

## Metabody in Posthuman Architecture: Virtualizing Spatial Dynamics for Transformative Spaces

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### Abstract

*This research examines the concepts of metabumanism and metabody to explore the production of posthuman space. It examines the dynamic nature of posthuman space, which is characterized by fluidity, lack of form, and the interplay of relationships and interactions. Using Deleuze's distinction between the virtual and the actual, this study examines how posthuman space emerges as a convergence of these concepts, continuously shifting between fluid and solid states to accommodate the diverse posthuman experience. Virtualization is a crucial instrument for investigating posthuman architecture, especially within digital environments that foster creative expression and experimentation. Through a case study, this research examines the role of virtualization in forming a posthuman architectural landscape, demonstrating how digital domains offer unique opportunities for innovative space production and exploration. By highlighting the novel spaces that can be realized through virtualization, the study demonstrates the ability of posthuman architecture to cultivate new modes of interaction and engagement, thereby fundamentally altering our relationship with and perception of the built environment. This research contributes to the comprehension of the influence of virtualization on the formation of a posthuman architectural landscape by shedding light on its transformative capacities and implications.*

**Keywords:** *Virtualization; Posthumanism; Architecture; Body*

“The gradually growing hegemony of the eye seems to be parallel with the development of Western ego-consciousness and the gradually increasing separation of the self and the world; vision separates us from the world whereas the other senses unite us with it” (Pallasmaa, 2012, 28).

### Introduction: Rethinking architecture in the posthuman era

In the context of the evolving landscape of posthuman philosophy, this academic paper seeks to examine the necessity for architecture to transcend its conventional human-centric lens and adopt a broader perspective that not only incorporates humans but also recognizes the complex dynamics and interdependencies between humans and non-human entities. Within this transformative epoch, posthumanist architecture assumes center stage as a profound theoretical framework that ventures to challenge conventional notions of human exceptionalism. By embracing emerging technologies, novel knowledge paradigms, and a variety of perspectives, posthumanist architecture endeavors to transcend the limitations of predetermined boundaries.

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As mentioned in the Metahumanist Manifesto, the concept of metabody rests at the heart of this transformative journey which has been developed by Jaime del Val since 2002 (Del Val, 2002). As we delve deeper into the profound implications of the metabody concept, we discover a connection to the ideas proposed by Marcos Novak, particularly in the domain of liquid architecture. The posthuman space envisioned through this understanding is ever-evolving and characterized by its ability to interact with its surroundings and other entities. This space is in stark contrast to the static, rigid, and human-centric architecture that prevails today (Novak, 1995, 283-284).

Novak's liquid architecture embraces the fluid and transformative character of architectural design, echoing the interplay between Gilles Deleuze's definition of the actual and the virtual. It reveals the inherent potential for dynamic adaptability in spaces, dissolving fixed boundaries and enabling malleable and responsive spatial experiences. Similarly, Deleuze's actual/virtual framework acknowledges the interaction between the current reality and the realm of potentiality. Within this framework, liquid architecture corresponds with the infinite interaction and transformation between the actual and the virtual, utilizing the generative potentials inherent in the production of space. It facilitates a dynamic interaction between users—human and non-human entities—and the built environment, creating an interactive dialogue that also blurs the lines between physicality and digitality.

Through an examination of the synergies between the metabody concept and the actual/virtual interplay of liquid architecture, this study aims to cast light on the transformative role of both theories in redefining posthumanist architectural landscape. Through an examination of their fundamental principles, I hope to reveal the profound repercussions that result when architecture embraces the fluidity of the posthuman era, embracing the potential of the virtual and manifesting it within the fabric of the actual.

Architecture has been a field dominated by a human-centric perspective that prioritizes the needs and desires of humans above all else. Posthumanism is an interdisciplinary field that emphasizes the interconnectedness of all entities and the acknowledgment that humans are not the only subjects in the world. To create a posthuman space that embodies the principles of liquid architecture and is responsive to all entities, architecture must shift away from the ocular-centric worldview that has dominated architectural design for centuries. This shift requires an embrace of a more holistic perspective that recognizes the interconnectedness of all things and moves away from the idea of a human-centered universe. This new perspective demands an architecture that is not only responsive to the environment but actively engages with it, becoming a part of the larger ecosystem rather than a separate entity imposing its will upon the natural world. By embracing this approach, architects can create spaces that are more adaptive, dynamic, and sustainable, embodying the principles of posthumanism while helping to pave the way for a more just and equitable future for all entities.

### **Beyond the seeing eye: Embracing the Metabody in architecture**

The prevalence of an ocular-centric perspective in architectural design generates environments divorced from the natural world, perpetuating a fallacious conception of human mastery and authority. This perspective conceptualizes “knowledge” and “ignorance” in terms of light and darkness and subsumes the verbs “to know” and “to understand” within the domain of “seeing.” Consequently, it promotes a false sense of dominance over the environment and other species, thereby reinforcing human preeminence.



