PLAYCES

Architecture That Affords Play

Karla Villareal

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By

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of the requirements for the degree of Masters of Architecture [Prof.]

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ABSTRACT

This research portfolio examines the nature of play and its relationship with architecture. It researches how play is afforded by, and affords, the design of public space, rendering them places of play: *Playces.* Although play is an important component of everyone's lives, this research portfolio focuses on adult play.

Like art, music, dance and literature, play is a way of engaging and expressing our being in the world. It is a pleasurable activity that also serves a biological function. Play nurtures the mind and challenges our physical capabilities. It is a critical component of human development.

Play is largely associated with childhood but maintaining a sense of playfulness is also a critical component of fulfilling adult lives. As we become adults, however, we tend to devalue the significance of play, relegating it to specific times and setting. We usually play in structured settings, solely dedicated to playing, unlike when we were children; we make very little distinction between play and other activities.

A person's propensity to play depends not only on their physiological and emotional state, but also on their environment. Play, unfortunately, is rarely encouraged in urban spaces and even more seldom is it integrated in the design of architecture.

As a result, it has generated a society of disconnection, comfortable in the predictability of their surroundings. Architecture has the potential to design for a ludic environment. It can establish a new and ever-changing relationship with adults and re-engage them to the built environment through design for play. A playful framework can allow spaces to inspire new states of mind and detach adults from their everyday reality. Spaces can invite new relationship with the built environment, one of participation and ambiguity, allowing social interactions to thrive, routine to be interrupted and adults to become spontaneously engaged. These areas are investigated following a research through design methodology to provide an understanding of the qualities that can pave way for the ideas of playful urban design.

Through a design as research methodology, *Playces* aims to discover how it can design a play-space that is not specifically created to accommodate play but invites players to appropriate that space through play.

Play is explored at four designs phases, which implement a range of playful design techniques. Phase one serves as a preliminary exploration of play through the design of an installation. Phases two and three explore how architecture can possess the same playful interaction in the magnitude of a medium-scale and large-scale public space. The final design is a journey through space where conditions essential for play become evident.

AIMS

- Explore how play, as defined by key thinkers, relates to architecture and how it can produce architecture.
- Explore each unique qualities of play to form a clear picture of what conditions are essential or desirable for play.

OBJECTIVES

- Implement playful design techniques to facilitate playful design and create participation in architecture
- Design at multiple scales to explore how each can afford different intensities of play.

METHODOLOGY

This research portfolio follows a design-led research methodology. Solutions are tested through iterative designing, including physical model-making, alongside theoretical research for design. The design research generates ideas and understanding through the act of making. With design-as-research methodology, instead of a straightforward answer-finding to a pre-established research question, a non-linear process of continuous generation and reflection is used to explore the thesis' aims. This process is open-ended, creative, playful and surprising; design, as a methodology, allows for unexpected findings.

The design work uses a playful design method to explore the proposal, where each experiment encourages discussion and developments towards a solution of a facet of the research question.

INTRODUCTION

Play is a generous and under-utilised source of meaning and fulfilment. It enriches our lives, plays a role in our ethical lives, and in our moral development. Play may be called necessary in a sense that without play, we would be automatons. Psychiatrist and play advocate, Dr. Stuart Brown, believes that "remembering what play is all about and making it part of our daily lives are probably the most important factors in being a fulfilled human being. The ability to play is critical not only to being happy, but also to sustaining social relationships and being a creative, innovative person." (6).

As I design for play, design experimentations carried out with creativity and playfulness became an integral part of the design processes. Continuous playful design experimentations encourage discussion and development towards a solution to the research question. Production and reflection is important in this methodology, and understanding both successes and failures in design assist in directing this project.

Theoretical research, presented at the forefront of this research portfolio, assists in providing a rich understanding of the concepts and nature of play and what conditions are essential or desirable for play in the context of architecture. Case studies run alongside the design as inspiration and will be presented throughout this research.

Playces explore play and its relationship with architecture at four different design phases: *Play in Illusion, Play in Manipulation, Play in Scale and The Playce.*

Play in Illusion explores how the idea of play can be embodied as an installation. The installation explores how illusion can potentially enrich our encounter with space playfully. Its aim is to create an engaging and eye-catching element in space that will invite viewers to interact with their surroundings and perceive their environments in new and playful ways. This is followed by *Play in Manipulation*, which is a design of a medium-scale public space. This phase explores how special playful affordances can be available to users as we attach different meanings to architectural elements through physical manipulation. *Play in Scale* is an experience of negotiation with space and scale. The design of this large-scale public space is a journey filled with unexpected events that is full of wonder, mystery and excitement. It is an invitation to approach the world with an attitude of curiosity to inspire us to imagine new possibilities. Lastly, *The Playce* establishes design parameters explored in this research and becomes evident through the design of another large space public space sited in Te Aro Park, Wellington.

