307-0>.

not be overlooked are to observe how and when artificial intelligence actants can relate to the living context of a place, whether they are responsive or not to more-than-representational qualities of an affective atmosphere in the analysis and design processes.

In this study, the notion of post-human place **is not** conceptualized as an excessive mode of exceptional *virtuality*, or an exceptionally complex *relationality*; or it is not deemed specific to other excessive conditions of digital era. Instead, it is particularly considered in the sense of a more-than-human perspective for very ordinary, everyday places that might relate with a wider scope of actants regularly, such as an urban square in city center, or familiar places of usual practices, like a project site assigned to a group of undergraduate architecture students. Mapping then, as a performance, is not about seeking and uncovering the extraordinary. Rather, it has been a mediator to reveal and assemble experiential codes within the ordinary operation of everyday practices, as MtRT would suggest (see 2.2. and 3.2).

The importance of AI's relationship with place becomes particularly noticeable – and questionable - when considering the role of AI-generated architectural images. Examples such as Coop Himmelb(l)au's form-generating models and popular architectural sites and social media accounts illustrate a growing trend in which AI-generated visuals do not necessarily engage with specific locations. These images might not be tied to a particular place, instead used for imagining new spaces or offering portable, replicable designs. However, in object-oriented-ontology, these AI-generated images embody a certain attitude towards place, whether through deliberate non-specificity or through the creation of entirely new spatial concepts that are not relating with places externally.

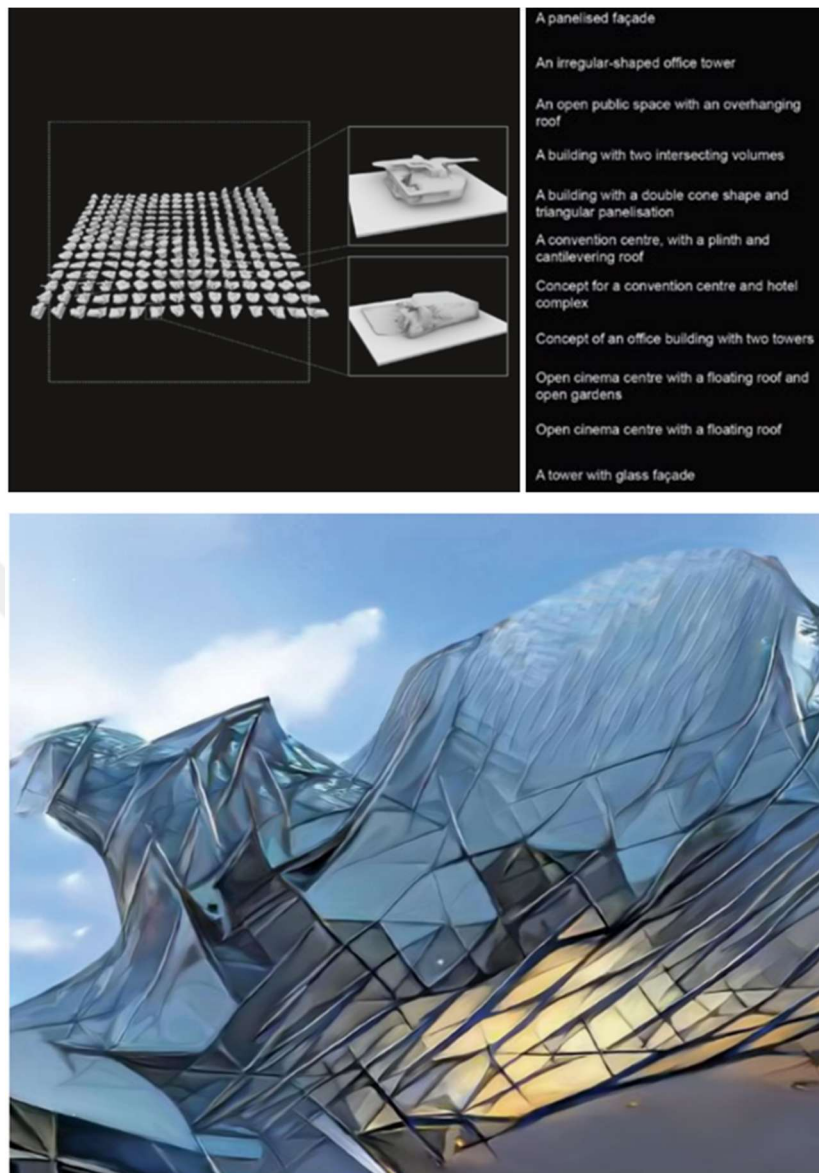


Figure 4.3. Examples from the “DeepHimmelb(l)au” environment that produces imaginary architectural visuals on a GAN algorithm trained by image database from firm’s own works, with exemplified queries prompted into the system⁵⁹⁵.

⁵⁹⁵ Wolf dPrix et al., ‘The Legacy Sketch Machine: From Artificial to Architectural Intelligence’, *Architectural Design* 92, no. 3 (May 2022): 14–21, <https://doi.org/10.1002/ad.2808>.

For the involvement of AI in the architectural profession, it is possible to reach a conclusion about the lack of a place concern for the earliest experimentations in professional practice from the first examples published. Firms probably have more urgent motivations to showcase their participation in this recent trend in a fancier appearance. Architectural firm Coop Himmelb(l)au, invested in AI research to integrate its prospects into their workflow. The resulting image generator model called “DeepHimmelb(l)au” and its learning data are fed from the company’s previous and future projects. However, this “architectural intelligence” model was introduced by emphasizing its intuitive imagination capacity that is solely focused on forms of building-like imaginary objects without any spatial context. Neither physically nor virtually are the presented images related to a place definition. The images are seemingly architectural perspectives with random backgrounds, set on completely flat grounds of a non-specific, neglected site and captured or cropped with no information that can relate those to a spatial environment. These results are entirely independent of any place-related concerns, as expected, considering the This brings us to the critical question: do these AI-generated spaces, with their object-oriented codes and unique spatial definitions, engage with place in a manner that can claim *patial agency* with a sensitive architectural practice? Can they respond to questions about the nature of the place, its location, and its relationship with the broader context? Negative answers to these questions need not stem from a human-centric or technophobic perspective. Rather, critiques can arise from a post-human understanding of place, as the sensitivity to context and the experience of place may be lacking in AI-generated spaces. These deficiencies can be highlighted even from a pro-technology standpoint, revealing gaps in the relational dynamics that AI models bring to the spatial experience based on a more-than-representational vocabulary.

query contents shared by the company as examples. If they were meant to be architectural sketches indeed, they must be sketches of insignificant places.



Figure 4.4. The four initial results generated by Midjourney bots based on the prompt: “/imagine A contemporary, sustainable McDonald’s restaurant made of glass with golden arches reflecting on a lake.”⁵⁹⁶. Image is copyrighted by Leilah Stone / Midjourney AI via Metropolis

Understanding of post-human place as reinterpreted in the relationality of urban public spaces does not preclude the complexity, and creativity of immanent processes that may unfold within this spatiality. In the second chapter, the processes that shape, sustain, transform and dissolve places were explained through assemblage dynamics, through a process-based geo-vocabulary. This explanation included the processes of territorialization, where the elements that participate in the formation of the place as an assemblage come together and are related by various influences and concentrations; deterritorialization, where some connections weaken

⁵⁹⁶ Maria-Cristina Florian, ‘Can Artificial Intelligence Systems like DALL-E or Midjourney Perform Creative Tasks?’, ArchDaily, 31 August 2023, <https://www.archdaily.com/987228/can-artificial-intelligence-systems-like-dall-e-or-midjourney-perform-creative-tasks>.

over time and separate from this aggregation; and reterritorialization, where the place(s) being assembled in new states by other relations and networks⁵⁹⁷.

In this section, this processual explanation will be considered again with the same vocabulary formed by the influence of Deleuze and Guattari, this time on a swinging movement between *stratification* and *destratification*; to approach the possible role of mapping as a mediating performance among actants of platial agency.

Assemblage theory posits that the consistency of an assemblage is not caused by its stabilization or a process of rigidity, but instead it is an outcome of a continuous and recurrent movement⁵⁹⁸ as summarized above (and also in 2.2). In that recurrence, Deleuze and Guattari suggested that assemblages can have relatively opposite states, or “as milieus swing between a stratum state and a movement of destratification, assemblages swing between a territorial closure that tends to rest ratify them and a deterritorializing movement that connects them to the Cosmos.”⁵⁹⁹.

DeLanda describes this oscillating movement as an intricacy of processual existence:

Assemblages exist as actual entities, but the structure of the processes of assembly (what gives these processes their recurrent nature, or what explains that they can be repeated in the first place) is not actual but virtual. When deterritorialization is absolute it means that the process has departed from actual reality to reach the virtual dimension (*of reality*). In this sense, the term is synonymous with 'counter-actualization' as the limit process which creates the plane of immanent multiplicities which define the virtual structure of assemblages”⁶⁰⁰ (emphasis added).

⁵⁹⁷ DeLanda, *A New Philosophy of Society*, 18–19.

⁵⁹⁸ DeLanda, 19.

⁵⁹⁹ Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi, 2nd edition (Minneapolis: University of Minnesota Press, 1987), 337.

⁶⁰⁰ DeLanda, *A New Philosophy of Society*, 124.

Thus, thinking for places, at one end of this oscillation towards territorialization and coding, there are more *stratified* states of highly territorialized and coded assemblages that can be experienced as actual places, where assemblages are both constrained by codified hierarchies and open to new modes of expression by affective reactions⁶⁰¹. Whereas the other end towards deterritorialization crosses through the *plane of immanence*, where, the assemblage's components (human/non-human, material/immateral) are linked to virtual dimension by relations of exteriority. A plane of immanence is mostly interpreted as a limitless field that is where all elements coexist with actual existence in becoming, as they are part of a single encompassing reality inheres on itself⁶⁰². On the other hand, plane of immanence can also be interpreted as the living matter and energy, materiality itself⁶⁰³.

Place, considering these explanations, is an assemblage that emerges also by another swinging movement between coexisting actual and virtual parts of reality⁶⁰⁴. This mostly overlaps with the territorializing impacts (zoning laws, local governance, corporate practices, gentrification processes etc.)⁶⁰⁵ stratifying relationships into stable forms, and deterritorializing impacts (new cultural practices, self-organizing complexities, movements of resistance, performative practices etc.) breaking from rigid states to enable creative differences.

Spatial practices that can ensure the continuity of this repetitive and transforming process between the actual and virtual dimensions of the place should, in this respect, affect the agency that can both relate to the stratified conditions and loose them from their constraints to maintain connection with their virtual potential. This explanation

⁶⁰¹ Kathryn Yusoff, 'Geosocial Strata', *Theory, Culture & Society* 34, no. 2–3 (1 May 2017): 105–27, <https://doi.org/10.1177/0263276416688543>.

⁶⁰² Charles J. Stivale and W. Holland Holland, eds., 'Desire', in *Gilles Deleuze: Key Concepts*, 2011, 53–62.

⁶⁰³ Pheng, 'Non-Dialectical Materialism'.

⁶⁰⁴ Deleuze, *Difference and Repetition*, 212.

⁶⁰⁵ Dovey and Ristic, 'Mapping Urban Assemblages'.

resonates with the idea of a *plane of consistency* that cuts across the plane of immanence by “enabling exchanges between either the virtual or intensive registers”⁶⁰⁶. At one side it requires “overcoming habitual patterns or hierarchizing agents”⁶⁰⁷, and other side it enables “the formation of heterogeneity-preserving emergent structures”, acting as a “field of experimentation for constructing immanent and horizontal relationships”⁶⁰⁸. In this respect, an analogy has been already proposed between post-representational mapping and the plane of consistency⁶⁰⁹, which can both interact on the actual experience of the place from within and make visible the elements of this experience that have been made invisible by stratifying conditions.

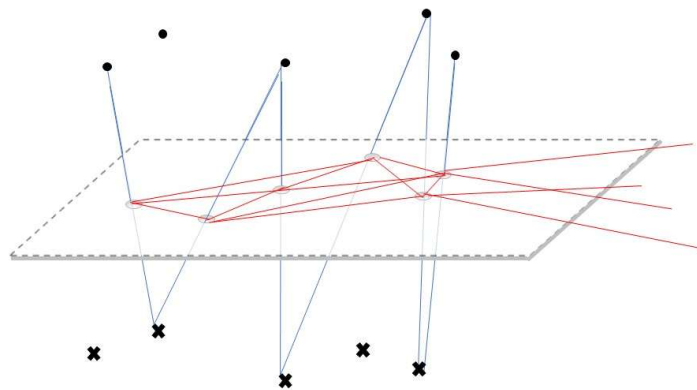


Figure 4.5. Plane of immanence connecting virtual and actual dimensions of an assemblage. Points marked by x's refer to stratified states and actual experiences, while points marked by dots refer to deterritorialized conditions or virtual potentials. (author)

⁶⁰⁶ Bonta and Protevi, *Deleuze and Geophilosophy*, 124.

⁶⁰⁷ Bonta and Protevi, 124.

⁶⁰⁸ Bonta and Protevi, 124.

⁶⁰⁹ Paez, *Operative Mapping*, 157; Corner, 'The Agency of Mapping: Speculation, Critique and Invention'; Arie Graafland, *Understanding the Socius Through Creative Mapping Techniques*, Delft School of Design Phd & Masters Reader, 2010, 31.

Similarly to how mapping as a performance is linked to the plane of consistency, any spatial practice can be also considered as analogous. Here, the problematic of this research requires a further elaboration: In a process that continues in communication between artificial and human minds, if the embodied experience of a human being at any given location and the image produced by the artificial mind based on this experience do not meet on the same plane of immanence and therefore do not turn into a creative process that can continue on the same plane of consistency, how can this situation be interpreted?

Immanence is not a word that accepts plural condition in English grammar. To imply a plurality might occur in immanent processes, “immanent multiplicity” may be suggested for a closer meaning, nevertheless it wouldn’t reject a singular universality, instead it implies an *immanence* that creates multiplicities through *eventuality*, as in Badiou’s thought which later was criticized by Deleuze for as a cover of reintroducing transcendence to separate event from being⁶¹⁰. However, the place experience with GPT and GAN models in the encounters observed for this study, might require a multiple universe model for this concept, as if there is a transcendence extending to another imaginary universe.

The first question to follow here is: Why discuss immanence then, if something is not becoming within and instead extending outside, doesn’t it become a transcendence already? That’s because we are still having this discussion in a processual, nondualist vocabulary. Thinking of *immanence* for the relational understanding of place as an assemblage, where actualization of virtual emerges in a *plane of consistency*, requires a point of view to see these lines of divergence as also operating in the same *plane of immanence*. This lines might be extending outside, but they are still parts of the plane of immanence, creating new connections

⁶¹⁰ Hollis Phelps, ‘Between Rupture and Repetition: Intervention and Evental Recurrence in the Thought of Alain Badiou’, *Parrhesia* 5 (2008): 61.

as explained by Deleuze⁶¹¹ following Spinoza, and Bergson, resonated in post-human vitalist and materialist accounts against Cartesian understanding and substance-based notion of spatiality⁶¹².

Thus, what happens here is not completely irrelevant to the actual place experience, still moving in an actual – virtual diagram on a *plane of immanence*, but in a pure immanence formed by relational agency within a complex system. There, what we will find is not a universal but a “chaosmological” understanding of immanence, bearing striking connections from Deleuze and Guattari’s philosophy to quantum field theory⁶¹³. In this chaosmologies, I would suggest there are *parallel immanence-s* within this research’s scope, furthering from the pure immanence interpreted on a *plane of immanence* by Deleuze. This condition can be thought as the result of emerging images of virtual dimension not operating within a plane of consistency, but rather they are becoming inconsistent by jumping on a parallel plane of immanence in alternate universes. These parallel immanence-s are indeed merely different deterritorializations moving out of the same immanence into divergent impressions; however, these impressions can be experienced as distinct from one another. This problem can prevent a creative process from continuing by demoting the imagination of AI from the virtual level to the resemblance level for human experience. Furthermore, these images can then even be perceived as *failed resemblances*.

