

REFLECTION

ON RESEARCH & DESIGN

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AR3A010 Reflection
Explore Lab 27



REFLECTION P4

My graduation project Bodies, Movement & Architecture, showcases an interdisciplinary approach to design, theoretical and physical research. Drawing from my background in dance I explore the interrelational approach between the body, space, and architecture. I incorporate a mixed media approach with experimental research methods to weave together narratives that transcend the conventional boundaries of architectural research.

The design seeks to create a space that celebrates the individuality as well as synchronization of bodies which embraces the varieties of ways in which bodies move through space. The design aims to empower individuals to directly interact with the surrounding built environment and other bodies – forming a collective choreography. The stage with a hanging sphere theater as an element of public space for Rotterdam frames the city's historical center as a backdrop for performances on the water. Particular movements of bodies influence the theater's navigation and positioning on the water.

Pivoting, rotating, balancing, reactive elements can be manipulated by any moving body. As the bodies navigate and playfully interact with the spatial environment, they automatically become part of the larger choreography, the performance of the building as a moving piece on the water.

On an urban scale, the design resembles a Venetian Regatta on the water, a space of event. The building as a moving machine, together with pathways leading from water to land, boat docks and arrival pavilions on the water, from a network of scenic event and showtime elements on the water. This flowing network is in itself a choreography, initiated by the bodies of visitors and performers navigating, or call it dancing, through the theater. Spatial surprises and reactive bodily features unfold within the journey of discovering the building. Upon arrival in the theater, bodies navigate their way through the building and find a crowning rehearsal space under the wooden beams of the curved roof.



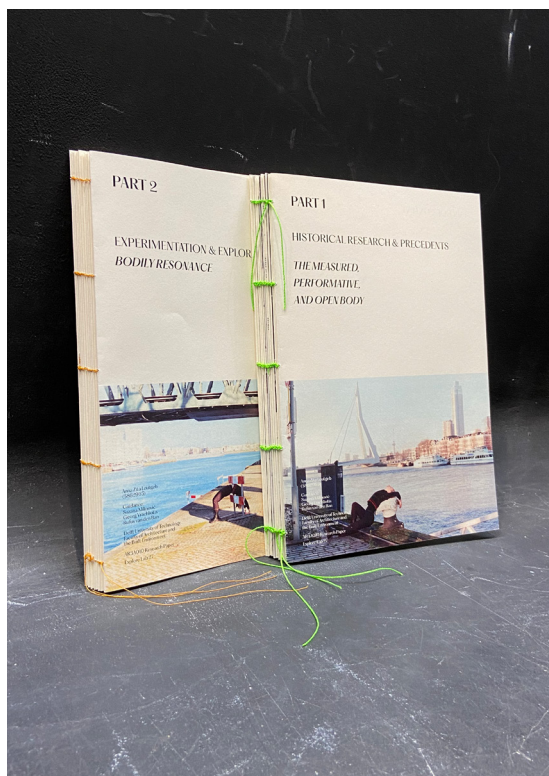
collage, exterior of floating stage
bodies, stage and backstage technology

How do you assess the value of your way of working (your approach, your used methods, used methodology)?

In my research I walk, move, dance, and think with my own body as extended matter to absorb the space around me – my (dancing) body became my research tool. By translating somatic experiences into notational drawing systems, poems, collages, models, texts, and chronological photographic images, the moments of reciprocal attunement between body, dance and space come forth. The process of collecting research material with the body is closely related to the dramaturgical process of conducting a performance process. It is about finding structures and connections between things that don't necessarily relate to each other in a direct manner, it is by this adjacent contextualization that new discoveries will emerge. In the book *And then it got legs* Jeroen Peeters describes his dramaturgical creation processes: *'I strongly believe in the powers of free association, in forms and materials showing up in a particular way or an unusual sequence. It is not so much coming from a decision or a preconceived thought, but it can be treated consequently.'*¹

¹ Peeters, Jeroen. (2022). *And then it got legs*. Brussels/Oslo: Varamo Press. p.31.