A critical reflection of the design process and discoveries close this research. It concludes the type of setting required to cue playful behaviours in architecture.

KEY THINKERS

JOHAN HUIZINGA

Much of the existing social theory on play relies heavily on the work of Dutch historian, Johan Huizinga and his 1938 publication *Homo Ludens: A Study of Play Element in Culture.* His theoretical work is helpful in this research to gain a deeper understanding of the complex nature of play. Rather than a clear and simple to state definition of play, he provided several essential characteristics of play. Huizinga described play as a voluntary activity that is something we freely engage in. It is a meaningful activity, carried out for its own sake, segregated from the requirements of practical life. This means the fundamental motive of play is the experience it affords, rather than to fulfil a practical task. Huizinga described play as being segregated from our ordinary life - a step into another world. Within play, a temporary world can be created with its own rules and boundaries. (28)

Fig. 1.0 Homo Ludens: A Study of the Play Element in Culture book front cover (1968) by Johan Huizinga

KEY THINKERS

RICHARD CAILLOIS

French sociologist, Richard Caillois, is also known for his contributions to the understanding of play. In his 1958 publication, *Man, Play and Games,* he introduced his definition and influential typology of play which is an activity that is free, separate, uncertain, unproductive, governed by rules and make-believe (Caillois 4). Play is free because it cannot be obligatory without losing its play-quality. It is separate in the sense of creating a special space and time that is distinct from the mundane and everyday existence. It is uncertain in that the results or outcomes of the play are not known in advance or predetermined. It is unproductive as it produces no goods or wealth. Lastly, it involves make-believe because of the attitude players have to have towards the play: an acceptance of the special, created world of play.

Fig. 1.02 Man, Play and Games book front cover (2001) by Roger Caillois

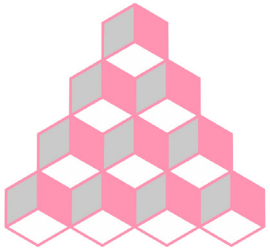
KEY THINKERS

MIGUEL SICART

In Sicart's book, *Play Matters,* the first chapter, titled *Play Is*, sets the foundation for understanding play as a way to engage the world. He identifies play as contextual, in that it is influenced by space things, people and culture. Play is carnivalesque, which temporarily inverts the norms of society, which results in the body releasing fearful inhibitions in laughter, all the while revealing the workings of the social reality we live in. Play is appropriative, in that it takes the context in which it exists and cannot be totally predetermined by such context. In this manner, contexts designed for play, such as playgrounds and games, afford but don't determine play, and players can re-appropriate other spaces or objects for play. Play is necessarily disruptive of the order of the context it appropriates. Play is creative, that is, it provides a form of expression, and as such, play is personal, an expression of our individual and collective character. (Sicart 11-18)

Fig. 1.03 Play Matters book front cover (2014) by Miguel Sicart

PLAY IN ILLUSION



INTRODUCTION

There is an element of playfulness and spectacle in illusions. A playful delight in uncertainty. The world illusion come in part from the Latin word *ludere*, meaning “to play” which makes the exploration of illusion fitting as a preliminary exploration.

Our perception of the world around us is moulded by our senses and our mental models which, in turn, are shaped by past experiences. Our human tendency is to get trapped in our familiarity, losing our sense of awe and wonder for our surroundings. In *Play in Illusion* I wanted to create an antidote to this preconceived sense of order and meaning. *Play in Illusion* is an invitation to explore how shifting our perception can enrich our encounter with space playfully. It is an invitation to explore our own sensory experience with increased awareness, taking us out of the real world and into another world born of imagination and illusion.

This chapter explores how an abstract installation can offer a creative and playful way of addressing my research question. This design phase is the preliminary step in an ongoing design process.

PRECEDENT

Olafur Eliasson

Play in Illusion took inspiration from Olafur Eliasson's immersive mirror installations. His conceptual art arises from his interest in perception and bodily experience. Working with mirrored surfaces, his installations challenge our vision of the world through kaleidoscopic views, mirrors, and complex geometric sculptures. In his work, *Less Ego Wall*, the mirrored surfaces create complex arrangements of nested triangular reflections, where the viewer catches fragments of herself and her surroundings, reflecting unexpected angles. Eliasson's optical mirror illusions challenge traditional vision of the world and question the act of seeing.