As a theoretical framework, metabody contests the dominance of vision and provides an alternative understanding of the body and its relationship to the environment. It recognizes the body as a dynamic, interdependent entity that is constantly in motion (Del Val, 2010). Posthumanist architecture, influenced by the concept of the metabody, embraces this concept and strives to design spaces that resonate with the multiplicity of bodily experiences. Posthumanist architecture acknowledges the sensory richness of human embodiment and promotes an inclusive approach to design by transferring the emphasis away from a singular, visually centered perspective.

In posthumanist architecture, the notion of the body transcends the individual and encompasses broader networks of relationships. It acknowledges the interdependence of bodies, spaces, and the environment and considers how architecture can facilitate and foster these relationships. Posthumanist architecture creates spaces that facilitate connectivity, interaction, and engagement between users and the built environment by embracing the relational nature of metabodies.

The concept of immutable identities and predetermined forms is also challenged by posthumanist architecture. It upholds the notion that reality is a process of constant change, unconstrained by predetermined boundaries. This perspective enables a more flexible and adaptable approach to architectural design, in which spaces can evolve and respond to the changing requirements and desires of individuals and communities. Posthumanist architecture creates environments that are malleable, dynamic, and capable of accommodating diverse experiences and expressions by incorporating metabody principles.

As Juhani Pallasmaa mentions:

Our bodies and movements are in constant interaction with the environment; the world and the self inform and redefine each other constantly. The percept of the body and the image of the world turn into one single continuous existential experience; there is no body separate from its domicile in space, and there is no space unrelated to the unconscious image of the perceiving self (Pallasmaa, 2012, 44).

This emphasizes the inseparable connection between the body and the environment, as well as the significance of their interaction in shaping our worldview. However, this perspective is frequently overlooked in architecture, which tends to prioritize human-centered design and disregard the interconnectedness of all entities.

Moreover, posthumanist architecture recognizes the limitations of human exceptionalism and challenges notions of hierarchy-based superiority. It aims to create more inclusive and equitable spaces by dismantling traditional power structures and hierarchies. This requires taking into account not only the human experience but also the experiences and requirements of non-human entities and the larger ecosystem.

In conclusion, metabody and posthumanist architecture offer a transformative approach to architectural design by challenging the ocular-centric viewpoint and promoting inclusivity, relationship, and adaptability. By incorporating the insights and principles of metabody, posthumanist architecture has the potential to redefine our relationship to the built environment, resulting in spaces that celebrate the diversity of embodied experiences and foster a more harmonious and interconnected world.

## **From actual to virtual: Transforming the ontological gravity of space**

The intersection of metabody and Deleuze's virtual and actual concepts reveals architecture's transformative potential. Metabody, in accordance with Deleuze's virtual domain of potentiality, regards the body as interdependent forces in constant motion (Del Val, 2020).

Gilles Deleuze's philosophy on the actual and the virtual provides a valuable framework for comprehending the transformative potential of space. Deleuze argues that the virtual is not solely a possibility, but a real potential that exists in space, with the actual representing the actualization of this potential in the physical world (Deleuze, 2002, 148-152). Therefore, a posthuman approach to space involves recognizing and unleashing the virtual potential of space in order to create a dynamic and adaptable environment.

A posthuman approach to space can prioritize the potential for adaptation and transformation, enabling the production of more interactive-living spaces that serve the needs of diverse entities. This approach is exemplified by Marcos Novak's concept of "liquid architecture," which emphasizes the significance of designing spaces that can adapt fluidly to changing conditions and user needs. The concept of liquid architecture proposed by Novak is characterized by its ability to change and adapt, breathing, pulsing, and transitioning into other forms. It is a space that responds to the occupants' needs and interests, opening to welcome and closing to defend. Liquid architecture eliminates the conventional limitations of entrances and hallways, enabling spatial arrangements to be fluid and adaptable. This strategy supports the development of posthuman architecture theory within the concept of metabody, which emphasizes the integration of digital technologies and human biology, thereby dissolving the lines between physical and digital spaces (Novak, 1991, 272).

The work of Pierre Levy on virtualization expands on this notion by investigating how technology and digital communication can alter our relationship with the world. Through virtualization, we can obtain a deeper understanding of the world and design spaces that accommodate all entities' needs. In this context, it may be useful to first look at the concepts of actualization and virtualization.