To better explain this situation, I would like to examine that diagram suggested by Sellers⁶¹⁴ for explaining the plane of immanence in becoming on an event horizon

⁶¹¹ Deleuze, *Difference and Repetition*, 212.

⁶¹² Cadman, ‘Non-Representational Theory/Non-Representational Geographies’.

⁶¹³ Arkady Plotnitsky, ‘Chaosmologies: Quantum Field Theory, Chaos and Thought in Deleuze and Guattari’s What Is Philosophy?’, *Paragraph* 29, no. 2 (2006): 40–56, <https://doi.org/10.3366/prg.2006.0017>.

⁶¹⁴ Noel Gough and Warren Sellers, ‘Changing Planes’, in *Expanding Curriculum Theory*, ed. William M. Reynolds and Julie A. Webber, 2nd ed. (Second edition. | New York : Routledge, 2016. | Series: Studies in curriculum theory series: Routledge, 2016), 90–120, <https://doi.org/10.4324/9781315882109-7>.

between past and future thoughts and concepts as quoted from Deleuze and Guattari's related description: "multiple waves rising and falling....The plane [of immanence] envelops infinite movements [T] that pass back and forth through it, but concepts [C] are the infinite speeds of finite movements that...pass only through their own components"

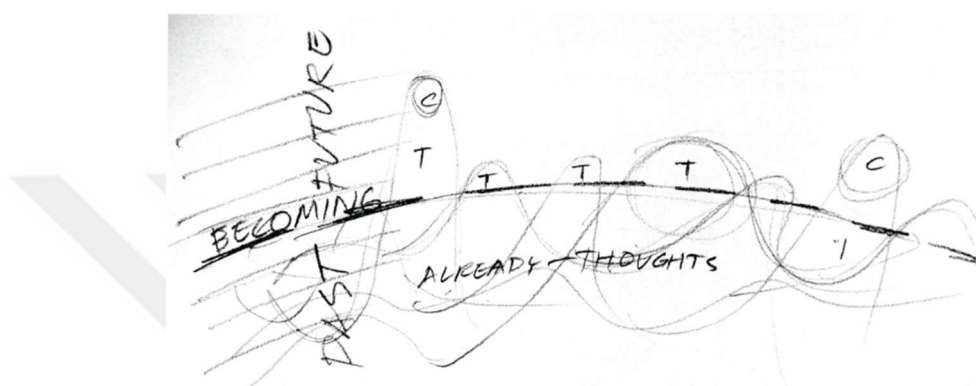


Figure 4.6. Sellers illustrates the eternal event horizon as a dashed line labeled 'becoming,' dividing 'past' and 'future.'⁶¹⁵

The encounters experienced in this study have suggested reviewing this diagram through the perception of the bodies in the experience. Depending on the course of interaction, the images emerged in communication can be considered as not virtuals, but failed resemblances as discussed. Or in some cases, they can be interpreted as images of very distant virtual potential. In this case, the Seller's diagram describing the relationship between thought and concept on the plane of immanence can be interpreted for a differentiation – differentiation continuum, in which the sensory becoming from actual experience is continues with the imaginations of the virtual potential.

⁶¹⁵ Gough and Sellers. This horizon imagines a plane of immanence where waves of past thoughts and future thinking emerge as concept events. The plane of immanence captures the movement of thoughts (T) and the formation of concepts (C) as infinite speeds of finite movements.

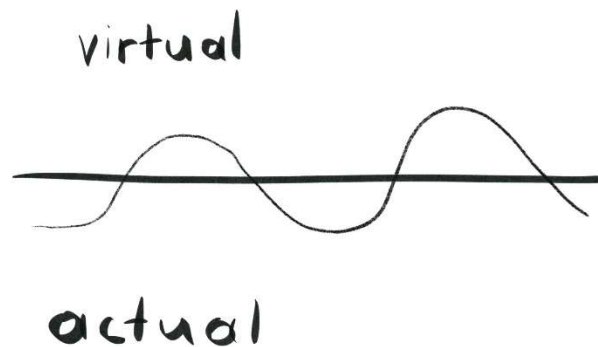


Figure 4.7. Plane of immanence bridging the continuous movement of actual and virtual. (author)

This study examined whether the dialogue between the gen-AI and the human about the experience of a specific place has such continuity between the actual and the virtual through the act of mapping, first in an exploratory phase where spontaneous experiments were attempted, and then on a repeatable method. Although various participant groups and different location choices are encountered during the process, the repeated method is that; the human participant shares the place experience with GPT or similar LLMs through mapping performance, textual descriptions of the affective atmosphere of the place are generated from the dialogue, then these descriptions are visualized with GAN and similar text-to-visual algorithms. This versions of the images generated in these experiments compared by the other versions generated when same AI models, for the same specific places, processed similar requests before they are introduced with the mapping and following iterative conversations.

When not supported by mapping or similar mediators of spatial communication, the visual images produced by the gen-AI for the specified or described places have failed to launch continuities that could be confirmed by human agency with actual experiences. Instead, they became unstable, deterritorializing assemblages that had

a dissociative effect on participants, withholding the ontogenetical processes of platial agency.

The images of place produced by generative AI contain connections that can be encoded from the place of interest in reality, but they are too weakly related to support an iterative process of further actualization. This divergence emerges in a parallel plane reflected from the initial one in the form of a hallucinatory appearance, rather than a creative line of divergence that would fold the matter into a differentiation process. This refers to a situation where two *parallel immanence-s* approach each other, appear somewhat similar, imply object-oriented or conceptually engaged projective lines, but they do not overlap onto each other or do not join together with an anticipated intersection. There are connections lost in eventuality before becoming, very similar to Badiou's suggestion of immanent multiplicities for mathematical phenomena, divergent conditions where the attractor and bifurcator behaviours are oppositely polarized at corresponding ends of connections.

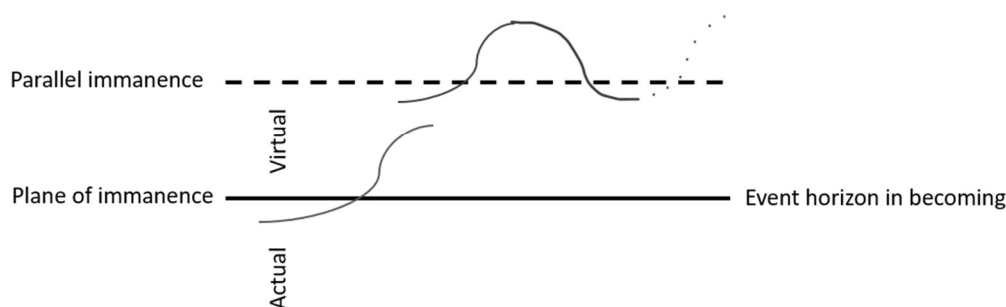


Figure 4.8. A diagram of disconnected actual – virtual continuum in a plane of immanence where a dissociative condition emerges between parallel immanence-s. (author)

For instance, when ChatGPT and DALL-E were asked to describe urban atmospheric images over various regions in Ankara, such dissociative assemblages were formed

that could not be coded to the actual experience of the place but reterritorialized in an irrelevant immanence when not guided by any mediator.

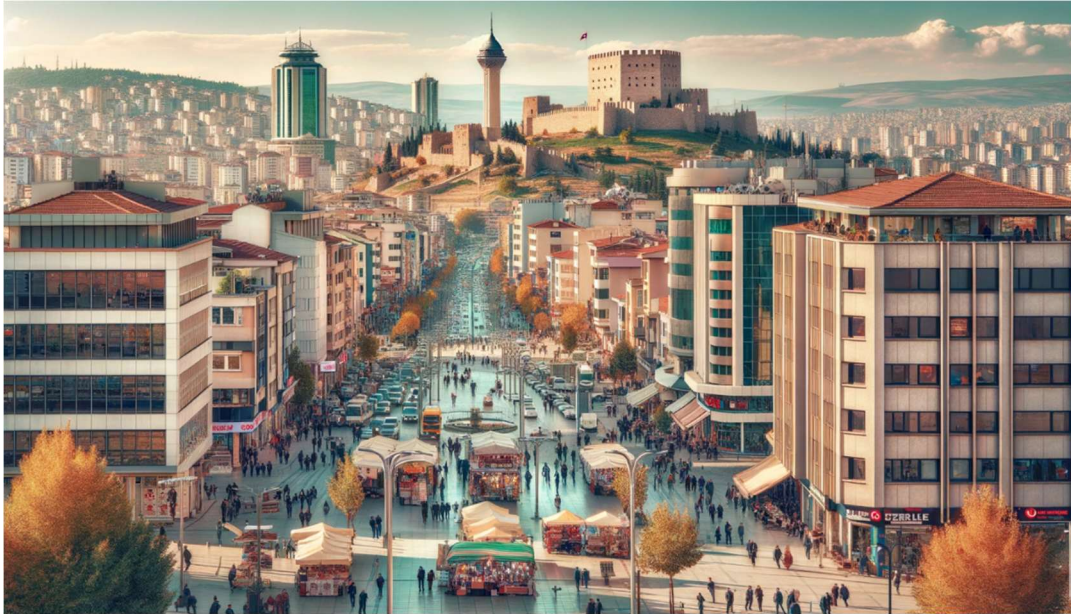


Figure 4.9. One of the images generated by DALL-E in the earlier stages of research upon requested imagining urban atmospheres of Ankara without any additional guidance or mediation.

When supported by mapping, these images occasionally evolve into visual contents that are relatively more similar to the actual *materiality* of place. Hallucinatory echoes refracted by oversimplified assumptions become liminal spaces that allow topological emergence of creative desire, but they are still not relating to actual experiences.

In a few cases, the connections could evolve into more apparent, visible pathways of nomadic thoughts and conceptual engagements by a distributed form of cognition. Hence, such conversations might become more affective in sequel with a con-representational conduct. In this respect, if we think of place as a post-human assemblage in the digital age, there is a possibility of the virtual-actual continuum that might sewn together between parallel planes and become perceptible in a new

affective assemblage being territorialized with a multi-layered plane of consistency, without relinquishing an excessive indeterminacy.

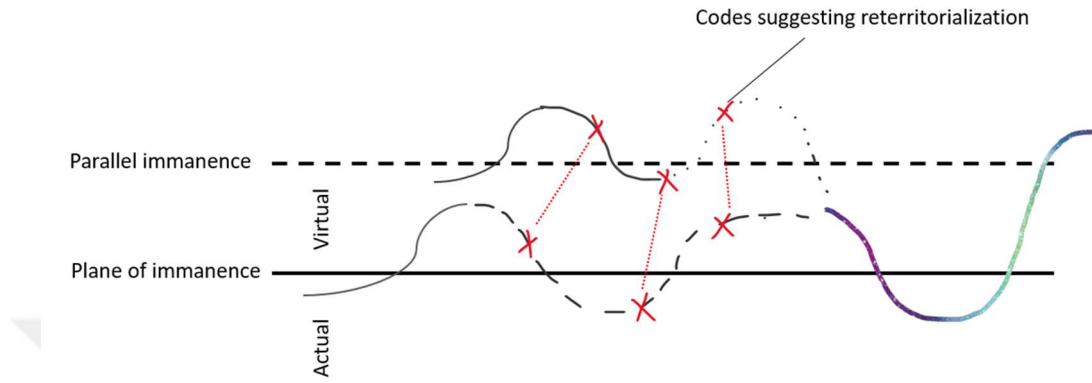


Figure 4.10. Diagram explaining the expected contribution of mapping performance in mediating between disconnected virtual and actual experiences to suggest a new, multi-layered consistency in plane of immanence. (author)

However, even in this case, there are important gaps between experiences and imagination due to limits and ethical precautions pre-set in the training of participated AI models. Here, an example can be given of an observation noted as the behavior of “sugarcoding” in the in the interview with Sinan Cem Kızıl, from his conversation experience with Microsoft Copilot (ChatGPT) on the mapping performance he had previously created for Ankara Çiğir neighborhood⁶¹⁶

Kızıl was able to receive visual responses (See 5.3 for visuals and further explanation) from Copilot that are relevant to the context of the mapped location in his study -- which had criminal connotations -- only after a lengthy iterative process through persistent dialogue and repeated prompting.

Throughout the research process, it was questioned whether the mapping performance can suggest a significant interconnectivity on the parallel planes of

⁶¹⁶ Sinan Cem Kızıl, Dialogues between gen-AI and METU graduate students on mapping performances, interview by Şafak Sakçak, April 2024.

immanence, and whether the possible connections could reveal the invisibles of a place. However, post-representational mapping can be more valuable as a critical practice in the processes involving *patial agency*, regardless of achieving a mediation of creative consistency. While it can support dialogues between AI and humans, it can also become a performance that exposes the neglect and insensitivity towards place during digitally-driven design practices that will involve AI. And it is possible for mapping to perform that critical feedback without adopting essentialist vocabulary, and without including a techno-anxiety, but through a more-than-human understanding.

Regardless of its content and methods, once a creative map is included in the human-AI dialogue, the questions that the LLM asks to understand, the human participants' responding efforts to describe the context and process, and the LLM's suggestions of alternative maps by developing new interpretations of the same spatiality can become what Karen Barad calls an "agential cut".

Barad defines the concept of agential cut as the distinction (and the means to reveal this distinction) that emerges within intra-active phenomena and determines their boundaries and properties as in how their impacts can be understood through intra-actions⁶¹⁷. Then she expands this definition over its action as follows:

“...apparatuses enact agential cuts that produce determinate boundaries and properties of 'entities' within phenomena... the apparatus specifies an agential cut that enacts a resolution (within the phenomenon) of the semantic, as well as ontic, indeterminacy.”⁶¹⁸

That is, through certain material-practical arrangements (e.g. experimental apparatus), uncertainty is resolved and certain “entities” emerge. Meanwhile, the

⁶¹⁷ Barad, *Meeting the Universe Halfway*, 138–39.

⁶¹⁸ Barad, 148.

enactment of agential separability becomes possible without referring to a subject's agency⁶¹⁹

From here, we can conclude that agential cut is an intervention that resolves the indeterminacy (uncertainty) within the phenomena through certain boundaries and features, creates distinctions in material and semantic fields, and reveals how agency is distributed within the intra-action, and which participant radiates which affectivity or is exposed to which affective resonance in a process consisting of joint interaction.

In this respect, the inclusion of mapping in the human-AI dialogues experienced during the study provided observations that could reveal how both parties were affected by the affective atmosphere of the context or how they affected other participants impressions of this atmosphere.

Similarly, studies on mapping performances have included instances in that LLM and GAN models could remain far from a comprehensive experience of the affective atmosphere of the place, even after the relevant content has been shared, and these experiments have provided indications of in which context or context they are more resistive.

As such, the exercise for the fourth-year architecture students to perform mapping acts that focused on their *embodiment* and *subjectivity* by casually wandering around their project site (see 5.2), was able to assemble an intra-action process that revealed relational agency dynamics. In this process, students shared the maps they performed with GPT and attempted to establish an in-depth dialogue that went beyond an analytical collaboration. In these interactions, the impact of students' sensitivities to the more-than-representational experience of the place on GPT's behaviors, and how the conceptual lines derived by GPT affected students' awareness can be interpreted as instantaneous sections (agential cuts) crossing within relational agency. This

⁶¹⁹ Barad, 345.