Fig. 2.01 Olafur Eliasson, Less ego wall, 2015, Samsung Museum of Art, Seoul.

Fig. 2.02 Olafur Eliasson, Your glacial expectations, 2012, Kvadrat, Ebeltoft, Denmark

Fig. 2.03 Olafur Eliasson, Half-a-minute-mirror, 2010, Berlin

DESIGN EXPLORATION

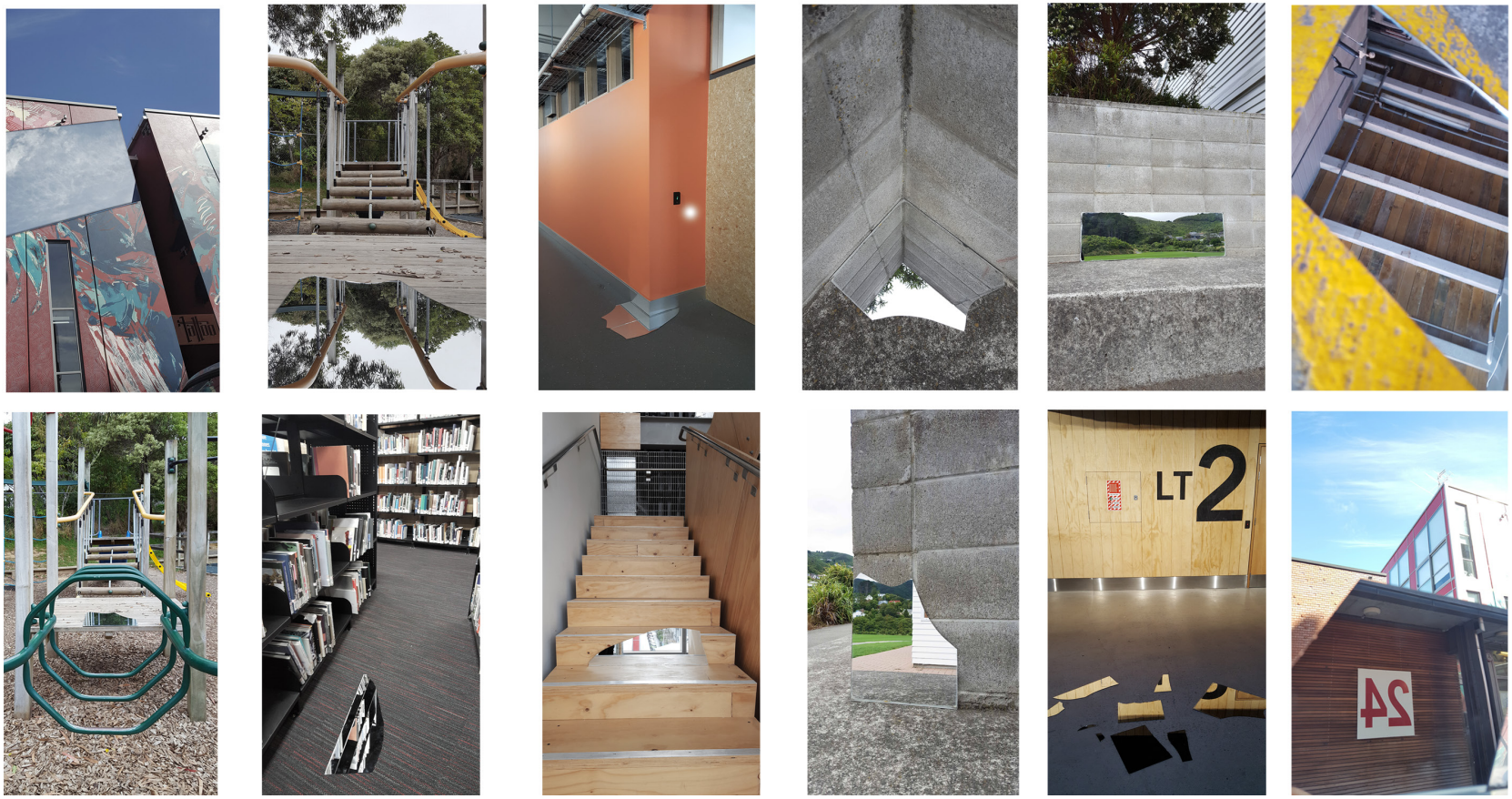


Fig. 2.04 Using mirror to reflect unexpected angles of the surroundings to create playful juxtaposition.