Actualization, according to Levy, entails the construction of a new form based on a dynamic configuration of forces and ends. It involves the production of new qualities, the transformation of ideas, and a real becoming that, in turn, nourishes the virtual. Actualization requires a creative solution to a problem, as opposed to merely assigning reality to a possible or choosing from a predetermined range of options. In contrast, virtualization entails a movement away from actuality and toward virtuality. It involves the transition from the actual to the virtual, which results in an exponentiation of the considered entity. Virtualization is not derealization, but rather a change of identity that shifts the object's ontological gravity center. It transforms an initial actuality into a specific instance of a more general problem, one that is now the ontological focal point. Levy emphasizes that virtualization is one of the primary vectors in reality's construction. It does not simply transform a reality into a set of possibilities; rather, it blurs existing distinctions, expands degrees of freedom, and creates a compelling void. Like actualization, the effects of virtualization are irreversible, indeterminate, and creative. Alongside actualization, virtualization plays a crucial function in the creation of reality (Levy, 1998, 25-26). Collectively, the ideas of Deleuze, Levy, and Novak provide a foundation for posthuman architecture, which endeavors to design spaces that are more responsive, adaptable, and accessible to a variety of entities.

Aligned with Deleuze's distinction between the actual and the virtual, *A Spectrum of Realms: Merging the Wild with the Wired* workshop series offers a novel approach to investigating the intersection of the physical and digital worlds. The workshops seek to bridge the gap between nature and

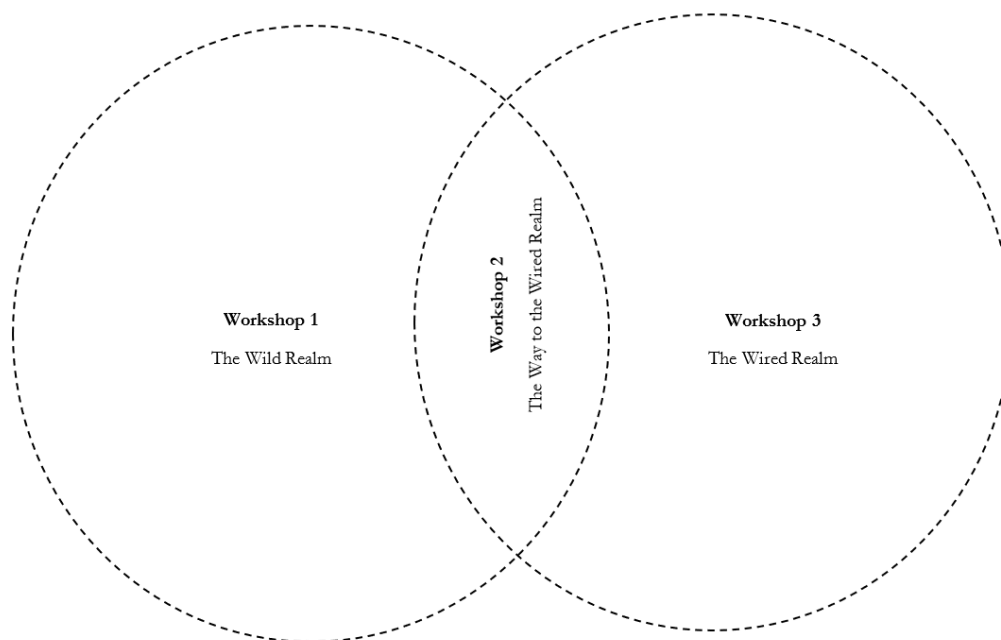


technology by first engaging participants in sensory experiences that connect them to the land and their bodies, and then by exploring the possibilities of using technology to enhance creativity and venture beyond the physical world. This strategy is consistent with metabody and Pierre Levy's concept of virtualization, which refers to the transformation of physical reality into a digital format that permits new forms of interaction and creation. By fusing the natural with the technological, these workshops offer a spectrum of domains that allow us to create new opportunities for creativity, connection, and exploration, ultimately contributing to the larger discourse on the actual and the virtual in shaping a posthuman architectural landscape. In the following chapter, I will examine the three workshops in-depth, discussing their relationship to Deleuze's and Levy's ideas and their implications for posthuman architecture.

### Case study: A spectrum of realms: merging the wild with the wired workshops

A case study entitled *A Spectrum of Realms: Merging the Wild with the Wired* has been conducted to examine the concept of virtualization of space in relation to metabody. This case study is comprised of three workshops (Figure 1) whose purpose is to investigate the viability of various physical and digital space-making methods for achieving virtualization. The study suggests that investigating the potentials of these methods can lead to transformational relationships between the actual and the virtual.

**Figure 1.** Three Workshops: The wild realm, the way to wired realm, and the wired realm



The case study centers on a number of key themes including:

- Philosophical implications of merging different realms through collective and creative practice,

- The potential for dismantling traditional dichotomies between the natural and the artificial,
- The physical and the virtual, the wild and the wired, and the potential for new forms of creativity, expression, and comprehension due to the blurring of boundaries between different realms.

Virtualization has the potential to alter our conceptions of space and embodiment, as well as our interactions with the physical world, as demonstrated by the investigation of these topics in this case study.

At the intersection of the physical and digital realms, the case study suggests that virtualization can be performed by fusing diverse aspects, thereby creating new possibilities for posthuman bodies. If we allow ourselves to be creative and express ourselves in virtualized environments, the case study argues, we can transcend our traditional limitations and discover new ways of being in the world.