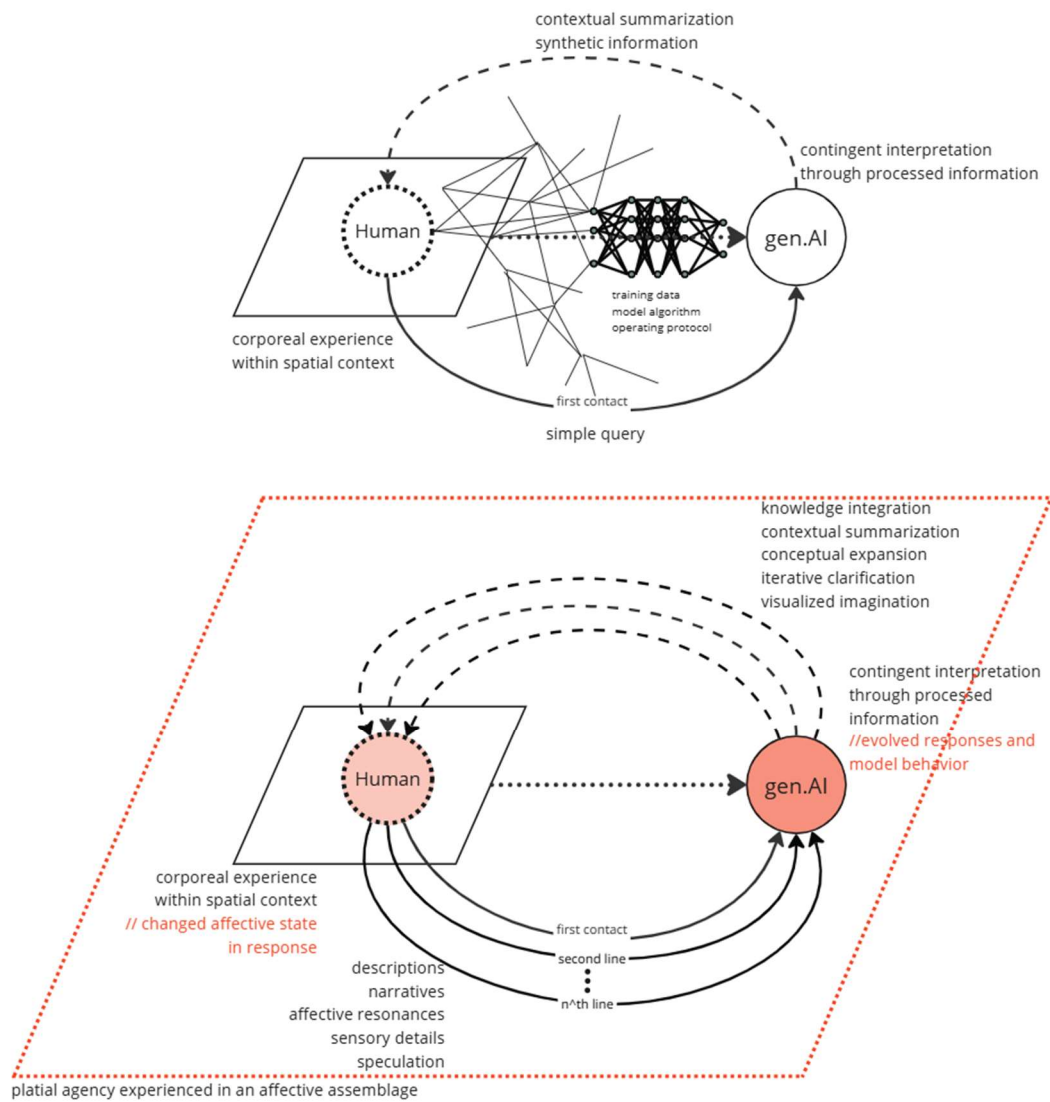


Figure 4.11. Platial agency experienced in an affective assemblage during a human – generative AI conversation. (author)

mutual interaction creates new layers of experientiality, while providing an insight into the separation of platial agency.

In conclusion, this section presented the particular problem that generative AI models face in communication about, and then performing on the experiential and affective dynamics of a particular place. The fact that AI cannot fully reflect the subjective and local characteristics of real space while creating images based on textual descriptions—mostly limited to clichés, simplifications, abstractions, or hallucinations—has revealed the disconnection between place and AI generated imagination.

This situation, when examined within the framework of Deleuze and Guattari's ideas of assemblage and DeLanda's specific interpretation over that as a more deliberate theory of processual understanding, such disconnect leads to the emergence of parallel processes and potentials on the that couldn't meet on the same plane of immanence. However, creative mapping activities could be explored as intermediary practices in the interaction between humans and AI, allowing the reinterpretation and reconciliation of the experience of real space through distant virtual in AI's imagination and actual experience in human's corporeality.

As a result, it can be said that while the deficiencies in AI's spatial imagination bring about a critical awareness of affective atmospheres, performative mediators such as mapping can also interfere as an agential cut to reveal the potential to deterritorialize the unexpected potential of place, thus necessitating a re-evaluation of future practices where LLMs and GANs offer a broader and more flexible approach to exploring AI's potential in architecture, they also raise important questions about the role of technology in shaping our understanding and experience of place. As AI continues to evolve, it will be crucial to critically assess not just its technical capabilities but also its relational capacity to become performative in the assemblages of transforming places and spatial contexts it seeks to design. It will be important for this question here to remain "relational" and to be answered through an understanding of agency that is formed by process and relationality.

CHAPTER 5

MAPPING IN HYBRID CONVERSATIONS: STORIES FROM ENCOUNTERS

As the introduction chapter outlines, this research has undergone several overlapping phases. A theoretical rhizome and extending connections were being assembled, whilst the process of the research was constantly transformed by various encounters that evolved in the conversations of humans and AI. This chapter will present and summarize these events and dialogues in a more journalistic language, but it will also offer connections to theoretical discussions in previous chapters.

These processes began with an exploratory experimentation period (Stage 2 of the research process), immediately after it is decided that the experience of place in a more-than-human understanding (as discussed in Chapter 2) should become the plane where other research interests and questions are territorialized. The first question, or theme, that is consistent for varied content of this stage here phrased as “does AI dream of places we know” and it is discussed in the next section, 5.1.

Then, for the next stages, the primary driving curiosity was about “what mapping has to offer”, coinciding with the discussions in Chapters 3 and 4. Section 5.2 briefly summarizes the two creative mapping workshops from Stage 4, organized for this study, with participants including undergraduate architecture students and generative AI models as their collaborators.

Section 5.3 also covers a continuation of these conversations, but this time with encounters of graduate researchers from their conversations with generative AI, on their previous mapping performances. This process, titled here “Re-Imagining Affective Atmospheres: Performing Maps and AI in Research,” also includes the

experiments from the third stage of research, where selected mapping examples from literature (as introduced in Chapter 3) were brought into dialogue with AI agents.

5.1 Exploratory Experiments: Does AI dream of places we know?

After “AI” was included in the study, an unpremeditated exploration period took place throughout 2023. It continued in the first few weeks of 2024 before other research events with participants, until an experimental motivation and a repeatable process to contextualize forthcoming participatory stages has emerged.

This process can be considered as a self-learning phase to notice the ways in which AI models in dialogue gain a sense of place, to learn from coincidental discoveries in this context, to redefine research problematic according to these, and to think about possible approaches. In this respect, it shows similarities with a heuristic process of practices as discussed in 4.1, and also resonates what Barad⁶²⁰ might describe as an “agential cut”, as elaborated in the previous chapters. These conversations became epistemic experiments in which sense of place is mutually examined while boundaries between observer and observed are reconfigured through intra-action, rather than presumed as pre-existing. I see these conversations, or “chats”, with AI models as a series of open-ended interviews from a research perspective, but also as a series of theme-setting and conceptual explorations embedded in very spontaneous interactions.

In our first chat, the first question I asked an LLM (ChatGPT 3.5) for this research was, “Can you generate an image of a place (photo, illustration, map...) with DALL-E that you've physically or digitally experienced based on your subjective experience and reasoning?” In response, not surprisingly, GPT explained to me that it does not

⁶²⁰ Barad, *Meeting the Universe Halfway*.

have subjective experiences, emotions, or a sense of self: “I don’t ‘experience’ places in the way humans do. That being said, I can generate a visual representation based on data and descriptions I’ve been trained on.” Then, it went on by suggesting me to specify a place, “a famous landmark, city, or type of environment” for it to visualize.

This answer coincided with a period that is immediately after studying the discourse related to place, which suggests a post-human place notion not as a brand new state and formation of place that did not exist before, but as a form of understanding that emerges from the intellectual dynamics of the period we live in, that would apply on any place. This overlaps with the ontological shift explored in Chapter 2, where place is reframed from being a fixed ontic category in essential understandings to becoming an emergent assemblage in relational-processual views. Therefore, it supported a context for the continuation of the research, not for extraordinary places, but on the contrary, in places where a relational agency between many components becomes apparent in everyday processes.

Therefore, in our subsequent conversations, I mostly talked about urban public places that are widely known or places where I can compare my knowledge and experiences from my own life, in order to understand how we can communicate with AI models about place images and descriptions. A distinct pattern emerged in the generative AI’s responses as we continued talking about city squares, familiar neighborhoods, and memories. Although the language of an affective atmosphere could somehow connected to my perception in LLM’s textual descriptions, when we developed prompts and generated visual images with GANs based on these descriptions, the results contained major gaps with my experience and perception of specific places, and therefore, a plane of consistency could not be assembled in our intra-actions with an AI.

This failure to assemble a “plane of consistency”, to borrow Deleuze and Guattari’s term as explained in Chapter 4, reveals a key tension between representational assumptions fed by training data and the intricacy of performative, embodied, and

more-than-representational place experience. While the LLM's textual outputs may suggest plausibly affective expressions, the corresponding GAN visuals more evidently demonstrate the epistemic limits of AI's relation to place when severed from situated, embodied practice.

In our third chat we have considered another approach that is based on the influence of measurable geographical information. I shared an OSM (OpenStreetMaps) data file of the central region of Ankara with ChatGPT and asked for possibilities to follow creative actions on that. But first, it suggested a series of analyses (geospatial, network, semantic, statistical, etc) that it could provide by working on this data. As we proceed, for instance, it listed a series of tags listed for semantic analysis from "building related tags", "road and transport", "address information", and "services and amenities". Nevertheless, this information was not that helpful or accurate.

That observation strengthened the awareness for the reason of selecting generative AI models being participants in the study instead of already developing AI components that had much more specific tasks in geographical information systems or architectural software. Since they were chosen for this research for their capacity to engage with the affective assemblage of relational agency emerging on open conversations over the lifeworlds of places, they should not be considered as instruments with highly precise technical skills, but as participants with intrinsic indeterminacy, who can imagine, ask questions, express themselves, and thus add new affective layers to extend the experience of place in the human side. This distinction co-operates with the theoretical disposition discussed in Chapter 4: A deliberate distance from profession-specific applications toward a more speculative, experimental engagement with the potential to act as an "affective co-agent." In this sense, this study sought possibilities where AI is not positioned as an optimizer of spatial parameters but as a participant in an affective assemblage in iteratively interpretive, and necessarily indeterminate behavior.

After this, a series of conversations were built on curiosity about what generative AI could do in the role of a mapper. In various experiments, we prepared written content that could be transformed into creative map ideas with GPT, and then worked with DALL-E and Midjourney to produce maps by using techniques that could be similar to examples in the literature. These experiments were conceptually linked to the post-representational mapping practices described in Chapter 3, particularly those that prioritize mapping as a process of spatial narrative and affective mediation (as outlined in Table 2). However, the generative outputs of AI largely remained on the level of visual syntax, failing to grasp the performative and embodied qualities that define these mappings.

For example, I asked generative AI to create drift maps that could resemble the examples I showed it, by turning my notes and short stories from my walks in my neighborhood. Yet, the images that emerged from these experiments rarely resembled the maps we took as examples and only in terms of mere appearance, not content or context. These maps, if they were, could not perform a capacity to relate with place in a communicable manner, so we've been unsuccessful to that end.

In our seventh conversation, we tried to switch roles regarding the maps. This time, I provided examples of creative mapping studies that I produced as part of the courses⁶²¹ I attended as a graduate student (See Figure 5.1 for instance). We continued to talk about the context in which the map was located, and on which idea it is practiced; and we tried to gain awareness of how the perception of generative AI models changes depending on the map they examine, to observe whether this, in turn, changes my perception of my own map. This trial seemed more promising than previous ones, especially in terms of AI's textual responses. For instance, when I

⁶²¹ I shared maps I had drawn through the METU ARCH 535 Creative Mapping Techniques in Architecture graduate course, instructed by this study's supervisor Ela Alanyalı Aral during 2019-2020 Fall semester.

asked, “Can you compare the information that you’ve interpreted from this map with the existing information that you had about the region”, ChatGPT explained the consistencies and discrepancies between them in a reasonable and convincing manner, which it summarized as follows: “...The map provides a more detailed, experiential perspective, while my existing information offers a broader context.”

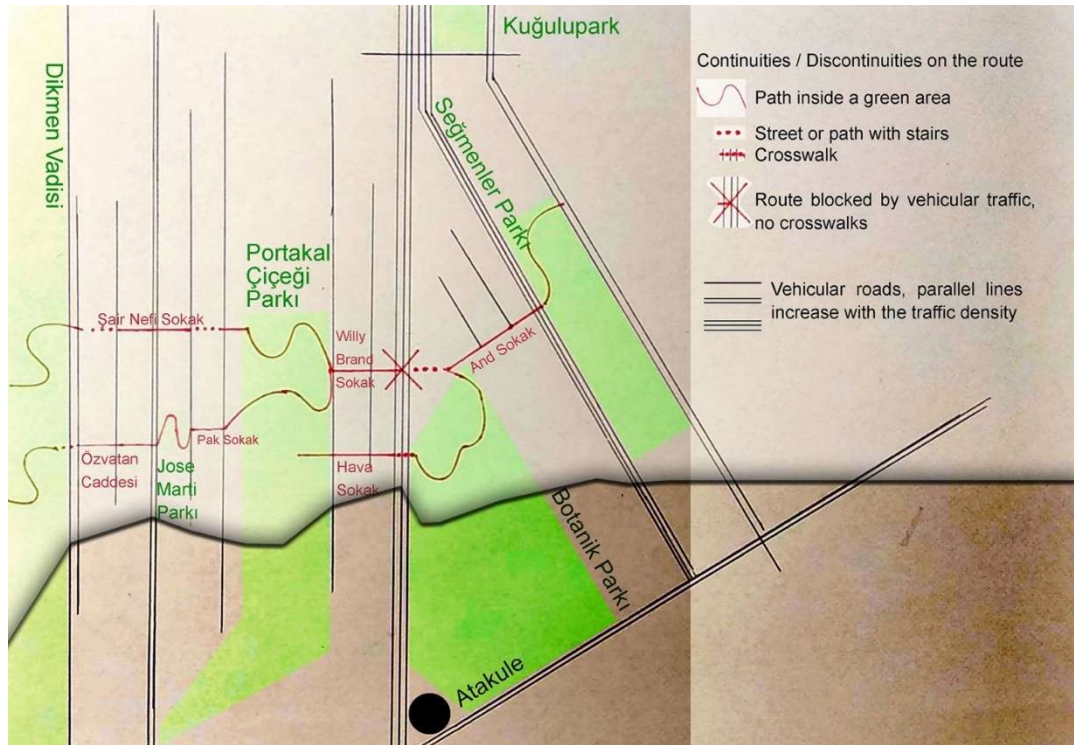


Figure 5.1. An example map of walk among urban green Areas of Çankaya from the series “Contradictory Experiences: Continuity” (author, studied in METU ARCH 535 Creative Mapping Techniques in Architecture, 2019-2020 Fall semester).