The *Play in Illusion* installation explores mirror illusions by placing pieces of mirror in ordinary places (Fig 2.04). As I walk past the installation, I experience a feeling of vertigo. I became confused and amused by the juxtaposition between the mirror reflections and my actual surroundings.

Fig. 2.05 Kaleidoscopic mirror made of mirrors joined at complex angles reflect familiar elements but with a disorienting spatial layout.

My next exploration mimics Eliasson's *Less ego wall,* where I joined pieces of mirror at complex angles to create my own kaleidoscopic mirror. I walked around with this, capturing the abstract, triangular and disorienting images it was reflecting (Fig 2.05).

Both design experimentations allowed me to view my surroundings with amusement: floors and walls appear to have rabbit holes presenting an interesting world beyond, reflections present us with familiar elements, such as pipes and stairs, but the collage reflection makes no sense and challenges our ability to comprehend the given spatial layout.

CRITICAL REFLECTION

Mirrors played an integral role in this stage as they were quotidian and familiar objects capable of reflecting what was placed in front of the viewer while revealing new ways of seeing.

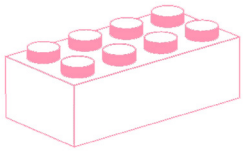
The *Play in Illusion* installations were a good exploration on how illusion can potentially enrich our encounter with space playfully. By disorienting the viewer, it challenged their ability to comprehend a given spatial layout, and invited them to reconsider their relationship with the space. The design experiments were engaging and eye-catching, which invited the viewer to interact with their surroundings and perceive their environments in new ways.

The playfulness in illusion, however, only allowed the viewer to become passively engaged. They were letting something happen but not making something happen. For play to successfully occur, it can be argued that viewers must be active, causal agents as play is an active engagement.

The next design phase explores how play can occur through active engagement between body and object.

PLAY IN MANIPULATION

INTRODUCTION



Play in Manipulation is a design of a medium-scale public space. It explores how architecture and objects can have playful affordances by attaching different meanings to familiar elements. Active engagement is a priority in this chapter, encouraging physical manipulation to discover how objects and spaces can afford play while still satisfying their primary purpose.

Fig. 3.01 Location plan of the Holland Street laneway in Wellington, New Zealand.

Fig. 3.02 Site images of the Holland Street Laneway in Wellington, New Zealand.

THE SITE

The site selection process began by attempting to find a compelling place that needs to be revitalised and reactivated. Wellington has a number of under-utilised and unattractive laneways, each with great potential to provide a vital contribution to the liveliness of the city.

The site selected was Holland Street, an inner city laneway, off Tory Street in Wellington. The laneway has its own distinct character, populated with an eclectic mix of historic and contemporary architecture. The laneway is rich in opportunities for manipulative play, however, with its lack of economic activity, it has lost its sense of place and has become a forgotten street.

PRECEDENT

Cedric Price
The Fun Palace

Cedric Price's most ambitious design was the *Fun Palace* which was to be built on the banks of the Thames in 1961. The idea was to build a "laboratory of fun" for theatre director, Joan Littlewood, with facilities for dancing, music and drama.

Price's architectural vision of a collaborative and ever-changing environment, where audience were also players, featured movable floors, stairs, ceiling and wall panels, all of which could be assembled using cranes. The public could have unprecedented control over their environment, resulting in a building responsive to visitors' needs and the many activities intended to take place.

The *Fun Palace* is an appropriate case study for this chapter as it exemplifies freedom, a quality of play described by Johan Huizinga and Roger Callois, in the built environment. The act of transformation and refusing to interpret architecture in a rigid manner, is the focus of *Play in Manipulation.* The design centres on a belief that building should not determine human behaviour but enable possibility.

Fig. 3.05 Fun Palace for Joan Littlewood Project, Stratford East, London, England (Perspective)

DESIGN EXPLORATION

Fig. 3.03 Photo collage of the laneway exploring how existing elements can be transformed

To analyse how Holland Street can foster play, I played with photographs taken of the site to create a photo collage. I identified and cut out existing elements that I believe has potential to transform and take on new uses and meanings (Fig. 3.03). Because physical manipulation and transformation is the focus of this design phase, I positioned the cut-out images as if they could be pushed and pulled out of the existing buildings. This also gave me an idea on how I could utilise the available space.

The contemporary timber slat wall and doorways which was a new addition to the old brick building stood out to me. I instantly became interested in exploring how it can be turned into an active and dynamic architectural element with playful uses. I also became fascinated with the exposed pipes, which were present in every building. It was rich in opportunities to take on new and playful functions, while still satisfying its primary purpose.