The body and movement are significant elements and concepts within the research and workshop phases of the “Merging the Wild and the Wired” case study. The study focuses on the body, examining its potential for transforming relationships between physical and digital spaces. The investigation concentrates on the following aspects referring to the metabody:

- The emphasis was placed on the body and its motion in each of the three workshops.
- The body as a means of connecting to the land in the wild realm.
- The entity providing data and inspiration for the creation of virtual reality in the Wired Realm.
- The significance of understanding the body and its creative expression potential while integrating diverse domains.

The body’s potential for creative expression and its function in facilitating the merging of different realms are central to the case study. By understanding the body as a dynamic site of interaction and exploration, the study suggests that virtualization can lead to new modes of being in the world as well as new opportunities for posthuman architecture.

As a central concept of the research, collective creation involves establishing a relationship with one’s own body and the bodies of others, as well as co-creating and co-constructing a space by integrating and connecting with one another. Several essential elements of the workshops reflect this emphasis on collective creation:

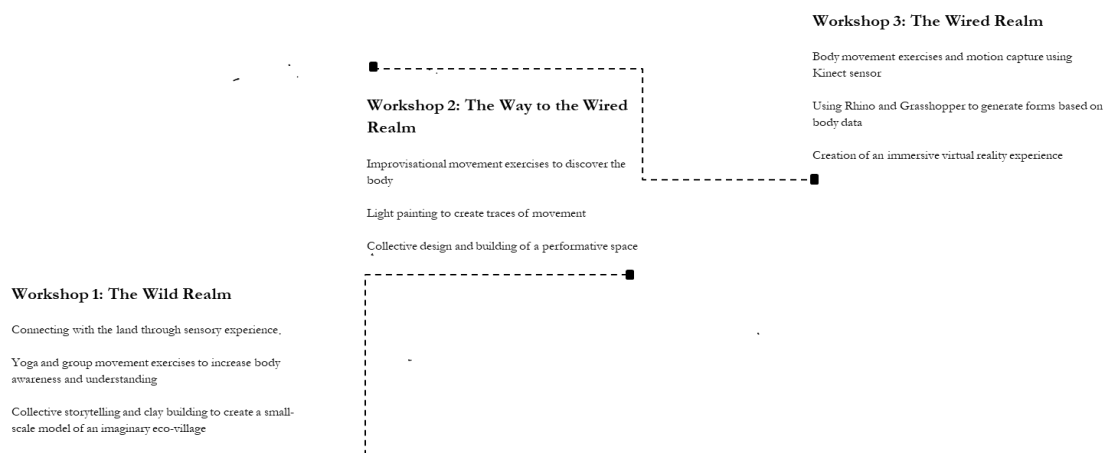
- The workshops emphasize a collaborative approach, with an emphasis on group dynamics and cooperation.
- *The Wild Realm* workshop facilitates collective creation through the use of collective narrative and clay building.
- Participants in the Way to the Wired Realm workshop collaborate on the design and construction of the performative space.



- Participants in the Wired Realm workshop collaborate to create a virtual reality experience.

By dismantling traditional dichotomies between the natural and the artificial, and the physical and the virtual, the study proposes that exploring the potentials of these methods can lead to new forms of creativity, expression, and comprehension by blurring the boundaries between different realms. The investigation places special emphasis on the body, examining its capacity for inventive expression and transformative interactions within physical and digital spaces. By emphasizing collective creation and collaboration, the workshops aim to enable participants to create new possibilities and ways of being in the world. The study emphasizes the potential for virtualization to transform our comprehension of space and embodiment, as well as our relationship with the external world.

**Figure 2.** General Structure of A Spectrum of Realms: Merging the Wild with the Wired Workshops



The outcomes of each workshop will be evaluated in relation to the overarching objective of the case study, which is to explore the potential of virtualization within the context of the body and movement. The case study focuses on the transformative potential of virtualization for posthuman bodies and the role of the body in facilitating the merging of various realms. By understanding the body as a dynamic site of interaction and exploration, the workshops seek to empower participants to collectively create new opportunities and ways of being in the world. Through the investigation of various physical and digital space-making techniques, the study argues that virtualization can broaden our comprehension of space and embodiment, thereby altering our relationship with the world. The examination of each workshop's findings will contribute to the discussion on the potential for virtualization to influence posthuman architecture and our relationship with the built environment.