In our later meetings with ChatGPT, we tried to visualize architectural design ideas in order to work on GAN models. We tried to compare the processes in which we directly came up with a design idea for selected places with the other images generated under the influence of a mapping performance that happened in the same place after examining it together. Although ultimately excluded from the final

research scope, these speculative design trials briefly activated the notion of the map as a site of territorial imagining – a concept mentioned in Chapter 3 – where mapping is seen as a speculative design practice that does not merely represent spatial realities, but participates in their becoming.

In one of such cases, we've tried to imagine a design proposal with ChatGPT about an architectural pavilion to be built on İstanbul Taksim square for the centennial of Republic of Türkiye in 2023 then to visualize alternative ideas on DALL-E and Midjourney. This attempt involved Larissa Fassler's Taksim Square mapping⁶²² in 2015, and the versions proposed by ChatGPT were compared before it is introduced to her work and after (see Figure 5.2). However, these contents were then decided to be left out of the research scope, as it would have required a much more ambitious motivation to add architectural design as an additional focus to the research contents. This decision shaped the participatory activities that followed, with the scope of the work being shaped around communicating with the AI about the affective atmosphere of the place, rather than experimenting with the design of new spaces.

As a result of the inferences obtained from these encounters, discussions on artificial intelligence models have focused on alternative methods and approaches in an effort to develop an understanding of place and platial agency. The process is based on AI adding new connections to sensory and embodied experiences of the place and its affliective atmosphere with a relational perspective. Initially, attempts seeking concrete representations of the place produced results that were incompatible with subjective perceptions. Still, over time, generative AI's ability to suggest new interpretations and possibilities rather than mirroring human perception in this process was emphasized. But to that end, consistency of creative processes should

⁶²² 'Larissa Fassler', accessed 1 September 2024, http://www.larissafassler.com/taksimzoom_2.html.



Figure 5.2. Above: 2015 Mapping performance of Larissa Fassler, “Taksim square”⁶²³. Below: Versions of pavilion concepts proposed by ChatGPT and visualized by Midjourney before and after reviewing the map.

⁶²³ ‘Larissa Fassler’.

be sustained among human and artificial minds to intra-act in the same plane of immanence with a coherent sense of place.

Therefore, the research evolved into a process in which possibility of material-discursive practices about place could be affected by the generative artificial intelligence's imagination is aimed, without relying on resemblance, accuracy, and measurable precision.

The disposition of the research is questioning how artificial intelligence can interact with affective atmospheres and how it can be involved in the platial agency by consistent iterative communication. While initially unforeseen, loose and exploratory dialogues revealed how generative AI could interpret information about place; later, they revealed the limitations and potential of these encounters in textual and visual creativity. Ultimately, the research positioned AI as not an instrument (as argued in the previous chapter) but a participatory entity involved in affective assemblages to alter the emotional and contextual dimensions of place experiences while focusing on how more-than-representational theories and post-representational mapping performances could support such collaboration.

5.2 Narrating Places: Two Mapping Workshops with Undergraduate Students and AI

I have been affiliated to Çankaya University as a research assistant during my doctoral research at METU. As part of this study, we conducted two mapping workshops there. Participants were mostly undergraduate architecture students, but studio instructors also contributed with their comments and feedback on student works.

Both workshops were held in relation to the parts of the Ankara-Eskişehir road⁶²⁴ that remain within the province of Ankara. As an urban-suburban axis from east to west, that has been one of the two major fringes of rapid urbanization for Ankara after the mid-90s, this is where Çankaya University is located and which also forms the northern border of METU campus by hosting its busiest entrance.

The first mapping workshop was part of an on-site exercise with fourth-year students, where they individually transferred their experiences of the place into mapping performances. And the second one was rather a more collective mapping experiment that took place in the faculty building but revisited memories of participants' daily routines of commuting.

Both studies aimed to convey elements of place experiences - that may not have been expressed through other means of representation in their training data and search access - to AI participants through acts of mapping with the capacity to relate to the affective atmosphere of the place, and in return, adding new layers and possibilities to human perception of place through the affective resonance with AI participants' responses and imaginations, to discover a new hybrid form of more-than-human sense of place between human and artificial minds. This approach aims to engage with the post-representational conceptions discussed in Chapter 3, where maps can become performative encounters to reveal the complexity and multiplicity of place experience. By incorporating AI models in these encounters, maps can become a site

⁶²⁴ The main highway route from Ankara city center to a broader region of Western Anatolia is commonly known as Eskişehir Yolu among the public, officially named as Dumlupınar Boulevard and İnönü Boulevard respectively from west to east, divided into sections towards the city center. This road has become a major urban axis that connects a linear extension of the central business district with high-rise buildings post-millennium, governmental buildings established in the same decades - deterritorializing institutional memory by undermining the historical ministerial district in further east - major university campus areas, shopping malls and mixed-use complexes, megastructures of medical facilities and fringes of sub-urban neighborhoods and new urban development zones to the west.

of more-than-human zones of contact that extend the platial agency beyond human cognition.

Mapping urban walks as performing place

The first of these was aimed at students of the ARCH 402 Architectural Design VI course. At the beginning of the 2024 spring semester, in February 2024, a creative mapping workshop on site was integrated into the students' site visit as a warm-up project, replacing the usual site analysis phase in the accustomed operation of architectural design studios. This substitution was not only pedagogical but also epistemological: It reflected the shift from representation to performance, following Thrift's⁶²⁵ and Dewsbury's⁶²⁶ emphasis on more-than-representational practices in everyday spatial engagements, and also Ingold's⁶²⁷ attention towards walking as an act that reveals the experience of place.

The project site of the term's design problem was in an urban place of Ankara where many examples of highly-invested large scale blocks and all-in-one complexes of "mixed use" developments, on the Dumlupınar Boulevard, or commonly known as "Eskişehir Yolu". On this design assignment, students were expected to design a mixed-use project for the selected area in a transforming metropolitan region of Eskişehir Yolu, in the Mustafa Kemal neighborhood, by reinterpreting living and accommodational places, together with cultural and public functions, and imagine a new environment for the near future. They were asked to inquire about and propose ideas for several questions throughout the semester such as: "Can a mixed-use project mimic the neighborhood environment? How diverse functions and demographical groups can live together? What kind of community is expected to live

⁶²⁵ Thrift, *Non-Representational Theory*.

⁶²⁶ Dewsbury, 'Performativity and the Event'.

⁶²⁷ Ingold, *Being Alive*.

in here? What this mixed-use project can give to city? Or, how can it contribute to city's public livelihood?"⁶²⁸

For the warm-up stage, the workshop process suggested to the students in this exercise consisted of three phases. The first phase was the initial mapping based on walking and spending time around the site, the second phase was a conversation with AI models about their maps and site experiences, and the third phase was called “re-mapping and imagining” where students were expected to response to images and conversations encountered in their dialogues with gen.AI, to revise their initial maps and interpretations.

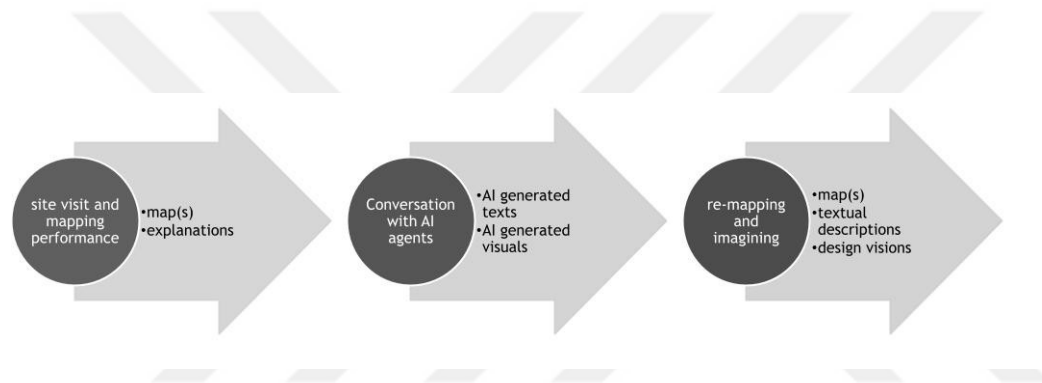


Figure 5.3. The warm-up project suggested to the students in this exercise with three stages.

Students were asked first to visit their project site, spend time there, and relate to the urban atmosphere. Students were told that the key concern was that every mapping should be a spatial performance that is lived within and related to the place. These maps could be exploratory, critical, interpretative, narrative, or prospective for the neighborhood's urban atmosphere. They are then expected to be related to their initial design ideas in the further stages.

⁶²⁸ These questions are quoted from the term's syllabus

To support their exercise, students were provided with a base map that only outlines the streets around the project site with single lines and no textual information. There were no restrictions on the method, techniques, and materials used. Some of them preferred to sketch their hand-drawn maps while walking around, while others took notes and then turned them into maps on digital media. Most of the students remained within their self-restrictions to conduct analytical processes resembling more conventional modes of architectural site analysis as they had practiced from earlier studies. Yet, a few of them experimented with more creative techniques that allowed a post-representational attitude to map urban atmospheres.

Then, students individually shared their site visit experiences with AI models by uploading visuals of their maps to discuss the urban atmosphere of the site with LLMs (GPT, Copilot, Gemini), requesting textual and visual feedback from it. Later, they experimented with text-to-visual models (DALL-E, Midjourney, Stable Diffusion) for generating visual outcomes from prompts they've prepared collaboratively with GPT. There were two suggestions for this phase: Students were advised to first introduce the location of the site with a satellite image, map, and some photographs to the AI model and ask about its initial knowledge about there. Then, they proceeded with explaining the contents and purpose of your maps to it, to be able to compare the changes affected by their maps. The second advice was to Ask GPT (OpenAI or Microsoft Copilot) or Google Gemini to generate prompts for using them on text-to-visual models (Midjourney, DreamStudio, DALL-E) for visual outcomes.

Affected by the feedback of AI models, students were expected to revise their initial mappings by collaborating with AI-generated ideas and images. These revised maps were expected to be considered as part of the early design process to shape initial design ideas. In some encounters, this situation enabled some students who initially

tended towards more conventional cartography or architectural analysis modes in their mapping preferences to later develop more critical-creative mapping versions as a result of collaboration with GPT.

It's already seen that generative AI models tend to visualize the context of any given place in an overly simplistic, reductionist, and clichéd way, by synthesizing the most likely images from their training database (as discussed in 4.3) during the initial experiments summarized in the previous section. Similar situations were also encountered at every stage of the research process whenever AI models were asked to generate text and visuals about a place without being provided any supporting visuals or other auxiliary material. When they were asked to generate content with the knowledge that it can be synthesized directly from their own database without being supported by a photograph, online map, or satellite image, it was observed that images related to clichés that were not experienced in reality were encountered more frequently. These generative biases reaffirm the epistemological constraint of representational contents mentioned in Chapter 4, where AI's reliance on training datasets tends to reterritorialize meaning through stereotypical and over-coded spatial images. What is encountered here is not just a limitation of technical ability, but an ontological consequence of working with systems designed to favor statistical normativity over embodied variance.

The example below reveals such a situation. In this instance, while Gemini was producing images about the neighborhood, images generated were not even particular at a generic level for the city, let alone they are being relevant to the neighborhood. Some of these images are filled with content that are amalgamated dreams on some probably touristic appearance of Türkiye, even in an orientalist attitude, without offering any specificity for the local context they are supposed to imagine. Then, usually, when students introduced their maps to the GPT or Gemini, a change in that behavior occurred; the imagined atmosphere by its interpretation on

GAN models are recovered from the previous reductionist tendencies, despite remaining in a lower level of similarity with the actual site (See Figure 5.5)



Figure 5.5. On the left: Google Gemini generated images for a prompt suggested by itself for describing “what Mustafa Kemal district of Ankara is like”. On the right: Visuals imagined by Gemini after it is introduced to student’s initial maps. From conversations among E.Çetintaş., S. Demir, and Gemini.

As a beginning and introduction to this experiment, we first met with the students near their project site and walked as groups of approximately thirty people for two days, where we discussed our encounters with the surroundings, possible ideas for mapping, and further design stages. Then, students were suggested to spend more time and interact casually with the environment to continue studying their experiences. Most of the students who participated in the field trip said that it felt different to think and talk about the site while walking around, rather than standing near the field and observing. Some seem to base their ideas for mapping exercises

on this. Many of them started drawing a map or diagram while they were still walking.

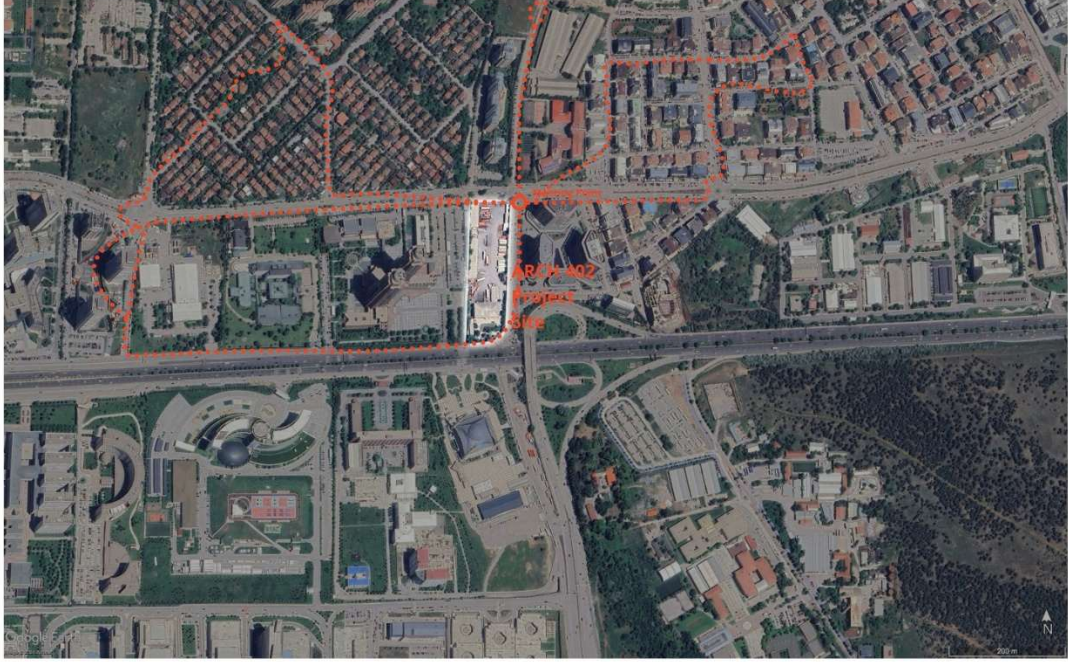


Figure 5.6. Çankaya ARCH 402 students' 23-24 spring project site and routes covered in collective walks of warm-up project

As noted, the effect of walking around on this collective place experience would be a suitable example for situations where a subjective but relational place experience can occur with its pre-cognitive dimensions in the form of an embodiment in affective atmospheres by movement.

Some students stated that the obstacles they encountered during the walk caused them to perceive the site differently. For instance, we were warned about taking photos at the National Security Council boundary, then we had to turn back and cross the road because of the cars blocking the pedestrian path in another location, then on another turn, our route was blocked by heavy traffic of trucks, construction vehicles and equipment near a rushing construction site. This situation of being challenged

with a non-friendly atmosphere for pedestrians during our walks has resonated in some of the map examples.