In the design phase, I continued with this methodology of gathering materials from sketches, to models in various scales, collages, drawings, and texts. By collecting material and physically laying it out in front of me, I not only rearranged the material in new sequences to discover something new but also questioned the design outcome in comparison to my progress of the week before. I kept a particular narrative with the way I used vibrant colors to navigate through my project – an elemental method closely connected to the power of free association of color choices during the whole process of designing. The color-coding of materialities and reactive movement features helped me to connect threads of my theoretical narrative. Coupled with that, was the continuous power of play and freedom in my drawings and models. Relating to the concept of intuitive dramaturgy I added elements like textiles, ropes, wheels, wire puppets, sails, and wooden structures into my models and drawings week by week. The collected material is a base for discovering new ideas, thinking, and re-questioning the results of each week like a dramaturg of a scene or performance. A selection of my sketches in the logbook, which functioned as an extension of my mind in these weeks of designing, shows the continuation of my research method into the design phase, depicting the moving body in a space of possibilities



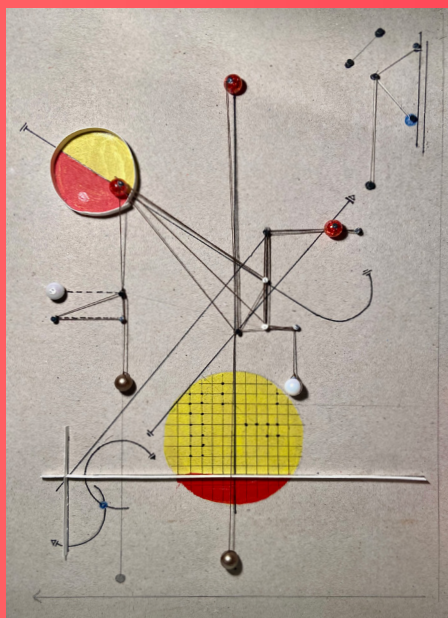
How did your research influence your design and how did the design influence your research?

My own bodily experiences during the research phase serve as a catalyst for reimagining traditional notions of the spatial organization of bodies and architectures within performative, theatrical settings. As I transitioned into the design phase, the centrality of the body within architectural space remained a determining focus. With my proposal, I want to create a built environment that fosters individual or coupled bodily engagement, while simultaneously challenging conventional distinctions between traditionally perceived spaces for performers and spectators. Instead of fixed, predefined spaces, my design aims to blur the boundaries between these roles, just like my research blurred the conventional boundaries of architectural research by proposing physical experimentation as a design and research method.

The proportion, scale, and materiality of my design are closely connected to the bodies' possibilities of movement within its built environment. In spaces with an immediate, smaller scale of material boundaries, visitors are encouraged to interact and manipulate within their immediate surroundings. Just as the research was a constant testing of the bodies' limitations within spaces, the building is a moving machine that allows people to play within the structure and test its limits.

Moreover, the design itself became an embodiment of movement, inviting occupants to actively participate in its transformation. From pivoting elements to climbing opportunities, the building's reactive features respond dynamically to human presence, creating a symbiotic relationship between architecture and bodies. The design facilitates possibilities for reactive, bodily input, and consequently a movement reaction from the building itself.

Pivoting, turning, shading, or climbing possibilities will let you discover new perspectives and viewpoints to the water of Rotterdam or the central happenings on the stage. The micro movement on a small level of a human hand touching a wheel elevates into something new on a larger scale when adding the movements of all other dancing bodies into a whole scene. Then, the theater moves like a machine with multiple bodies. This interplay of movement and space ends up in a choreography, where individual actions animate the theater as a collective entity. Through the bodies' navigation through the building in a particular individual way or in an unusual sequence, the great picture of the performance of the beating, vibrant theater will be unmistakably unique every day.