### Workshop 1: The Wild Realm

*The Wild Realm* is a multidisciplinary research initiative that uses a dynamic and immersive experience in order to explore posthuman architecture. This workshop brings together fifteen individuals for four days of transient forest settlement. The research consists of three phases (Figures 3):

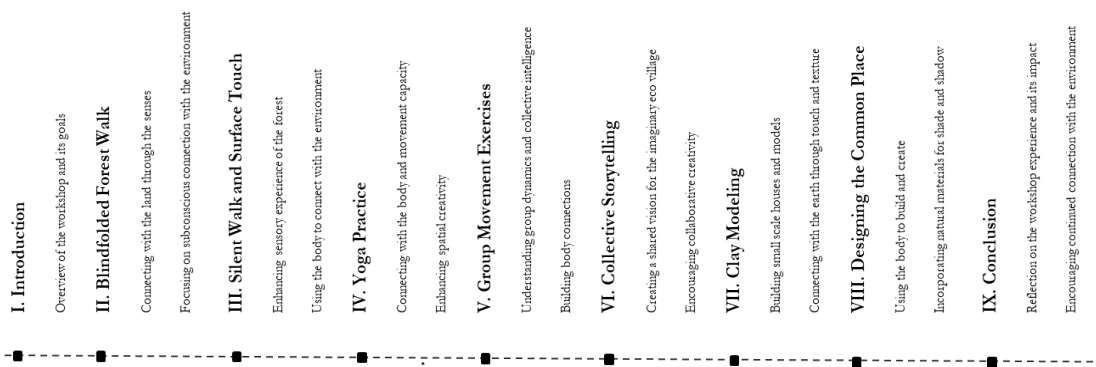
- I. Self-Exploration

II. Group Dynamics and Integration

III. Construction

The significance of the body in relation to space and identity is highlighted in Phase I, Self-Exploration (Figure 4). This phase's activities emphasize sensory stimulation and connection with the environment, such as yoga-based exercises, sensory orientation activities, and silent walks to cultivate a deeper connection with the land and the non-human species.

**Figure 3.** Structure of The Wild Realm workshop



**Figure 4.** Phase I



By engaging in these activities, participants gain a greater understanding of the body and movement and its function in the ecosystem, as well as its transformative potential in relation to the virtual realm. This phase emphasizes that the body is not merely a corporeal entity but is tightly intertwined





with its surrounding environment. By cultivating a deeper connection between the body and its environment, participants can investigate new possibilities for posthuman architecture that embrace the power of creative practice to shape our relationship with the built environment.

In Phase II, Group Dynamics and Integration, the emphasis shifts to the participants' collective somatic awareness (Figure 5). Through exercises based on contact improvisation, the participants aim to interact collectively with the land and the non-human entities. This collective movement and interaction produce the design of the architectural structure consisting of a skeleton and shell that arise from the group's collective movements.

**Figure 5.** Phase III



In the last phase of *The Wild Realm*, participants construct a structure from locally sourced materials such as bamboo and earth, allowing them to consider the interdependence between humans and the environment. The resulting structure embodies the principles and philosophical foundations of posthumanist architecture. Despite the significance of the constructed structure, the research methodology employed in its production is inadequate. As a result, the study has been moved to the digital domain, expanding the scope of inquiry.

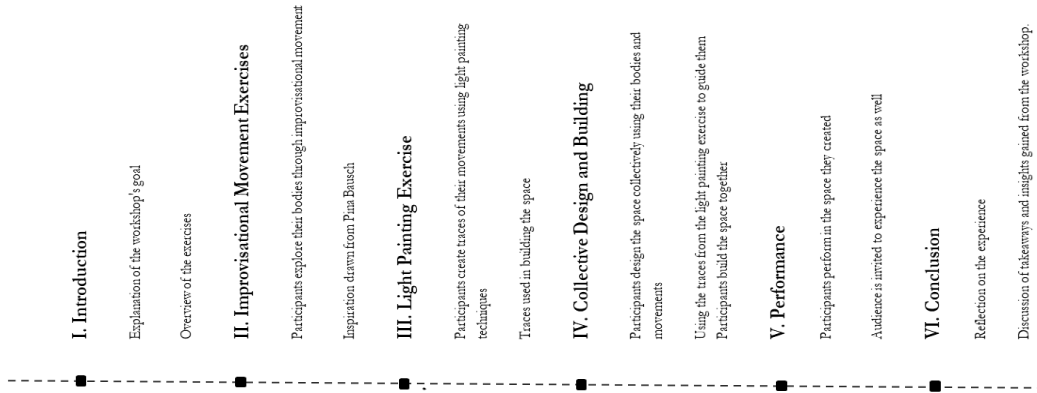
This transition to a digital environment is influenced by the Deleuzian framework's virtual and actual concepts. The digitization of research aims to virtualize the procedure. By entering the digital domain, it becomes possible to investigate the relationships between the body, movement, and space, resulting in a greater comprehension of the complexities of posthuman architecture.