Fig. 3.04 Through sketch models, I was able to better transform architectural elements and provide a clearer idea on how the laneway would look

I created a sketch model (Fig. 3.04) of part of the site to allow me to manipulate the site even further. I pivoting the timber slat wall and doors, pulled out pipes and peeled off building facade, transforming existing and familiar elements to meet different functions.

Fig. 3.06 Sketches exploring how users can manipulate architectural elements and apply new functions to them.

To develop the design in greater detail, I created a digital model of the site. I pulled out pipes and added human silhouettes to show its new and possible functions. In this case, users can use them as monkey bars or an object to sit on. The timber slat wall and doors were pivoted so when needed, they can be used a seat and table. To add vibrancy to blank walls, I punctured the facade, creating hinged panels which can also be used as seats.

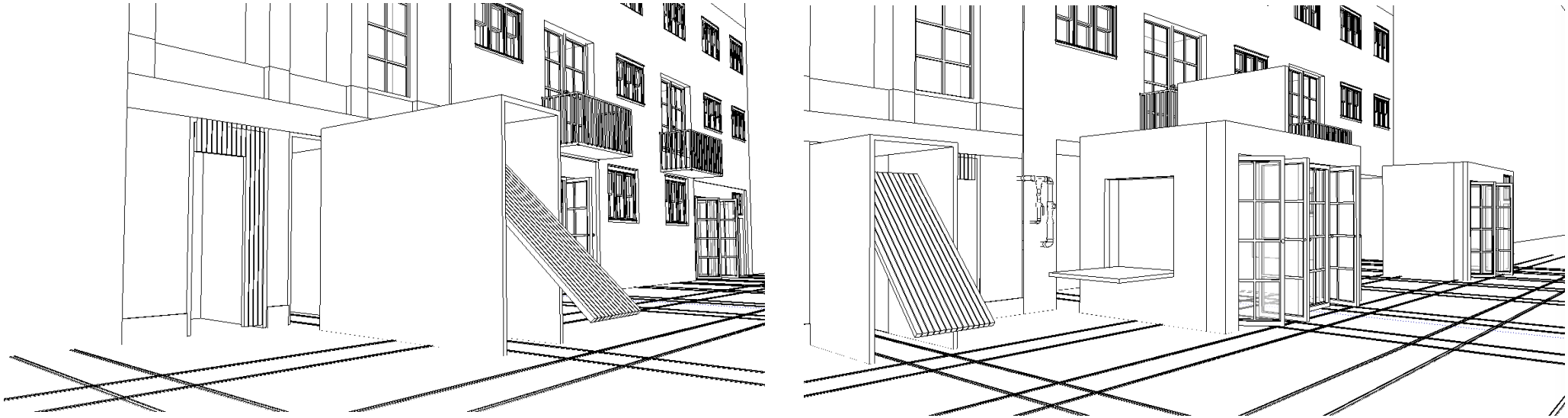


Fig. 3.07 Units can be pulled out of buildings and feature movable panels

The laneway needed spaces for the activity intended to take place. I identified rooms within the existing buildings and pulled some of these out.

I wanted these to be moveable therefore I proposed each unit to run along tracks, allowing them to be in different locations on site. They can stand alone, stand next to another unit or be joined together creating a larger space.

Taking inspiration from Cedric Price's design of *The Fun Palace,* the units are to made up of movable panels, allowing users to configure the structure as they please.

Fig. 3.08 Site plan view of Holland Street showing the existing buildings (grey) and the proposed units (coloured) in various locations creating an ever-changing environment that is responsive the many activities intended to take place.

PROGRAMME

Fig. 3.09 Exploring the possibility of the units as an outlet to sell food and homemade goods

The units are active and dynamic which permit multiple uses and endless variations. It can be any programme simultaneously or at different times. It is an architecture that continually interacts and responds to people.

Although I imagine the architecture to have an informal programme open to change and interpretation, I decided to test out the site as a market space. This will allow me to better see whether or not the design can successfully afford play. The laneway was set up as retail outlets for businesses and eateries. One of the large units (Fig. 3.09) can be accommodated by a sole trader or shared by two retailers. A moveable centre partition allows the unit to become one open space or divided into to small spaces. Each unit provides several hinged panels which can be pivoted to create openings or used as a serving area. The architecture is improvised by users allowing maximum user participation in the process.