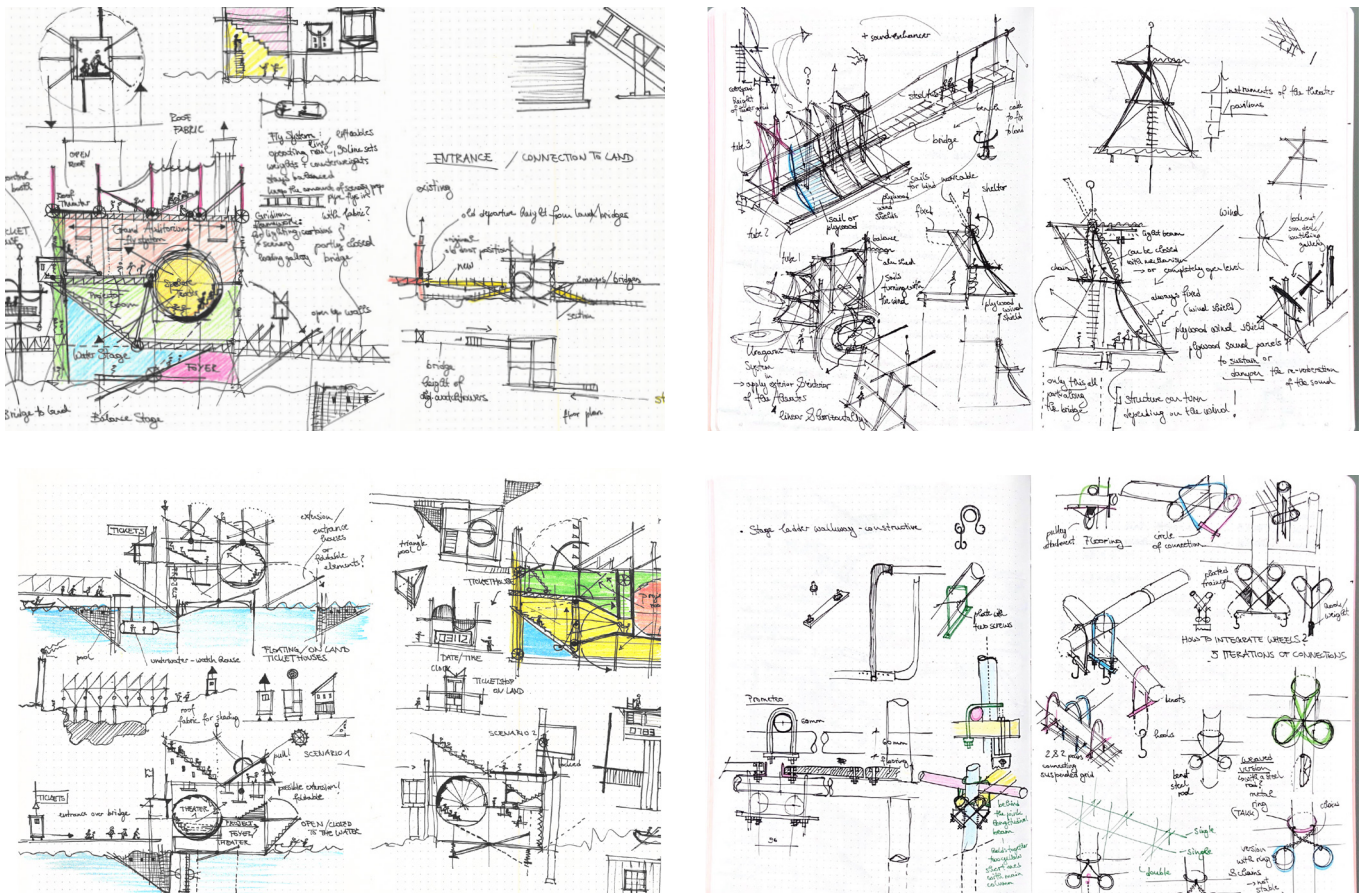
2,5 model, tension and gravity play



2,5 model, watchtowers and sphere theater

DESIGN PROCESS

urban proposal, structural proposal & first interior visions



sketches of vertical theaters, connections and various configurations



P3 table layout

What does the *material language* of the project imply in connection to the movement of bodies – and how did physical model making support your design process?

The material language of the project is deeply intertwined with the movement of bodies, reflecting a narrative rooted in wood & steel connections, weaving of steel cables and ropes, as well as draping of sails, membranes, and translucent textiles. By proposing a material language with joints and connections that empower gestures of manipulation and adjustment, the design evokes a spatial language reminiscent of ships, water structures, bridges, and the dynamic waterways of Rotterdam. Wood-steel hybrid knots and curved engineered wooden elements on the asymmetric roof not only pay homage to the language of sailing boats but also convey a sense of dynamism and movement.

The facade, characterized by its transparency and lightweight materiality of fiber textiles and sail curtains, embodies a sense of constant adaptation and change. The textiles are breathing with the intensity of the wind, transforming into a scenographic aspect of the building. The facade, like a veil that can be lifted or draped aside, serves as a soft interface between interior and exterior, concealing or revealing the activities of people within the theater.