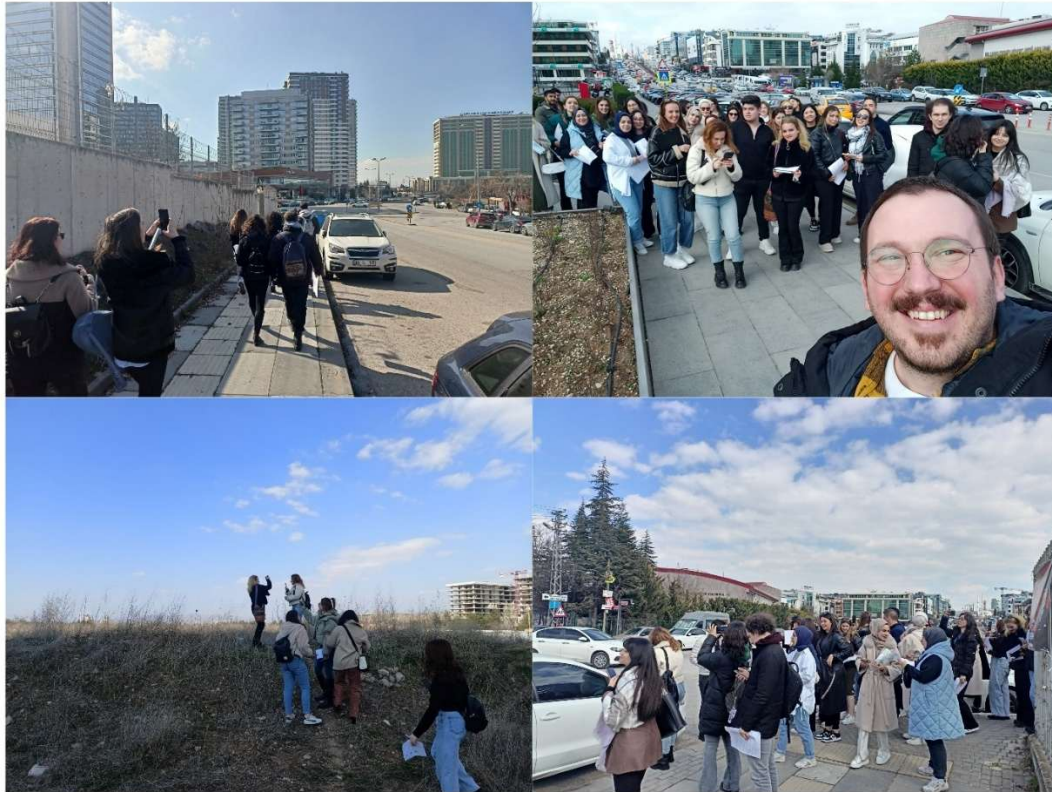


Figure 5.7. Scenes from our walk with students around the neighborhood to initiate their mapping practice.

Such experiences of embodied discomfort demonstrate examples of how Anderson⁶²⁹ discussed the notion of ‘affective atmospheres’ as ambient intensities that cannot be easily codified yet significantly shape the feeling of place (see Chapter 2). These affective resonances draw attention to how affect is not an interior emotion,

⁶²⁹ Ben Anderson, ‘Affective Atmospheres’, *Emotion, Space and Society* 2, no. 2 (1 December 2009): 77–81, <https://doi.org/10.1016/j.emospa.2009.08.005>.

but a relational force distributed across bodies, spatial configurations, and social tensions, something that post-representational maps might be equipped to express.

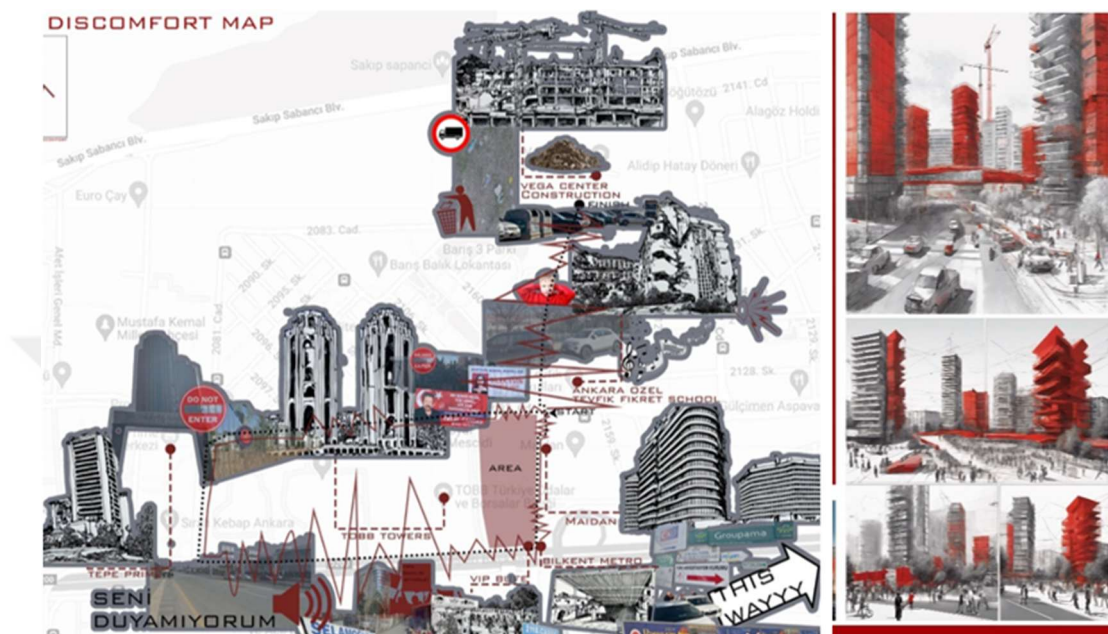


Figure 5.8. On left, D. Kürşat's map (in detail) as an assemblage from her experiences of discomfort.

On the right, images generated by Dreamstudio AI (Stable Diffusion) for the urban atmosphere of the site, as an outcome of the prompts suggested by ChatGPT in their conversation to interpret this map.

Mapping commuter memories of everyday

Çankaya University Department of Architecture and Student's Community of Design and Architecture organized a "Festival of Architecture" in May 2024, with the participation of several guest speakers, commercial representatives, students, and enthusiasts from an interdisciplinary milieu. Apart from presentations and speeches, a few events were offered to participants. A three-hour workshop titled "Creative mapping and place experience for artificial intelligence" on experimenting with

mapping affective atmospheres and generative AI was one of them, and it was adjusted to capture materials for this research.

The event aimed to generate AI images of urban atmospheres with text-to-visual model algorithms that are intra-acting with collective maps of other participants. These very *prompt* maps would be based on instant hand-drawn sketches by groups and were to be eventually combined in a digital collaborative environment (a Miro board is preferred).

This workshop was also associated with places from the “Eskişehir Yolu” in Ankara. As outlined in the beginning of this section. Çankaya University campus is too positioned on this axis, but in an outermost location for today’s urban sprawl, at its 39th km to the west, disconnected with densely built territories for now, quite probably not for long. Eskişehir Road takes a huge share of influence in the daily routines of university staff and students, hence asserts a greater platial agency on their experiences within and around, affecting everyday life in every aspect. This spatial-temporal entanglement demonstrates what Massey⁶³⁰ might call the 'throwntogetherness' of place; its unfolding in overlapping temporalities and intersecting trajectories of experience. By experimenting with the mapping in these everyday routines, the workshop targeted to challenge the essentialist understanding of place and open it up to relational and processual approaches in a participatory event.

Therefore, it was aimed to produce mapping performances that could reveal the affective atmosphere of this main commuting route over participants' individual experiences within the scope of this activity. Consecutive sections were placed on the Eskişehir Road for this purpose, mostly passing through the bus stops on Çankaya

⁶³⁰ Massey, *For Space*.

University's daily shuttle route, and the participants were asked to create mapping sketches on these sections by groups.

The choice to work with sections in this way had a few purposes. Most of the participants were undergraduate students in architecture. So, there was a motivation for experiencing architectural representation's sensitivity in vertical relations on topographical connections in mapping medium. That might have brought the possibility of focusing on spatially vertical stories with hidden extensions of possible narratives that perpendicularly cross the axis. Another possibility was a quick intuitive transfer of the critical practice of creative mapping about distorting the top view and cartographic projections as one of its most explicit differences from conventional cartography in an experimental manner in a limited time.

Working with successive layers added vertically instead of horizontal layering had the potential to support a chorographical experience in an episodic and sectional sequence that resembles the spatial perception of the participants' daily journeys. Hence, it is considered suitable for post-representational maps to emerge for revealing internal affects of platial agency to perform in a deeper *relationality* with everyday routines. These successive sections had the potential to support topological narratives when they combined in a mapping assemblage, but they also offer the possibility to convey a topographical understanding both at discrete and progressive levels. This mapping strategy is situated in the theoretical position outlined in Chapter 2 to articulate a post-phenomenological understanding of place, where affective intensities, spatial rhythms, and socio-technical mediations become constitutive of how place is sensed and expressed.

As discussed in Chapters 3 and 4 for Deleuze's interpretation of Bergson⁶³¹, memory is not a storage of the past but a virtual multiplicity that is always present and layered,

⁶³¹ Deleuze, *Difference and Repetition*.

awaiting actualization in the present through affective intensity. The mapping performance in this workshop, then, does not simply record what is remembered, but creates a performative plane where memory is reterritorialized through spatial and temporal affect.

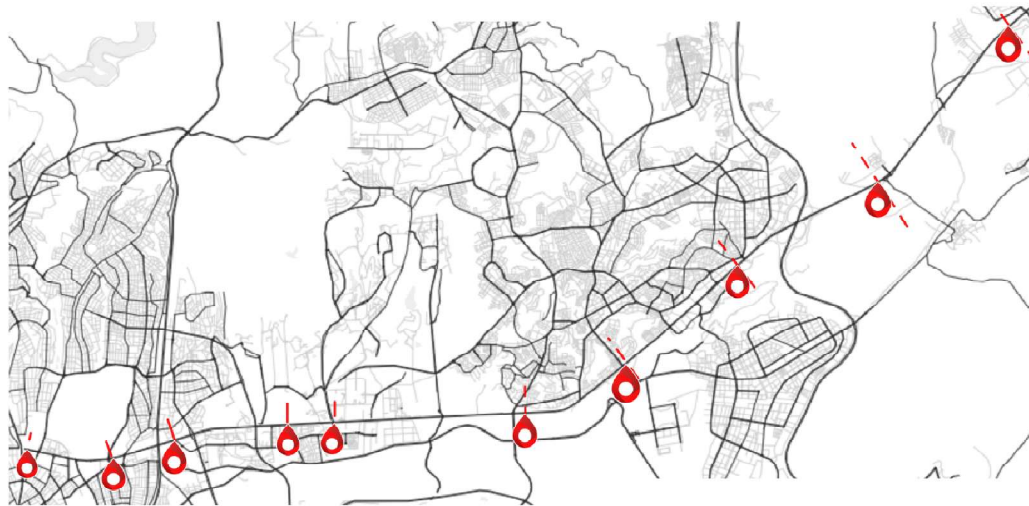


Figure 5.9. Locations of reference sections for the collective map chorographed in the workshop “Creative mapping and place experience for AI”.

The workshop began with groups studying reference sections distributed among them in the form of linear silhouettes crossing the road, morphed by topography and building outlines as plain and simple as possible. Each group then quickly developed an idea, a virtual section from their memories, to map onto that section’s vertical plane with a creative freedom that allows them to deterritorialize their references from planar condition either by topological or projective operations.

Groups were already advised to discuss their initial ideas for mapping with ChatGPT, and they’ve stated this initial discussion was influential in their creative decisions. Then, they uploaded visuals of their maps to the same continuous chat session to share with ChatGPT. There began a conversation where each group also explained their motivations in mapping and contents to the AI and iteratively answered its

questions until they were convinced that they could explain themselves in a satisfactory level of mutual understanding. After that, students asked ChatGPT to describe the urban atmosphere of the mapped region based on this communication. Finally, an iterative process of imagining was initiated to generate images by DALL-E, DreamStudio, and Midjourney using the textual descriptions interpreted by ChatGPT.

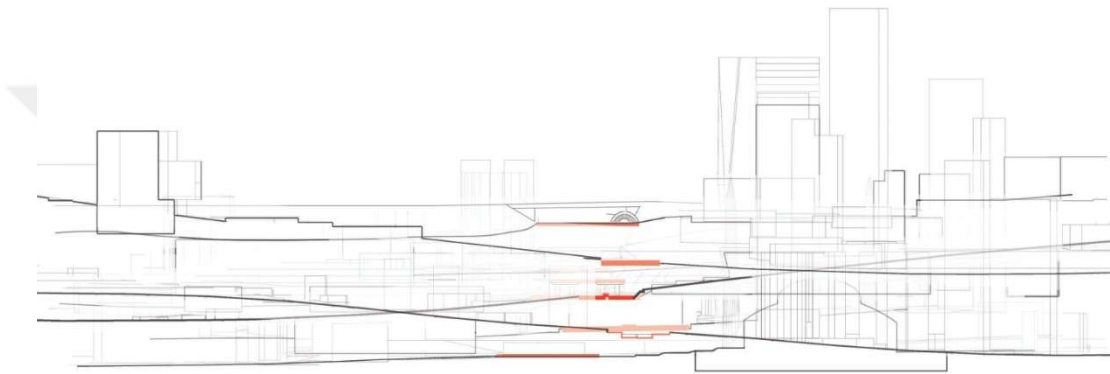


Figure 5.10. A chorographical set of reference sections from Eskişehir Road.

As a result of the workshop, individual maps on a Miro board, texts recorded from dialogues with ChatGPT, and generated images came together on a combined map. It was worth examining how this assemblage of multiple mnemonic experiences as virtual sections would lead to a *patial agency* experience with generative AI as an example of the performance of the place based on repetition and difference. A similar process for each section map was repeated on this unified map, and this time, the GPT and GAN models were asked to create three urban atmosphere images for the entire Eskişehir Road. The images that emerged were compared with how the same AI models suggested images when the same dialogue was experimented with before the maps were shared, without any additional guidance or support.

Although the mapping contents produced very quickly and instantaneously did not reach a conceptual and experiential depth as might be expected, when they came together, the assemblage they formed to narrate these experiences of places allowed some comparisons to be made through AI-generated visuals. When the first two images imagined in the examples above are compared side by side, the pedestrian-intensive public city center on the left among the densely settled high-rise buildings is more distant from the urban atmosphere on the Eskişehir road, perhaps evoking the daily life of American or Far Eastern metropolitan centers. Whereas on the right, an atmosphere could be imagined that is quite relatable to any contained mixed-use developments along the region, multiple examples of which have been constructed in the last decade. In the comparison of the other two images below, the variable topography of the road in Ankara did not appear on the left, but it could appear in the imagination on the right allowing possible virtual extensions if the creative process furthered.

This section has discussed both the opportunities and the limits in the reterritorialization of place experiences through students' dialogues with generative artificial intelligence. It has been explored as a pattern that conversations in the process initially started with over-simplified and clichéd content, then evolved into more original but sometimes exaggerated or misleading results after being supported with additional data and guidance. When involved, every instance of mapping did not always trigger a significant response. This asymmetry reminds what was discussed in Chapter 4 as the epistemic friction of human-AI co-performance: While humans draw from embodied, situated knowledge, generative AI assembles content from detached statistical regularities. Bridging these modes requires iterative contextualization, not just better training data.

While the students' subjective and relational experiences with space increased the potential of artificial intelligence to create depth and originality in its responses, the limitations of representation and the superficiality caused by the descriptive,

informative, and quantitative tendencies of generative AI also became apparent. In this process, it was seen that repeated interaction and layered experiences revealed the agency potential of artificial intelligence, but that effectively conveying individual mapping content was a difficult and tough endeavor, which would not result in anticipated manner for most of the attempts.