### **Workshop 2: The Way to the Wired Realm**

The second phase of the research, titled *Merging the Wild with The Wired*, is a crucial stage in the evolution of posthuman architecture (Figure 6). Using digital tools, this phase seeks to virtualize physical space and reveal its potential and possibilities by establishing, in Deleuzian

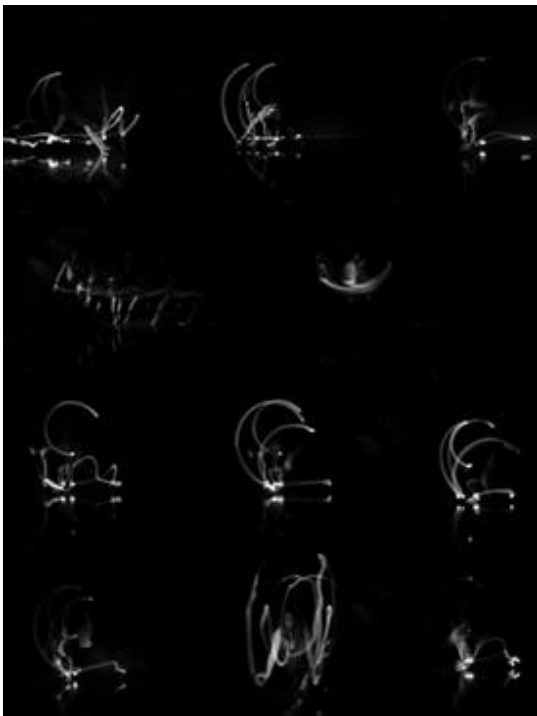
terms, an interaction between the virtual and the actual. It aims to pave the way for a posthuman architectural paradigm in this manner.

**Figure 6.** Structure of The Way to The Wired Realm workshop



*The Way to the Wired Realm* obtains a special significance. The participants are invited to embark on a voyage into the wired realm, a space where the line between the physical and digital becomes hazy. In this black box, they are encouraged to investigate the possibilities of enhancing their creativity through technology and developing new forms of expression (Figures 7 & 8). Inspiring themselves by the work of Pina Bausch, they improvise movements and use light painting to create traces of their movements. Then, these traces are used as sketches to construct a performative space in which the physical and digital coexist.

**Figures 7 & 8.** Improvisational movement exercises



Through this workshop, the researchers intend to explore the potential for new forms of creativity and expression that result from the blurring of boundaries between distinct realms.

### **Workshop 3: The Wired Realm**

“The virtual possesses complete reality, in its virtuality” (Levy, 1998).

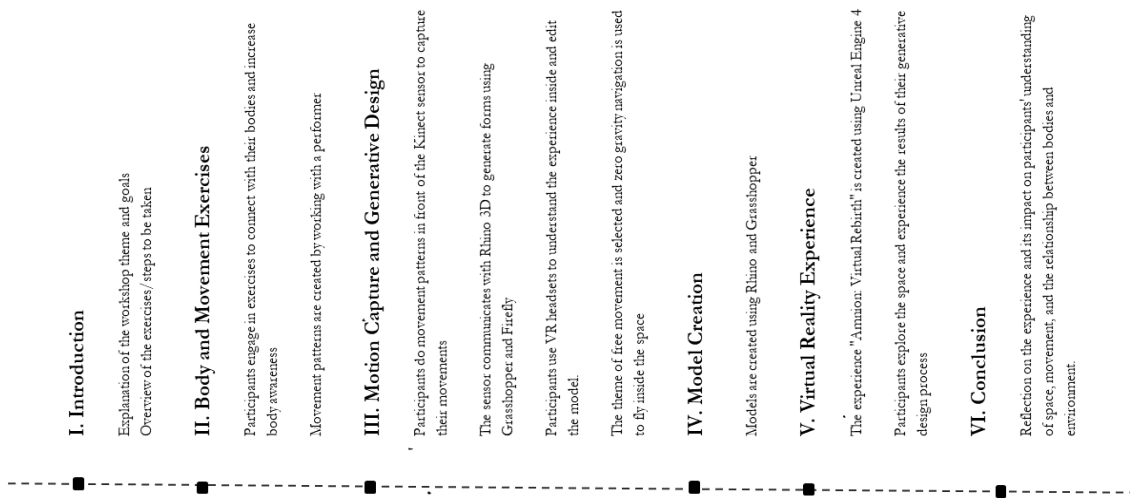
“Is there a reason to fear a general process of derealization, a kind of all-encompassing disappearance, as Jean Baudrillard has suggested?” (Levy, 1998)

The basis of Deleuze’s concept of the actual is direct experience and immediate perception. Actuality refers to that which exists in the present and is perceptible to our senses. It is the realm of tangible objects and events encountered in daily life. This concept of the actual has strong ties to empiricism and the scientific method, both of which strive to ground knowledge in observation and experience. However, Deleuze acknowledges the limitations of the actual as a method for comprehending reality. The actual is always situated in a specific context and is constrained by our capacity to perceive and interpret it. Consequently, the actual is always insufficient and contingent. Deleuze proposes the concept of the virtual in opposition to the real. The virtual is not merely a possibility, but rather an actual potentiality in the process of becoming. It is an unrealized realm of possibility that has the potential to become actualized under certain conditions. The virtual is a force that perpetually generates new opportunities for the actual. Deleuze’s concept of the virtual is not solely an abstract idea, but a fundamental aspect of reality. The virtual is not a separate realm of existence, but rather an unrealized aspect of the actual. The virtual is ever-present in the real, subtly influencing and transforming it. Actual and virtual are not in opposition in Deleuze’s philosophy; rather, they are mutually implicated. The actual is perpetually influenced and transformed by the virtual, whereas the virtual is perpetually actualized in the present. The relationship between the actual and the virtual is characterized by a dynamic interaction in which each informs and influences the other (Deleuze, 2002, 148-152).