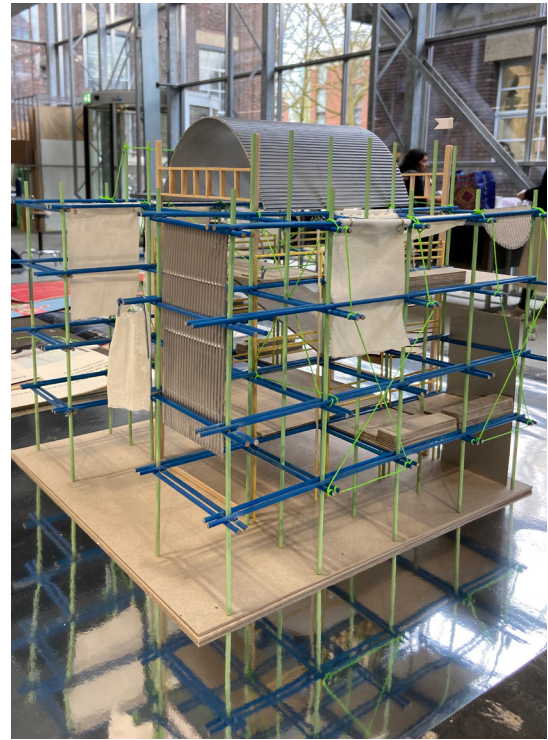
sails 0.4mm MDF, wooden tubes, 1:33

The main structural wooden base, combined with double beam-to-column connections, resembles elegance, linearity, and fluidity. The connection and knots depicted in 1:10 model experiments allow for anchoring points, hooks, and wheels for attaching sails, ropes, or scenographic elements. By bending steel and metal elements, the resulting knots are structurally enforced while the knot connections come with integrated hooks for open attachments.

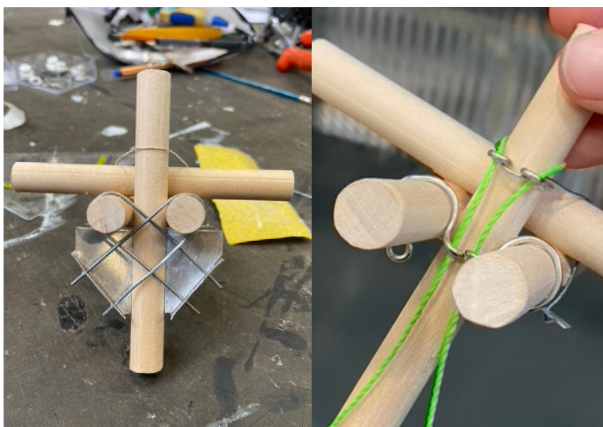
The structure's two-sided galleries not only facilitate the layering of semi-enclosing facade fibers and sail but also redefine the relationship between the audience and performer. Positioned sideways to the central stage with the hanging sphere theater, the view from the galleries offers various viewpoints for observing the ever-changing spatial dynamics. People can either watch other people move on the opposing gallery, they can observe the public happenings on the main stage, or they can turn their backs to the performance and watch the water dance in form of ever-moving waves and sounds of the water with Rotterdam's skyline as the backdrop.

The design encourages interaction and manipulation, with reactive elements embedded throughout the knots of vertical and horizontal connection points. Reactive features can be adjusted and manipulated by occupants, allowing the building to respond and adapt in sync with the movements of its users, reminding of the limbs of a living organism.

Physical model making during the design phase put the human body in an immediate connection with the space around, as was intuitively adding, weaving, and hanging elements to my models. For my P3 presentation, I worked on a 1:50 model, which shows the possibilities of bodily interaction with the structure. I incorporated textiles, knots, hooks, and curtains from found objects that I usually use for sewing and knitting. Little hooks became part of the beam-to-column connection, and the weaving of threads led to an intuitive cross-bracing logic within my physical model. The moving bodies in my model were the same wire puppets, that I used in my research scene models, solidifying the language of my overall design approach. Further, I worked on larger scale 1:10 model variations of double beams and column knots, again using my body's intuitive movement of threading, weaving, and draping the chords within my structure. Through models, photographs, and drawings in both my design and research, I navigate forth and back between the widest shot of space, the city, the water, and the sky, all the way to the smallest scale, the center of the body itself, with our beating heart and its hand pulling a rope.



working model pictures, colored wood on mirror,
linen fabric, metal sheets



1:10 double beam-to-column joint



first 3D impressions in the physical model

How do you assess the academic and societal value, scope and implication of your graduation project, including ethical aspects?