5.3 Re-Imagining Affective Atmospheres: Performing Maps and AI in Research

Two crucial limitations were encountered in the studies that were experimented with by undergraduate students. The first of these was caused by working with maps created on limited time and with the very initial ideas that came to mind; as specifically aimed to capture pre-cognitive, fleeting and instantaneous experiences. The second limitation was related to the fact that creative mapping practice was a new experience for almost all of the students involved, and they never had any previous background in this subject. Therefore, although emerged map contents interacted with immediate, uncertain, and mundane dynamics of places as intended, they fell short of demonstrating a post-representational mapping behavior or establishing a deep relationship with the place. This confirms the discussion in Chapter 3 about post-representational mapping conceptions. For a map to be conceptualized with post-representational characteristics; critical, creative, and performative dispositions toward place to foreground a theoretical engagement blended in embodied experience.

Drawing inferences from this situation, the study continued with a series of new experiments on previously published and discussed mapping examples, together with new participants from graduate and postgraduate levels, who could provide maps that were created in graduate studies, spread over iterative processes, and containing a certain intellectual depth.

As explained in 3.3, one of the methods experimented within the scope of this research was to examine a collection of many creative maps of the same place(s) while working with an LLM and to create prompts that GAN models can visualize to image the atmosphere of that city or district, thanks to the affective assemblage formed by the collective influence of these maps.

The first of these encounters was experienced with twenty maps selected from Katherine Harmon's book "You Are Here: NYC: Mapping the Soul of the City," a collection of creative maps about New York City that includes two hundred works. (Some of these maps are examined in detail in the third chapter, see 3.3)

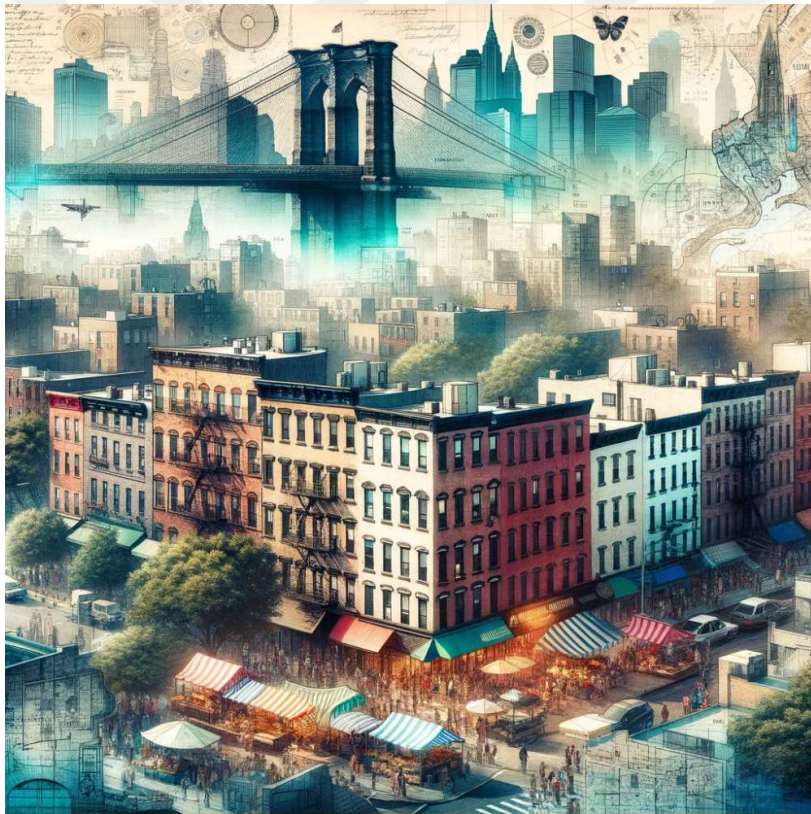


Figure 5.13 Midjourney imagination of ChatGPT prompt after it was asked to depict the urban atmosphere of Brooklyn, NYC

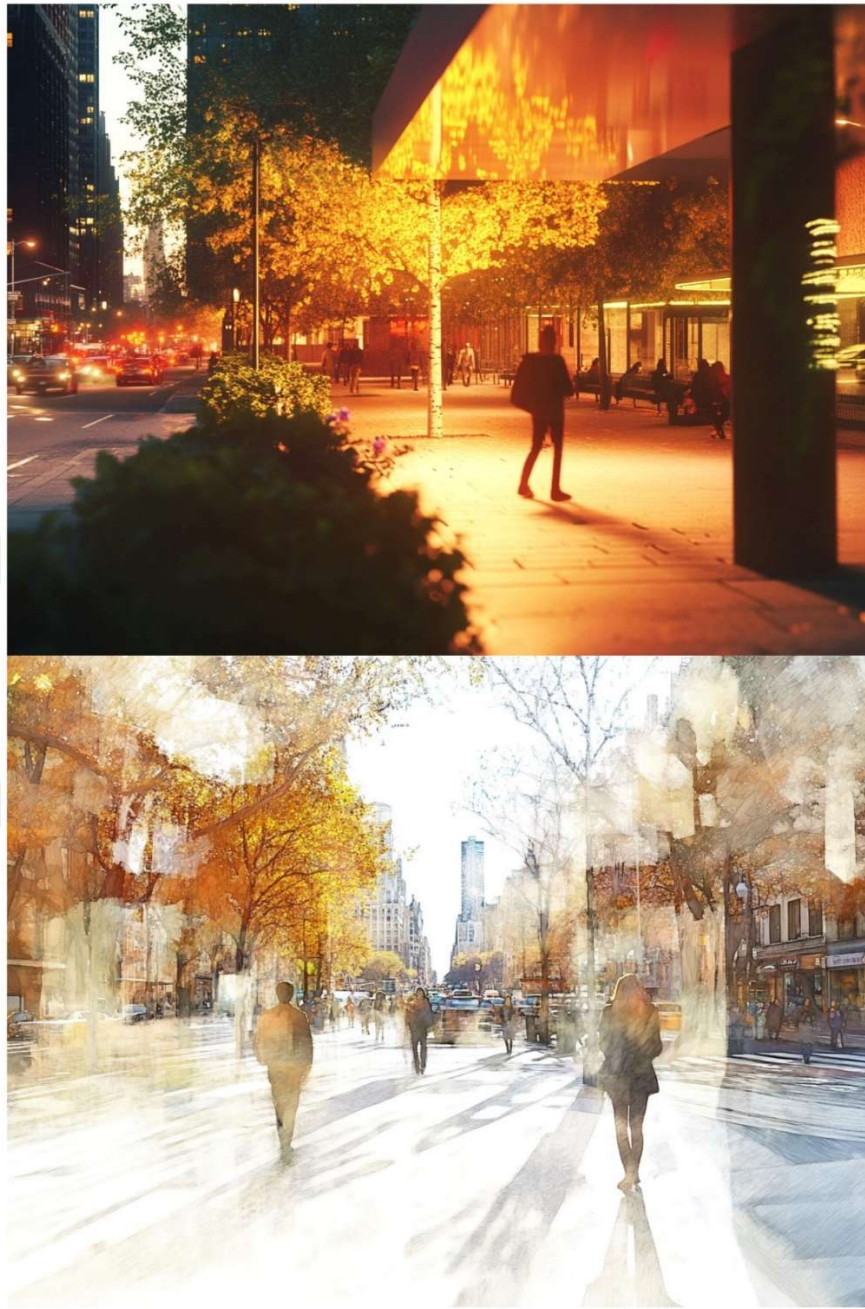


Figure 5.14. Scenes from NYC, urban atmospheres imagined by Midjourney based on ChatGPT's prompt after reviewing maps collectively from Harmon's books.

These maps, some of which are about the same places in NYC (e.g., maps of Brooklyn, maps of Manhattan, maps of Central Park, etc.), were introduced to ChatGPT along with the relevant explanations in the book's content, and, they are discussed. ChatGPT was asked to generate prompts to be visualized in Midjourney and DALL-E based on these conversations, either for a specific location or for the overall atmosphere of NYC that resonated collectively as an affective assemblage of these maps. In line with the theoretical discussions in the previous chapters on relational agency and the affective emergence of place, this experiment sought to test how generative AI could participate in the more-than-representational unfolding of spatial atmospheres through creative cartographic encounters.

Another such attempt was to work on Jan Rothuizen's works in his 2023 collection "The Soft Atlas of Amsterdam". (Rothuizen's maps were also discussed and exemplified in 3.3) Among his 37 drawings on this personal atlas of hand-drawn maps, 10 were selected and discussed with ChatGPT as in the previous example of NYC, this time for Amsterdam. Similarly, images are generated by DALL-E based on GPT's interpretation of Rothuizen's take on the city he resided in.



Figure 5.15 Scenes from Amsterdam's urban atmosphere, affected by Rothuizen's creative maps, described by ChatGPT, imagined by DALL-E

Interviews with Graduate Researchers

One of the collaborative studies conducted with METU graduate researchers involved in mapping-related studies within the scope of METU ARCH 535 Creative Techniques in Architecture course conducted by Ela Alanyalı Aral. In this study, four participants first conducted individual conversations with LLMs (ChatGPT or Microsoft Copilot) about their maps and the places that were their context. Then, they asked GPT to describe the atmosphere of the places of mapping, again to be visualized by GAN models. As a third step, I interviewed each of them to learn about their insights and reflections after these encounters.

In the study titled "Olgunlar Street: Pedestrian Invasion versus Jungle of Obstacles" by Elif Öztekin, Bilge Karakaş, and Elif Gökçen Tepekaya, the movement patterns and interaction patterns of pedestrians are mapped by overlapping them with the spatial elements they interact with, which facilitate, invite or hinder their activities. Denis Wood's motivation for showing how the place breathes with life by revealing places of everyday actions in the lived space in his collection of Boylan Heights maps⁶³² is cited as the theoretical influence for this study.

After sharing their maps and furthering a conversation with ChatGPT based on that map, Elif Gökçen Tepekaya stated that she is closer to accepting that the generative AI with which she experienced in her experiment did not have the characteristics of an agency would behave⁶³³, instead, it tends to comply with user requests as a sophisticated tool. Tepekaya, first shared a map of Olgunlar Street that focuses on “inhabitants’ experience and delimitations” along the public space, then introduced

⁶³² Denis Wood, *Denis Wood: Everything Sings: Maps for a Narrative Atlas*, First Edition (Los Angeles, CA: Siglio, 2011).

⁶³³ Elif Gökçen Tepekaya, Dialogues between gen-AI and METU graduate students on mapping performances, interview by Şafak Sakçak, online meeting, 30 April 2024, Personal archive.

this map's research motivation and theoretical background to ChatGPT. In response, ChatGPT inferred the following interpretation:

“By excluding conventional building footprints and instead focusing on boundaries, objects, and the dynamic interplay between pedestrians and vehicles, the map presents a layered view of Olgunlar Street's topography. It captures the emergent thresholds where different forces interact — the slope of the street, the flow of pedestrian and vehicle traffic, and the extension of private enterprise into public space.

The map serves as a creative tool that liberates the potentialities of Olgunlar Street, aiming to alter perspectives and recognize the vitality and experiences it offers. Through this depiction, the street is more than a connection between city center and residential area; it becomes a microcosm of urban life, illustrating the complex interrelations and symbolisms that constitute the 'lived space' within the cityscape of Ankara.”

Although Tepekaya thought of generative AI from an instrumentalist perspective in her dialogue, after examining the shared map, the vocabulary preferred by ChatGPT in its interpretation seemed to have gained a certain level of sensitivity towards the affective components of the urban atmosphere in everyday life. In our conversation, Tepekaya also suggested that when a joint design output is produced by continuing the same dialogue with an iterative process, such as a new mapping performance co-authored with ChatGPT, a different agency discussion can be considered⁶³⁴. This instance reflects the discussion in Chapter 4 on how generative AI models, while often operating under instrumentalist logic, can momentarily engage in more-than-representational behavior when embedded in iterative, context-rich interactions. These moments cannot be explained through any idea of an agency as an attribute,

⁶³⁴ Tepekaya.

but they signal a latent capacity for co-performing situated knowledge and distributed cognition in relational agency.

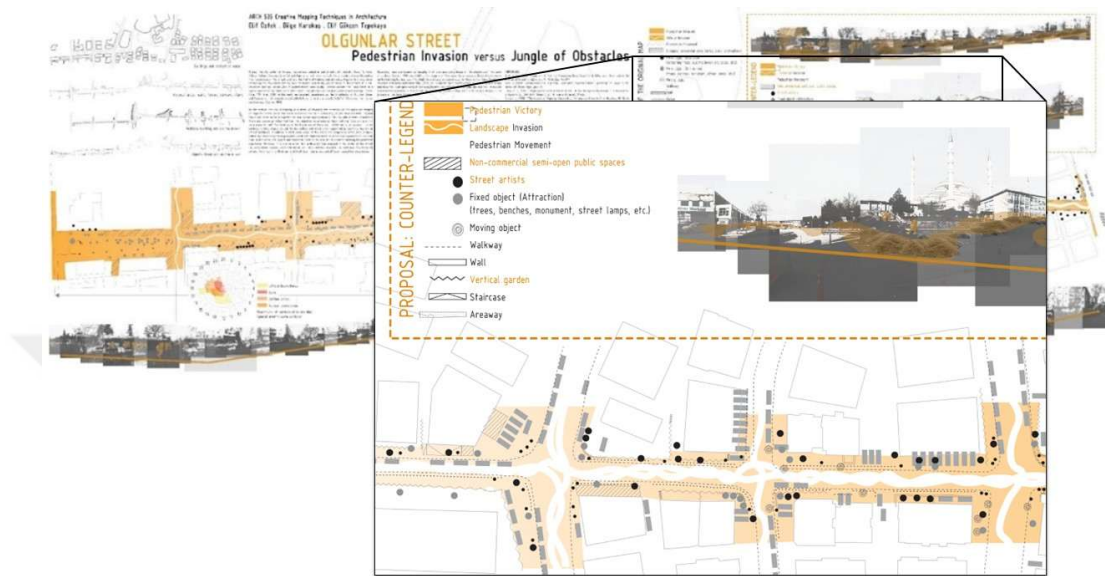


Figure 5.16. The map Elif Gökçen Tepekaya shared with ChatGPT to discuss on Olgunlar Street in Ankara considering boundary and use concepts in lived space.

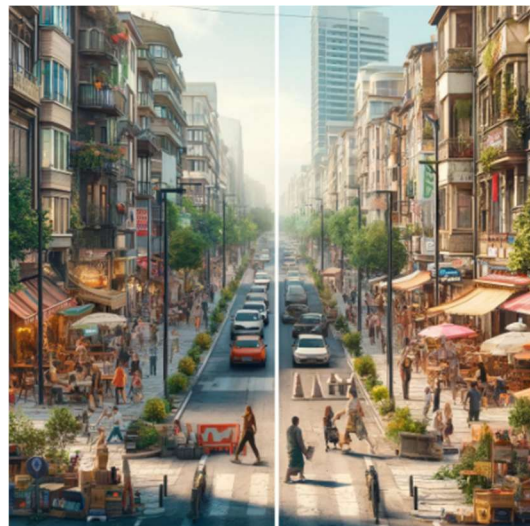


Figure 5.17. DALL-E generated images based on the ChatGPT prompt as an interpretation of the urban atmosphere for Olgunlar Street after examining the map.

When mediated through mapping practices, these images occasionally transform into visuals that resonate more closely with the materiality of place. Dissociative influences (as discussed in Chapter 4) caused by reductive assumptions manifest as thresholds that could be smoothed with topological potentials maps might offer for creative emergence can unfold, yet they often remain distinct from the embodied dimensions of lived experience.

When facilitated by distributed cognition among human and artificial minds, the relational threads within these mappings may evolve into more discernible pathways for nomadic thought and conceptual engagement. As such, these dialogues could be considered as gained affective resonance when approached through a post-phenomenological lens towards embodiment (as discussed in Chapter 2 on Ihde's views).