Adopting a posthumanist viewpoint on architecture through the lens of Deleuze’s distinction between the actual and the virtual permits the investigation of a structure’s potential through the virtualization of the actual.

Consequently, the research process that begins with *The Wild Realm* and concludes with *The Wired Realm* (Figure 9) describes a research and production process in which the physical space is constantly virtualized and actualized and then re-virtualized in a digital environment, where its potentials are investigated.

**Figure 9.** Structure of The Wired Realm workshop

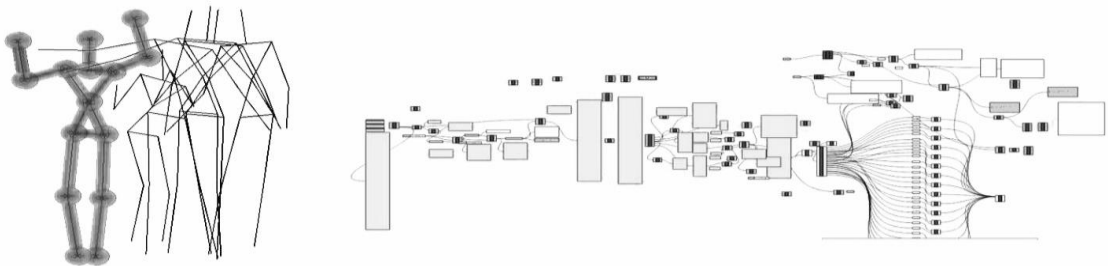


The “Amnion: Virtual Rebirth” experience is a product of the research’s The Wired Realm phase. In the amnion, the embryo develops within the uterus. It envelops the body like Diogenes’s container, but it is a living sac. The amniotic sac functions as a metaphor for the primary space in this study. As the fetus matures and moves, the sac adapts and transforms, embodying Marcos Novak’s concept of “Liquid Architecture”:

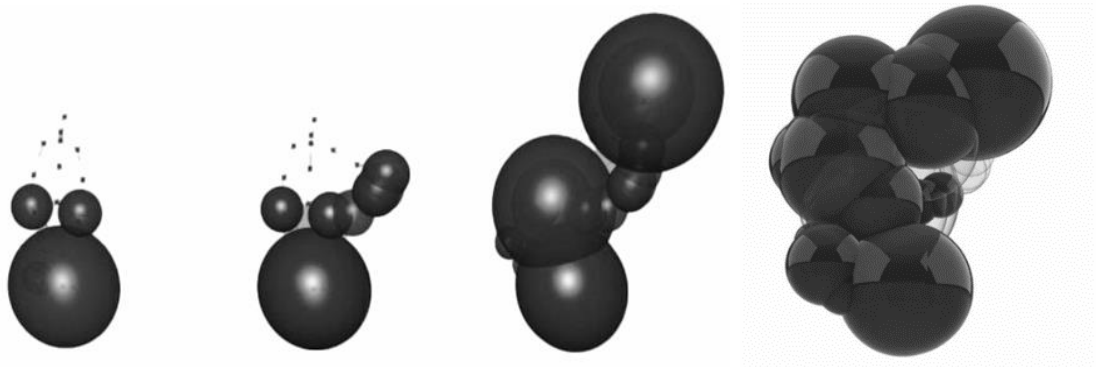
Liquid architecture is an architecture that breathes, pulses, leaps as one form and lands as another. Liquid architecture is an architecture whose form is contingent on the interest of the beholder; it is an architecture that opens to welcome me and closes to defend me; it is an architecture without doors and hallways, where the next room is always where need it to be and what need it to be (Novak, 1991, 272).

Two stages comprised the research methodology. During the initial phase, participants engaged in movement activities designed to heighten somatic awareness. Utilizing the Kinect Motion Sensor, the participants’ corporeal bodies were scanned and mapped into the virtual world in the subsequent phase. Grasshopper 3D software was used to construct a proprietary algorithm that was then used to process the Kinect data (Figure 10).