PRECEDENT

Fig. 3.10 Olafur Eliasson, Seu corpo da obra (Your body of work), 2011

Fig. 3.11 Olafur Eliasson, Seu corpo da obra (Your body of work), 2011

Olafur Eliasson
Seu Corpo de Obra (Your Body of Work), 2011

Seu Corpo Da Obra is an exhibition by Olafur Eliasson which features ten site-specific installations that invite the public to experience the perception of colour, spatial orientation and other forms of engagement with reality. This specific installation (Fig 3.10 and 3.11) consists of a labyrinth of coloured, translucent panels, and as one waltzes through, colour rearranges into different colour schemes depending on one's position.

Eliasson's use of colours inspired the design of *Play in Manipulation.* Explosive colours stimulate senses and heighten our experience of space. Colours allows us to be seduced, with the seduction starting the process of play.

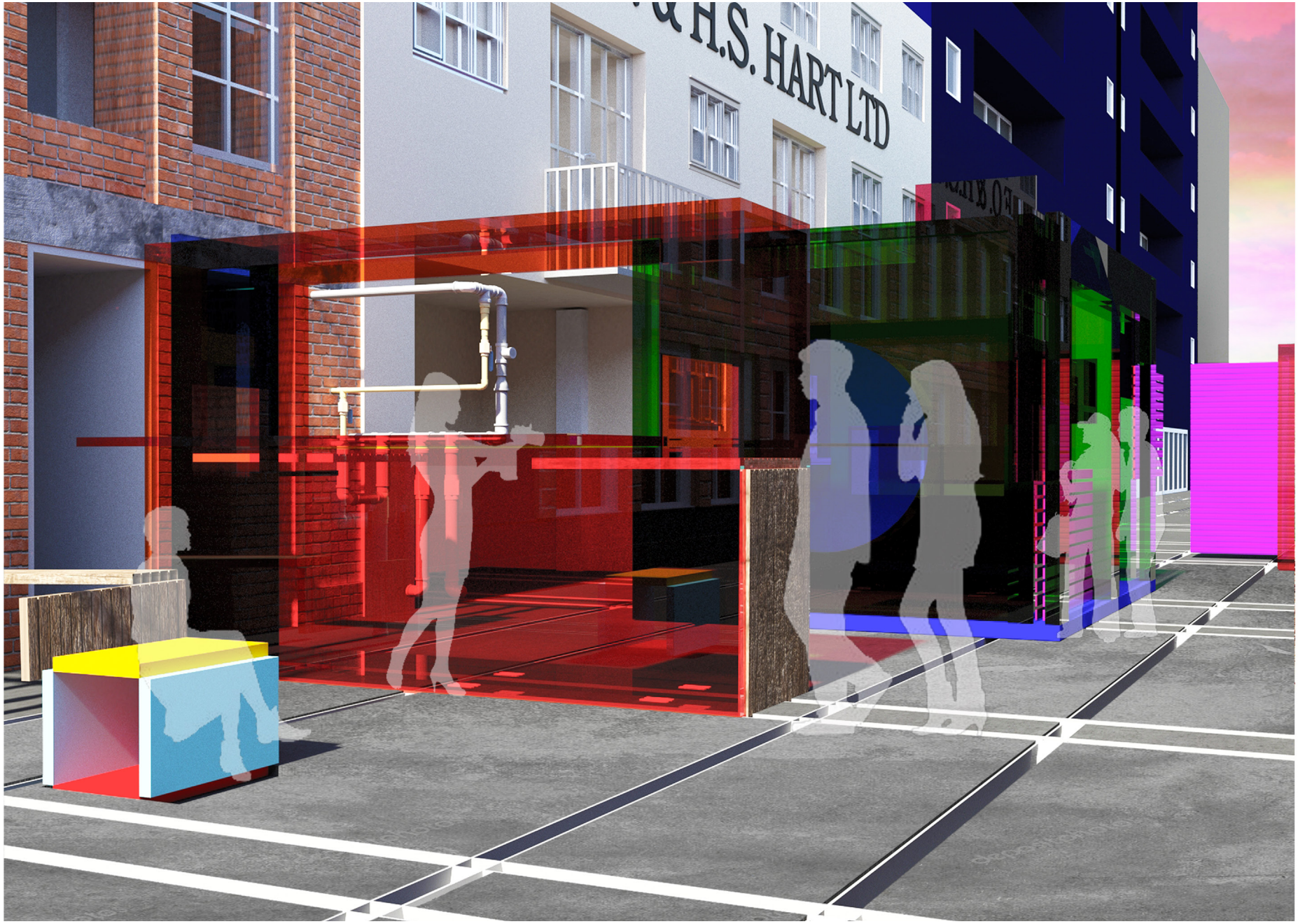


Fig. 3.12 Exterior site showing one of the units occupied as a coffee shop

Fig. 3.13 Exterior site featuring a coffee shop and a busker

Fig. 3.14 Exterior site where units are occupied by retailers

Fig. 3.15 Exterior site showing the pipes used as seats and one of the units occupied by a juggler