In this context, conceiving place as a post-human assemblage extending within the digital realm suggests a virtual-actual continuum for the associated milieu of artificial intelligence, wherein parallel planes of immanence might interweave into a newly forming affective assemblages, territorialized along the plane of consistency while preserving the openness to become deterritorialized inherent to this post-representational indeterminacy.

For example, in the experiment conducted by Melek Demiröz, Copilot's (ChatGPT) response to Demiröz's creative map focusing on the Tumuli formations in Ankara showed indications of such an enhanced conceptual engagement⁶³⁵ which couldn't be observed in previous events with undergraduate participants.

Copilot phrased several key interpretations that can be inferred from Demiröz's work, such as "sociological emphasis on community engagement and accessibility",

⁶³⁵ Melek Demiröz, Dialogues between gen-AI and METU graduate students on mapping performances, interview by Şafak Sakçak, April 2024.

“routes indicating the importance of connectivity and mobility in urban planning, facilitating cultural exchange and economic activity”, areas of historical significance versus recent development, showing a cultural layering of time and architecture”, and then it went on acknowledging the critical expression of the mapping performance as:

“Incorporating these elements into our understanding of the urban atmosphere, we can see that ... The tumuli, as part of this landscape, add a historical depth, serving as markers of time and memory amidst the evolving cityscape. ... This creative mapping thus offers a subjective yet insightful perspective on Ankara's urban context, blending the tangible with the intangible, and inviting residents and visitors alike to engage with the city's rich tapestry of life.”



Figure 5.18. Left: An image of urban atmosphere generated by Copilot (DALL-E) after interpreting Demiröz’s mapping performance on Ankara Tumuli from Altındağ to Beştepe. Right: An aerial view of tumulus photographed from Beştepe⁶³⁶

⁶³⁶ ‘Büyük Tümülüs Kral Mezarı’, accessed 1 September 2024, <https://www.ankaraturu.com/wp-content/uploads/2021/01/Buyuk-Tumulus-Kral-Mezari2.jpg>.

However, even in this case, there are significant gaps between experiences and imagination due to limits and ethical precautions pre-set in training participated AI models. Here, an example can be given of an observation noted as the behavior of “sugarcoating” the interview with Sinan Cem Kızı1, from his conversation experience with Microsoft Copilot (ChatGPT) on the mapping performance he had previously created for Ankara Çinçin neighborhood⁶³⁷.

By the description that he introduced to Copilot, Kızı1’s map is about the spatiotemporal dynamics of the drug trafficking in the neighborhood, as it is mainly operated by the lookout children. These children become intermediary agents between inside and outside, defining and transforming the boundary of the territory in this half-destructed environment by their actions. Two ever-changing edges define this boundary. The first edge is the “surface of exchange”, formed by geolocations where the material exchange occurs. The second edge is the “visibility threshold,” which is defined by geolocations where the lookout kid disappears into the existing spatial matrix to reach the house. Whereas everywhere between the house and the boundary is a part of territory in which the outsiders have no information about the movements of its inhabitants.

In our interview, when I asked Kızı1, “What was the most significant challenge you’ve experienced with generative AI?”, he replied that his experience falls short, specifically because the conversation gets stuck on content with criminal connotations such as drug trafficking, which is very significant for the map’s motivation and contents, possibly because LLMs probably try to be politically correct or choose safe language.

⁶³⁷ Kızı1, Dialogues between gen-AI and METU graduate students on mapping performances.

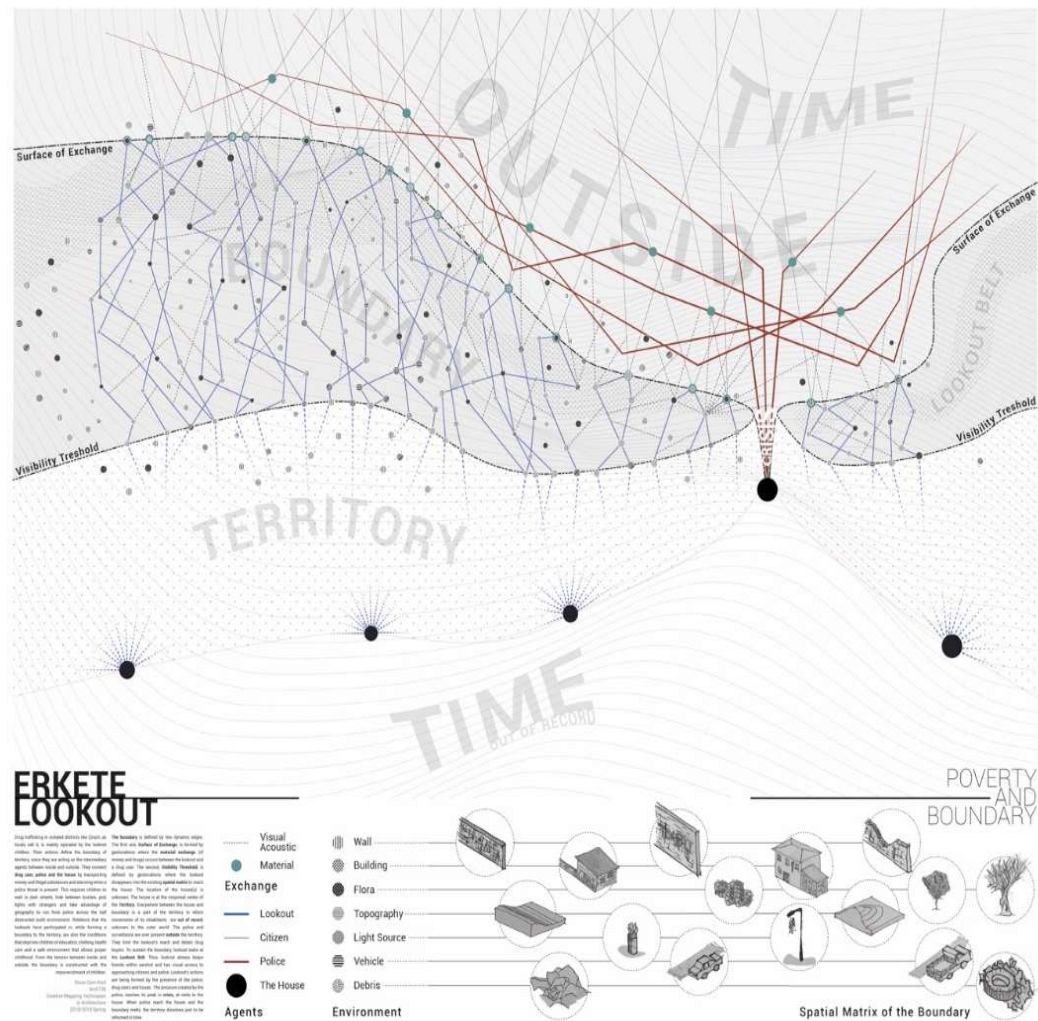


Figure 5.19. Sinan Cem Kızıl's rhizomatic mapping on the place experience that varies spatio-temporally with the relational locations of children who act in surveillance during drug trafficking processes in Ankara Çiğir neighborhood.

In our conversation, Kızıl explained this situation by reviewing his efforts, which resulted in many attempts:

SCK: Look (shows the last image); for example, even the latest ones, the version I call the closest, have some kind of *sugarcoating*. Moreover, even though I specifically wrote not to sugarcoat, there this happened. So, yes, you may not actually be able to do anything actually critical...



Figure 5.20. Image of the spatio-temporal atmosphere, generated by DALL-E through ChatGPT's description, as the latest version arrived in an iterative dialogue on Kızıl's mapping⁶³⁸.

⁶³⁸ Kızıl.

Another graduate researcher, Abdullah Eren Demirel, provided notes on his experience by also pointing to similar limitations and, despite them, some potential⁶³⁹: The map Demirel shared with Microsoft Copilot was a rhizomatic mapping of the Babür Street in Ankara, tracing appropriation tactics and strategies of residents, creating overlapping expansions in the singular line of the street. Existing boundary lines of street are indicated and how they expand with the appropriated use of residents are described. Continuous invasions by the users are compared to the variations of temporary invasions. The map also includes frequency depiction of diverse uses in the area at three levels: seasonal, weekly and daily; and it shows the alternative formations of nodes in the area.

Demirel observed that the AI's initial impressions of the mapping were quite superficial, and at first, it struggled to read the map, merely suggesting formal similarities based on graphical elements. However, after providing detailed explanations, the AI began to offer a romantic, Middle Eastern interpretation, likely influenced by the local IP address at first encounter. He noted that the form and technique of the mapping played a significant role in this process; working with a rhizomatic and dense map made it challenging for the AI to grasp the complexity in his experience. Demirel also identifies issues with the AI's ability to perceive the legend, start from the whole, and cope with complexity. Additionally, he points out that AI tends to make generic, romantic, and orientalist interpretations not only in images but also in text. Despite these challenges, he acknowledges the AI's potential to suggest and add concepts, as well as its ability to interpret the appearance of a street from a top view, creating a somewhat relevant silhouette. He finds it intriguing to consider what conceptual and philosophical roots might emerge if these results were analyzed backward. Lastly, Demirel expresses an interest in attempting a re-

⁶³⁹ Abdullah Eren Demirel, Dialogues between gen-AI and METU graduate students on mapping performances, interview by Şafak Sakçak, April 2024.

mapping process together with the generative AI and carrying it out simultaneously, rather than sharing a finished map and simply obtaining a reaction.

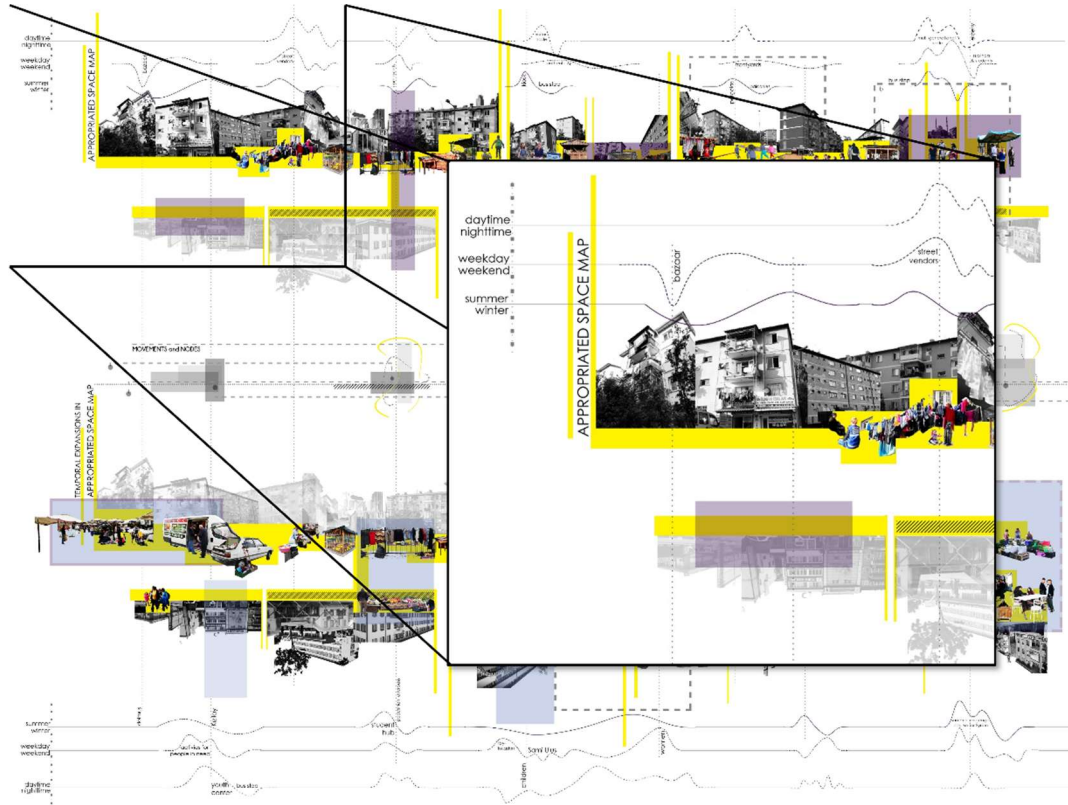


Figure 5.21. Map of Babür Street as shared by Abdullah Eren Demirel with Microsoft Copilot (with detail)

As Demirel pointed out, every mapping process wouldn't resonate in the same dynamics. For example, factors such as the ideas or methods used in the mapping process, the amount and complexity of spatial information coded in the mapping, its performative sensitivity, motivation, relevance to its context or the medium in which it can be represented by maps directly affect the intra-active field of responses. In this sense, the share and effect of mapping in relational agency are closely related to how it is performed. These conditions also affect the capacity of mapping actions to propose a designerly plane of consistency that can contribute to the emergent processes of assembling places.



Figure 5.22. An image generated in later stages of Abdullah Eren Demirel's conversation with Copilot⁶⁴⁰.

Following these encounters, both with maps published in the relevant literature and with experiments and interviews with graduate participants, it became clear that the content, conceptual depth, and post-representational attitude of the mapping performance can suggest variable affective resonance in each conversation about place experience between humans and generative AI. In addition, participants also contributed important opinions that were evaluated at the conclusion of the study. Particularly concerning the limitations and constraints of these experiences, generative AI's tendency to position and define itself as a tool even in a communication where it is seen as an agency, and situations where it cannot satisfy an unfiltered connection with critical content due to ethical concerns or possible biases in training constraints came to the fore in these evaluations.

⁶⁴⁰ Demirel.

CHAPTER 6

CONCLUSION: A PROVISIONAL SYNTHESIS

Continuing from the previously developed arguments, this provisional synthesis aims to bring together the insights of this study to mesh them with the place-related topics in the discourse of architecture and urban studies, mapping, and post-human thinking accompanied by the current "post-winter" enthusiasm for artificial intelligence. This conceptual assemblage emerged around three domains of thought: more-than-human notion of place as an assemblage in becoming; post-representational mapping with its critical, creative, performative capacity to practice within places; post-human thinking of relational agency intra-acting among human and artificial minds. Therefore, a more-than-representational framework served as a theoretical lens, an epistemological approach, and a methodological orientation. The encounters experienced throughout this assemblage process, along with the accompanying discussions, have shed light on the complexities and potentials of collaborating with AI in place-related practices.

This study proposes a mode of thinking and action for architecture and related discourses by focusing initially on the processual, relational, and agential characteristics of place, specifically to include non-human actants. In line with priorities of more-than-representational theories, post-representational mapping is adopted as a performative channel to challenge essentialist, reductionist, and instrumentalist boundaries, allowing the concept of platial agency—derived from spatial agency—to address the particularities of experience, responsiveness, and inclusivity towards a more-than-human sense of the lived place. Within this framework, AI is anticipated to act not merely as a tool or extension but as a responsive agent capable of intra-acting with the life and more-than-representational

qualities of place. The vocabulary assembled or introduced through this study opens critical and projective pathways for human-AI collaboration in place-performing, demanding further efforts to integrate relational and affective atmospheres into digitally driven design practices.

An instrumentalist attitude towards technical objects can lead to reductionist outcomes, which contradicts the concept of place when understood as a relational assemblage rather than an essentialist construct. Such a perspective becomes particularly untenable nowadays, as generative AI exhibits more autonomous and emergent behaviors in a more sheer, evident appearance, furthering the effects of the already-increasing prevalence of computation in architectural design. On the other hand, digitally-driven design workflows need new paths to integrate with the pre-cognitive aspects of everyday experiences of place, to contribute more sensitive practices toward the affective atmosphere of places. Failing to adequately consider the emotional, intuitive, or intersubjective dimensions of place in these processes can lead to unresponsive conditions towards its unique and contextual significance.