Assessing the academic and societal value, scope, and implications of my graduation project involves recognizing its departure from conventional measures of safety and regulation. By challenging norms of hyper-convenience and hyper-safety, the project aims to break the measures of what is manipulatable, reachable, or movable in a building. Rather than prioritizing convenience, the design serves as an invitation for occupants to actively engage with and react to their surroundings. By breaking these patterns people develop a certain awareness of each other's movement, they take care of each other by looking out and helping people who physically can't experience certain parts of the design without collective support.

Through the design's emphasis on bodily movement, whether individual, synchronized, or collective, it disrupts notions of static space and invites dynamic interaction. Within the theater, the body needs to constantly adjust and react to external conditions, to the wind, the cold, the heat, to water, and the sound of the waves. These rivalries as well as dualities between bodies and bodies and space and bodies, have a generative energy that leads to vibrant, performative interactions within the design.

The project challenges traditional notions of architectural safety and convenience, reimagining the built environment as a dynamic space for collective engagement and explanation within the built design.



collage, interior of floating stage
bodies, stage, backstage and Rotterdam as a backdrop

How do you assess the value of the transferability of your project results?



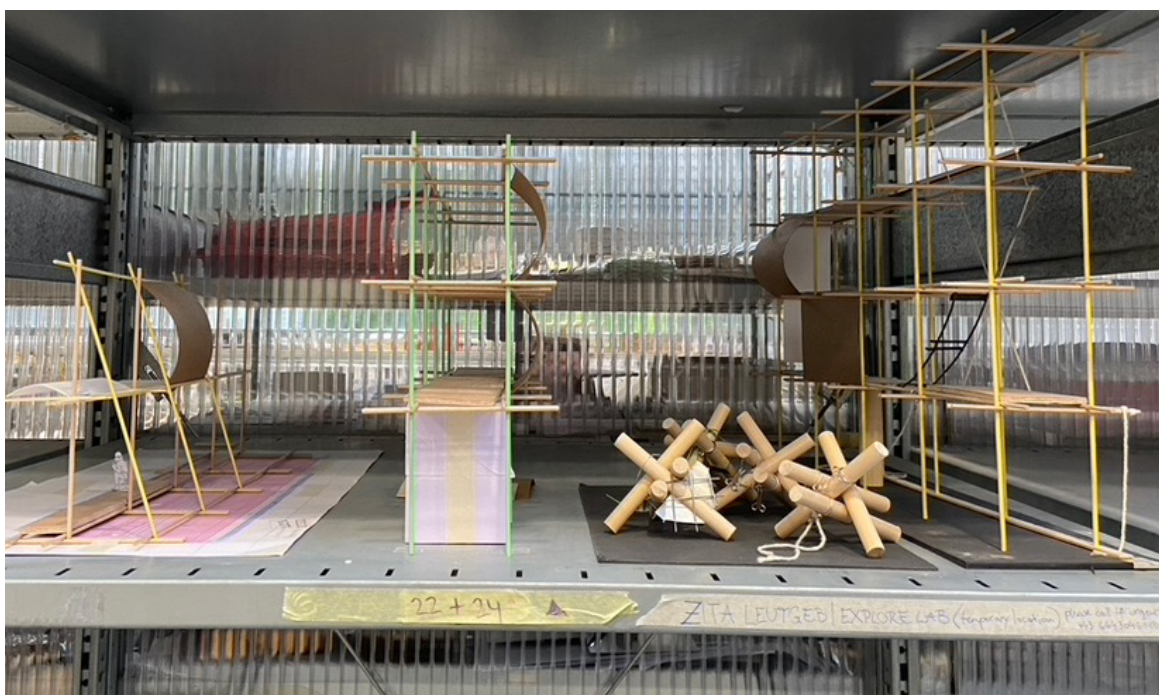
By foregrounding the embodied experience within architectural practice, the project transcends conventional boundaries, offering a dynamic departure point to the symbiotic relationship between bodies, movement, and space. This shift of paradigms can be transferred to future typologies of performative spaces, in which the play itself is constructed by the moving, dancing bodies interacting with the built structure surrounding them.



analogue photo on site

This paradigm shift has the potential to reshape the design of theaters and public structures, placing emphasis on the dynamic interaction between individuals and their built environment. Rather than passive spectators, occupants become active participants, engaging with the space in a playful and exploratory way.

The symbiosis between my research experiments and design outcome makes me eager to keep discovering spatial arrangements capable of eliciting movement in all of us.



model making in progress

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