**Figure 10.** Motion capture diagram and algorithm



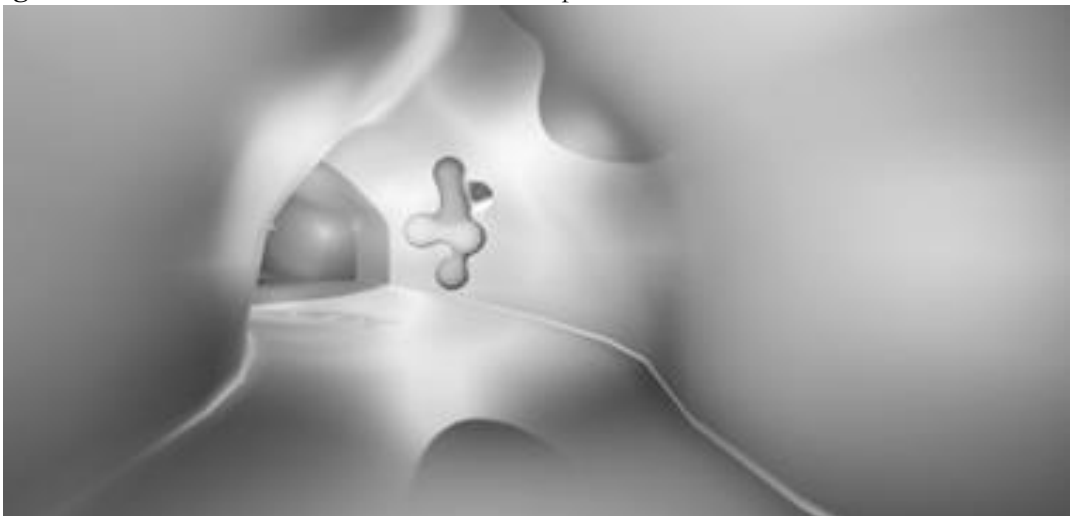
**Figure 11 & 12.** Motion capture and generative design



In the subsequent phase of the procedure, one of the generated algorithmic forms was chosen as the principal form for the digital environment (Figures 11 & 12). The resulting space was intended to embody the principles of posthuman architecture, which is inspired by Marcos Novak's notion of liquid architecture. Novak contends that liquid architecture should be characterized by flow, mutability, and responsiveness to its environment, all of which were incorporated into the generated digital environment. The space was intended to highlight the transformative relationship between posthuman and liquid architectural principles (Novak, 1995, 283-284).

The vision of architecture proposed by Novak's theory of liquid architecture is characterized by fluidity, pulsation, and vitality. The "Amnion: Virtual Rebirth" virtual reality (VR) experience demonstrates a similar sense of vitality by interpreting the participant's movements within the virtual environment and imbuing it with responsive and interactive qualities (Figures 13 & 14). Through a zero-gravity virtual reality experience in which participants are suspended by a support system and transported to a virtual environment devoid of gravity, the project investigates the concept of posthuman space. This experience is reminiscent of the body's unconscious state during fetal development when it drifted within the womb.

**Figure 13.** Visual from Amnion: Virtual rebirth experience



**Figure 14.** Virtual reality experience



As the participant's body travels through the virtual space, the posthuman space is depicted as a living entity with respiration, response, and interaction with the body. The initiative highlights the interdependence between the body and the environment, which is rooted in primal and instinctual experiences.

Importantly, the “Amnion: Virtual Rebirth” experience is not a literal recreation of the womb, but rather an exploration of posthuman space and its relationship to the body and its environment. The project demonstrates the capacity of virtualization to shape and define posthuman architectural space through this virtual experience.

## **Conclusion**

The research process described in the article *A Spectrum of Realms: Merging the Wild with the Wired* reflects the dynamic nature of architecture in the posthuman era in relation to Metahumanism and metabody, relying on the concepts of Deleuze, Levy, and Novak.

Posthuman architecture prioritizes the design of transformative spaces that incorporate emerging technologies, new knowledge paradigms, and multiple perspectives. Informed by Deleuze's concepts of the actual and the virtual, it recognizes that the virtual possesses real potential within architectural space, whereas the actual represents its physical manifestation. This viewpoint encourages architects to investigate the virtual potential of spaces, thereby nurturing adaptability and receptivity.

In addition, Pierre Levy's concept of virtualization complements this strategy by advocating the transformation of physical reality into a digital format that enables new forms of interaction and creation. As illustrated by “A Spectrum of Realms” workshops, architects can unleash new realms of creativity, connectivity, and exploration by fusing the natural and technological.



In this context, metabody plays an important function in posthuman architecture. Metabody challenges the dominant ocular-centric perspective in architectural design by acknowledging the agency and subjectivity of all entities, including non-human organisms and the environment. This all-encompassing viewpoint recognizes the interconnectedness of all things and directs architects to create spaces that are adaptable, dynamic, and sustainable, embodying the principles of liquid architecture proposed by Marco Novak.

In conclusion, by constructing a methodology and philosophy within the consideration of Deleuze's virtual and actual, Lévy's virtualization, and the metabody concepts, architects can design spaces that embrace the potential of emerging technologies, respect diverse viewpoints, and nurture a harmonious relationship within nature. By embracing the fluidity of the posthuman era, architecture can transcend conventional boundaries and redefine our relationship with the built environment.

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