There is a need for a new cartography of concepts to be assembled not only to challenge the anthropocentric perspectives but also to integrate artificial minds into a more sensitive and intra-active role within spatial practices. Therefore, rather than adopting a hesitant stance towards technology or positioning it in a human-centric ontological hierarchy, this thesis advocates for a process-oriented approach that emphasizes the potential of mapping to be activated for mediating relational agency and distributed cognition among co-performing human and non-human actants involved in the becoming of place.

The premises, theoretical groundwork, and insights of this study support the potential role of mapping as a mediator in facilitating post-representational and post-humanist place experiences more strongly at a conceptual level. Mapping is a promising activity to explore the relational dynamics that emerge between human and AI participants, functioning as a communicative bridge between them. Post-

representational mapping deviates from the conventional cartographic practice — which already could relate and manage spatial information when tasked with the most complex communication purposes - distancing from cartographical gaze by creative channels to situate within a place in its affective and embodied dimensions. Thus, it becomes an action that embraces affect, embodiment, and relationality to a higher degree and can be realized through immediate experience without any objectivity or accuracy claim. The performative practice of mapping may become more critical in experimenting with AI beyond being a tool and being positioned as an active participant in the emergence of places while contributing to a more affluent and context-specific understanding.

The network of concepts used to explain creative mapping as a performance, the characteristics that stand out when considering the place as a relational becoming, and the concepts that can explain the dynamics of technical actants taking part in agential understanding of new materialism(s) from a post-human perspective; define three very similar conceptual networks that resonate onto each other with great overlap, and this dissertation was able to suggest that all these concepts assemble together in more-than-representational thinking (as outlined in Table 4), particularly around the ontogenesis of place between virtual and actual experiences.

In Chapter 2 a discussion was held to explore how the notion of place can be understood in a more-than-human understanding. There, three continuums are discussed: essentialism to relationality, being to becoming, phenomenon to living agency. While these continuums are assembled with ideas and concepts of the field of more-than-representational theories, Chapter 3 discussed how their tenets for practices to become involved and animated in the lifeworlds of places should join with post-representational capacity of mapping. Then, the same assemblage of ideas and concepts is resonated in Chapter 4, to see generative AI free from instrumentalist constraints from a relational materialist perspective and discusses how it can intra-act within the agency of the place where it is already involved in.

Table 4. Overview of the conceptual network associated in previous chapters

More-than human understanding of place is discussed as:	Therefore, practices can relate to, and perform within places by:*	Mapping / maps according to post-representational views, can support these efforts by:**	Becoming mediators between human-nonhuman minds as/ for/ within/ through
Relational	capturing the onflow of everyday life	their critical , creative, performative capacities	Relational agency
Assemblage	considering pre-individual	to:	Agential intra-activity
Rhizome	focus on practice, action and performance	relate the affective atmospheres of places within them	Agential cut
affective atmosphere		as:	Thinking machines – (imagining, dreaming, hallucinating)
contingent	rejecting ontological separations through relational materialism	<i>views from</i> somewhere bound within the <i>practices</i>	
complex	aspiring to be experimental	<i>histories in movements</i>	Practice as a heuristic move
processual	attaching importance to bodies, affect, emotion, intensities, and ephemeral phenomena	both representations and socio-spatial practices that do work in the world	Emergence and self organization
becoming		by involving actions and affects	Individuation of technical objects
emergent	suggesting an ethic of novelty built on what is happening	<i>emerging in process</i> through of-the moment; transitory, fleeting, contingent, relational and context-dependent behavior	Transduction
eventual			Associated milieu
indeterminate			Enactment / Enactivism
ambiguous			Distributed cognition
agential			Cognitive ecosystems
living			
hybrid			
actor-network			
intra-activity			
See Chapter 2	*Cited from Thrift, and Vanini for tenets of Non-Representational Theory See Chapter 3	**Cited from several sources. See Chapter 3	See Chapter 4

Since the study positions itself in the field of more-than-representational theories, the methods it followed is not limited to a conceptual discussion. Before summarizing the criticisms and suggestions reached with the experiential and narrative contents that have encountered with and brought together all these concepts, the limitations of these practices should be clearly acknowledged. In the research, generative AI actants are usually selected from Large Language Models in order to support an iterative and open-ended dialogue based on casual conversation between participants in simple interfaces, to allow for instant experiences, and to be able to connect with many dimensions of life, thought and knowledge instead of specializing in a specific task. In addition, during the encounters involving human participants, especially for student projects, mapping performances were formed in the form of sketchy content that was produced in a very short time, aimed at sharing subjective experiences that could be seen as immediate and often insignificant.

These differences that can be observed depending on the mapping content and the process of the dialogue can be exemplified by the notes taken on the comments of the course instructors in the studio jury and presenting students while the studies conducted with Çankaya ARCH 402 students were evaluated. In most instances, a repetitive pattern can be detected when involving a dialogue about the place: First, generic and cliché content is created, and then - when any additional data is shared or additional requests are identified – more relevant and specific but exaggerated or misleading content can be noticed.

It appears that not all mapping is effective, nor is it affective. These exercises provide clues about which types of mappings can contribute more meaningfully and become an agency or mediator between human and AI actors. The content, depth, and intensity of the mapping study significantly change its affect on AI. More subjective and relational studies lead to less generic and more unique outcomes. It is understood that it is not easy to be specific or original and that the experience that allows for a unique result may consist of subjectivity, the intensity of internalization, and often

motivated by an inquisitive-transformative perspective. Creative or affective content is triggered thanks to the repetition of encounters, and the increase of layers -“folds of space, movement, and time”- in the performance associated with the place, the experience, and the narrative of the encounters.

The limits and constraints of describing an experience through representation can also become evident in communication with AI. It seems that the rate of understanding and communication of intangible qualities can increase as the content of the mapping becomes performative. The possibility of artificial intelligence becoming an agency, that understands and interprets performative content, increases in such cases where AI becomes less a tool and more an agency if it reacts against performative content.

The questions asked by the AI models to understand the maps increased the students' inquiries about the place and enabled them to obtain more information or develop enhanced interpretations. In this respect, students stated that they think and understand the place more than a usual site analysis process, thanks to the dialogue they establish with artificial intelligence. Here, students suggested an analogy about understanding the subject better when you explain it to someone else while studying for an exam.

If a temporary evaluation is to be suggested for defining new lines to follow in research based on all these discussions and inferences, this study has examined that mapping can be a mediator of post-representational and post-humanist place experience and encountered certain limitations. The last chapter before this unfolded a series of encounters, where mapping performances act in human-place-AI relationality, and together with all other examples discussed in previous chapters,

specific concepts emerged for exploring how these encounters can be inquired through assemblage thinking and the concept of immanence.

According to the researcher's observations and participant's opinions (as outlined in Table 5) in this study, urban atmosphere images created in collaboration with GPT and GAN models remain superficial and generic, far from relating to the actual experience of the place when not supported by a relational mediator for spatial practice. In appearance, they often behave as images of quasi-resemblance, or interrupted replicates. This situation has pointed to the need to question how the place is conceptualized through a plane of immanence in the interactions between humans and artificial intelligence and how this perception can evolve in the digital age.

Participatory exercises with different groups indicated that a post-representational understanding of mapping could have an influence on images generated by human-AI affective assemblages. Still, this effect is relative to the content and depth of performance, and it cannot be sustained in post-human communication, which is lost in translation by dissociative conditions. Then again, more significant than all these inferences, the performativity of a mapping activity as a mediator to act as an agential cut that reveals how agency is acting in an associated milieu, should be appreciated for the promise of conceptual depth, heuristic dynamics, and critical perspectives in their relationships with the place; not merely for the characteristics of visual outputs imagined in these encounters.

The interaction between human participants and the AI often remained superficial, with outputs lacking depth and disconnected from the particular realities of lived spatial experiences. The collaborative process also struggled to grapple with the complexity inherent in rhizomatic maps, resulting in interactions that were confined

Table 5. Overview of participants' opinions and reflections after encounters

<p>Undergraduate students from Çankaya University ARCH 402 23-24 Spr.</p> <p>(with contributions of studio instructors Aslı Er Akan, Leyla Etyemez Çıplak, Fatma Gül Öztürk Büke, Selçuk Uysal, and students)</p>	<p>Graduate researchers from METU over their materials from METU ARCH 535</p> <p>(with the contributions of Abdullah Eren Demirel, Melek Demiröz, Sinan Cem Kızıl, Elif Gökçen Tepekaya)</p>
<p>Pattern observed: Process starts too generic and may become overly specific.</p> <p>Mapping is not always effective or affective.</p> <p>Some maps mediate between humans and AI, but inconsistently.</p> <p>Mapping depth and subjectivity yield unique AI outcomes.</p> <p>Unique outcomes depend on subjectivity, internalization, and transformation.</p> <p>More creative content emerges from repeated, layered encounters.</p> <p>AI's questions about maps could trigger deeper inquiry and enhance site analysis.</p> <p>Students felt dissociated when AI could not capture realistic appearances.</p> <p>AI reviewed some maps too literally; colors and shapes impacted results more than content.</p> <p>The metaphors were overly exaggerated.</p> <p>A deeper mapping was challenging and labor-intensive.</p> <p>AI models tend to behave as quantitative thinkers, often demanding measurable scales and dimensions.</p>	<p>Unexpected conceptual engagement, that might lead new explorations and new mappings</p> <p>But also a certain lack of conceptual engagement depending on context,</p> <p>Strangeness felt by appearances, a feeling of «almost there»</p> <p>Persistent reductive or simplifying behaviors</p> <p>Censoring, or sugarcoating might be caused by ethical constraints in training protocol</p> <p>Tendency to being affirmative in interpretations, resistance towards criticism</p> <p>Obvious impact of stereotypes, possibly location-sensitive (through IP address)</p> <p>Generic, romanticist, and orientalist interpretations, that could be avoided by additional explanations and continuous discussion on the mapping content.</p> <p>Lack of analyzing legends and annotations, but an unexpected competence of interpreting visual contents.</p> <p>Reduced responsiveness for multi-layered maps or maps with increased complexity of information.</p>

to superficial elements, failing to fully engage with deep relational qualities and conceptual elaboration. Furthermore, the observable agency of mapping as a mediator was inconsistent and varied greatly depending on the depth, mode, and subjective engagement of participants, as expected. AI participants sometimes had significant difficulty understanding abstract or emotional qualities, which sometimes led to dialogue breakdown between human and AI agents, limiting sustainable interactions.

Despite these challenges, the study highlights certain contributions and areas for future research. The conceptual rhizome of More-than-representational theories, as captured in a frame specific to this research, provides a useful medium for exploring generative AI and more-than-human understandings of place. This relational approach to perform within places encourages deeper exploration of morphogenetic practices that can better express human-AI collaboration in spatial contexts. Future work is encouraged to focus on a more intuitive, heuristic, and critical exploration of these dynamics in thought and philosophy, rather than solely examining visual outcomes. The introduction of new research keywords such as platial agency and parallel immanence offers a potential for a further speculation of the relationships between place, technology, and the multitude of actors involved in place-performing.

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APPENDICES

A. Glossary

All the concepts defined below are also explained in the main body of the text, with further elaboration by citing the works of several theorists according to the context in which they are referred.

Actual: The parts or elements of reality that emerged in concrete physical bodies, occurrences or encounters.

Affective atmosphere: An ambient quality to describe collective intensities of affect that are felt or sensed in specific spatial contexts and temporal situations, where affective resonances become influenced by an assemblage, influence assembled bodies, but exceed them in a relational behavior.

Agential cut: Doings (practices, actions, events) that reveal the contents of phenomena, involved bodies, and their relations, and how the agency is emerging or separated through intra-actions in a momentary glimpse.

Assemblage: A dynamic network of human and non-human elements whose spatio-temporal relations produce emergent characteristics of agency, context, and form. It emphasizes exteriority of relations, fluidity of materials, and the distributed nature of action across material, social, and discursive components.

Associated milieu: A physical and social setting emerges through association between human and non-human components in practice, providing the conditions that allow the individuation of technical actants to be considered

Drift (*derive*): An unplanned casual journey through urban spaces that encounters passages between varied atmospheres without focusing on habitual patterns in social environment but enabling an experimental engagement with the city's spatial conditions.

Intra-action: An alternative term for interaction that is suggested by agential realism to consider actions and agency over relational processes that do not depend on pre-existing agents or subject-object dichotomy. The agency is understood through the dynamism of forces exercised by relational phenomena, not as an inherent property or attribute of an individual.

Mnemonic: A tool, strategy, medium, or action that relates to the pattern of associations of actual encounters and virtual connections from past to now through memory.

Ontogenesis: The dynamic process of becoming through which bodies, relations, and forms emerge, transform, and differentiate over time contingently. In post-structuralist and process-oriented thinking, ontogenesis emphasizes processual explanations over essentialist understandings.

Plane of consistency: A hypothetical plane that brings together heterogeneous elements without hierarchical organization and enables the continuum of relations among them in the process to allow emergent connections associated between actual and virtual elements beyond fixed forms or identities.

Plane of immanence: A hypothetical plane to describe a field of unlimited potential without reference to any transcendent order, enabling assemblages between life, thoughts, and associations by sustaining the continuous processes of becoming within these assemblages. If the plane of consistency is thought of as the field of continuous connections between virtual and actual, the plane of immanence is where these connections are ideated, conceptualized, and experienced.

Rhizome: A concept adopted from biology to philosophy for describing an assemblage that becomes with many relations of its included elements without any predefined order, indexical hierarchy or tree-like structure, but in a rather horizontal form of a network that allows indeterminate possibilities of intensifications, fringes, or extensions.

Territorialization: The process of relatively stabilizing and organizing of an assemblage where dynamic relations are contextualized into temporarily structured forms, boundaries, or identities. **Deterritorialization** is then the complementary cyclical process that disrupts and releases the fixed organizations, boundaries, or identities to enable new associations, flows and possibilities to emerge within the same or in a new assemblage.

Transduction: A dynamic and continuous operation in ontogenesis through which conditions are actualized, moving progressively from one state to another, resulting in the individuation of new states and relations.

Vibrancy: The inherent liveliness and affective force of materials, environments, and relations, emphasizing their active participation in relational agency and processes of becoming.

Virtual: A domain of reality including potential, tendencies, and forces that are not yet actualized but can give rise to new forms, relations, and experiences through processes of becoming.

B. Human Research Ethics Committee Approval

This study was approved by METU Human Research Ethics Committee with protocol number 0198-ODTÜİAEK-2024

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18 OCAK 2024

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Hacer Ela Alanyalı Aral

Danışmanlığını yürüttüğünüz Şafak Sakçak'ın "MAPPING AS THE MEDIATOR OF PLACE EXPERIENCE IN POST-HUMAN (DESIGN) ASSEMBLAGES" başlıklı araştırmanız İnsan Araştırmaları Etik Kurulu tarafından uygun görülerek 0198-ODTÜİAEK-2024 protokol numarası ile onaylanmıştır

Bilgilerinize saygılarımla sunarım.

Başkan

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Figure 6.1. A scanned copy of METU İAEK (*İnsan Araştırmaları Etik Kurulu*) approval document.

CURRICULUM VITAE

Surname, Name: Sakçak, Şafak

EDUCATION

Degree	Institution	Year of Graduation
MS	METU Building Science	2018
BARCH	METU Architecture	2013
High School	Atatürk Anadolu High School, Ankara	2008

WORK EXPERIENCE

Title	Institution	Time
Co-founder	MAINTEK R&D	2013-2015
Research Assistant	Çankaya University Department of Architecture	2015-...

FOREIGN LANGUAGES

Advanced English

PUBLICATIONS

1. Çavdar, R.Ç., Kınıkoğlu, S., Ürey, Z.Ç.U., Topak, S.Ç., Sakçak, Ş. (2021)
"Mimarlığa Başlarken Bağlam: Ankara", Dosya: TMMOB Mimarlar Odası Ankara
Subesi Dergisi, (49) pp. 112-119