Fig. 3.16 A physical model of a section of the site showing the units and its tracking system

Fig. 3.17 A physical model of a section of the site where units can be in various locations on site

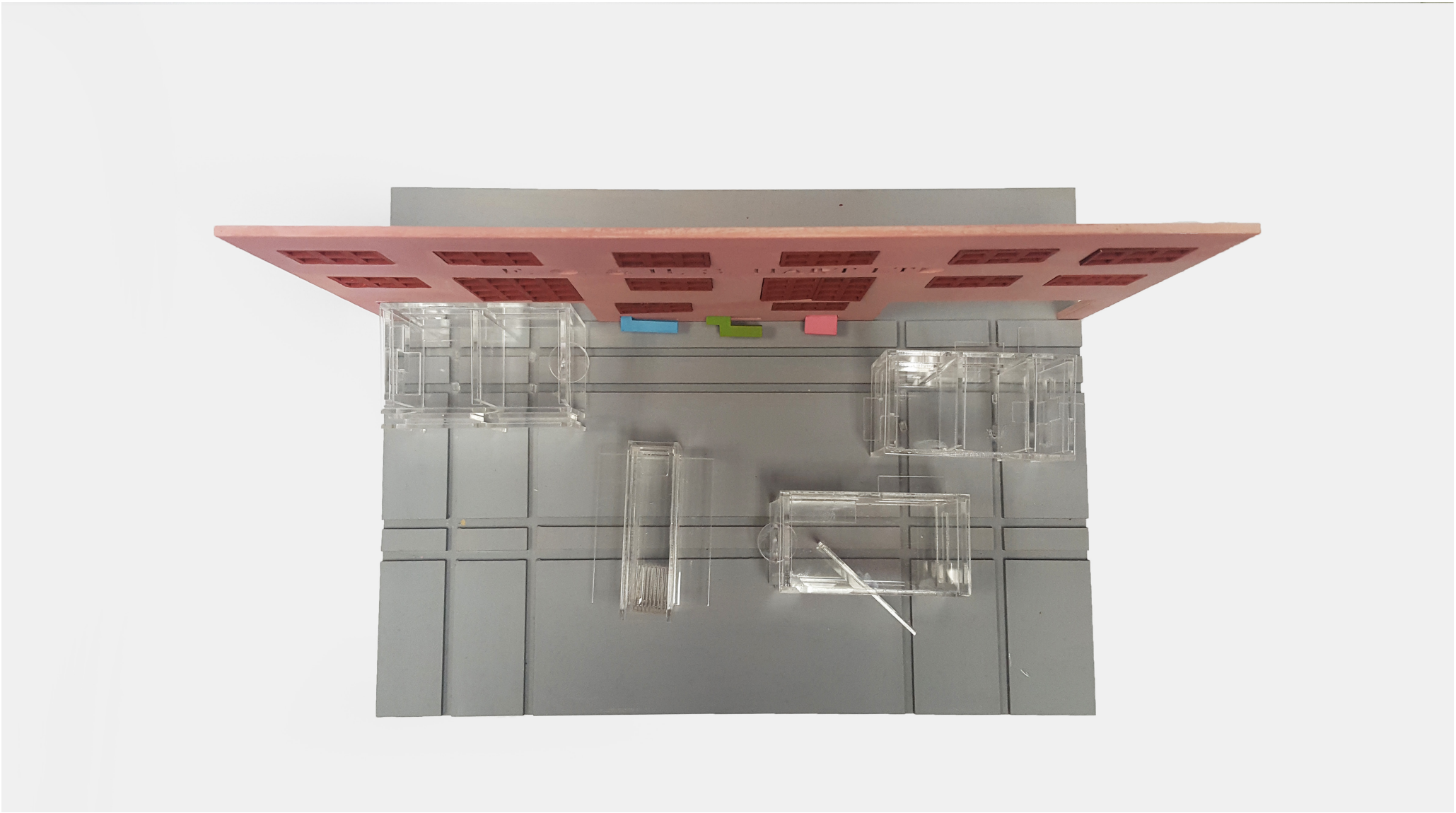


Fig. 3.18 physical model of a section of the site showing how units can be arranged on site depending on the activity that is to take place

CRITICAL REFLECTION

Play in Manipulation created a new dimension to the Holland Street laneway. It increased opportunities for people to interact with each other, made the street safe, more vibrant and created opportunities for retail and other economic activities to thrive.

In this design phase, I discovered that without a player, there is no play in space, and when designing playful architecture, active participatory design methods are important.

Play in Manipulation was full of opportunities for manipulative play. It was a creative outlet where adults can exercise their imaginations. It not only addressed today's dynamic, flexible and constantly changing needs, it also satisfied adults' needs to play, to become creative and imaginative. When architecture invite users to manipulate and interact with space, users attach new significance to these objects and use them in new and interesting ways. They gain new insight into how it works or about their relationship with it.

The design affords play by encouraging users to become active participants of the design process, allowing everyday, familiar objects to be freely touched and manipulated. Users have unprecedented control over their environment, resulting in an architecture that is responsive to users' needs and the many activities intended to take place.

The use of colour was essential in this design and contributed to the playfulness and vibrancy of the urban space.

The next design phase looks at how I can maintain the same playful interaction while discovering new range of playful participation strategies to engage the public in the design of large-scale public space.

PLAY IN SCALE

INTRODUCTION

Play in Scale is strongly influenced by the popular fantasy novel, *Alice's Adventures in Wonderland.* In this design phase, Alice's adventure is translated into a real world context through the design of a large scale public space.

Alice's Adventures in Wonderland tells of a girl named Alice and her negotiation with space and scale through Wonderland. *Play in Scale* explores two major themes in the book: Alice's ever-changing scale and her confusing and disorienting encounters in Wonderland.

The journey through *Play in Scale* is an experience of negotiation with space and scale. It is a journey filled with challenges and unexpected events that are full of wonder, mystery and excitement. Visitors are encouraged to lose themselves on their journey. It invites them to approach the world with an attitude of curiosity, inspiring them to imagine new possibilities.

Fig. 4.01 Te Aro Park, Wellington location plan

THE SITE

Fig. 4.02 Te Aro Park, Wellington

Alice's adventure is translated into a real world context through the design of a large scale public space, sited in Te Aro Park, Wellington.

Te Aro Park marks a section of a major Maori pa in Wellington. It was originally called Pigeon Park, until its redevelopment in 1991, where it was transformed into a shape of a canoe. It was built to symbolise a waka as the location was an important area for gatherings in the 1800s.

Today, the park is a commonplace for eating takeaways from nearby food districts, but because of the surrounding traffic, the inner city park, tend to be inaccessible and uninviting. For this reason, I saw a potential in redeveloping the site and integrate play into the streetscape.

Fig. 4.03 "Editing" the buildings surrounding Te Aro Park using foam board

DESIGN EXPLORATION

I created a sketch model of Te Aro Park, along with it's surrounding buildings, and began "editing" the site. I began subtracting small parts off buildings and fitting these into neighbouring buildings just like a jigsaw puzzle (Fig. 4.03). I also tried attaching the cut off parts onto neighbouring buildings which produced something similar to a parasitic architecture.

To utilise the park, I continued the process of building subtraction and scattered the subtracted parts onto the park. The outcome were folly-like structures, which were reminiscent of Bernard Tschumi's, *Parc de la Villette.* I became fascinated by the idea of creating follies as they are structures open to interpretation and use, which invites playful interaction.

FORM GENERATING PROCESS

To assist in creating the urban layout, I adapted a playful design process called the “Scatter Method”, which was a technique used by BMA, a practice in London, for a housing settlement design competition in Den Haag, Netherlands (Fig. 4.04). Using paper, they cut out rectangles into different colours and sizes. Each colour represented each type of housing: orange for the rich, blue for the middle classes, and grey for the disadvantaged. They scattered or threw this onto an empty site model and repeated this action until they got their desired layout.

I used the same design process for my own site. I cut out several cubes from a foam board and arranged these onto my empty site model, create one large cube (Fig. 4.05). I shook the site model, allowing the cubes to collapse and scatter. The first test did not allow the cubes to scatter far enough. I repeated the process by shaking and blowing the cubes to help spread further on site.

The negative and positive spaces created by the cubes produced a labyrinth-type of urban layout. As we all know, labyrinth or mazes are good examples of spaces that afford play because of the challenge it offers.

Fig. 4.04 The Scatter Method technique used by BMA for a housing settlement design competition in Den Haag, Netherlands.

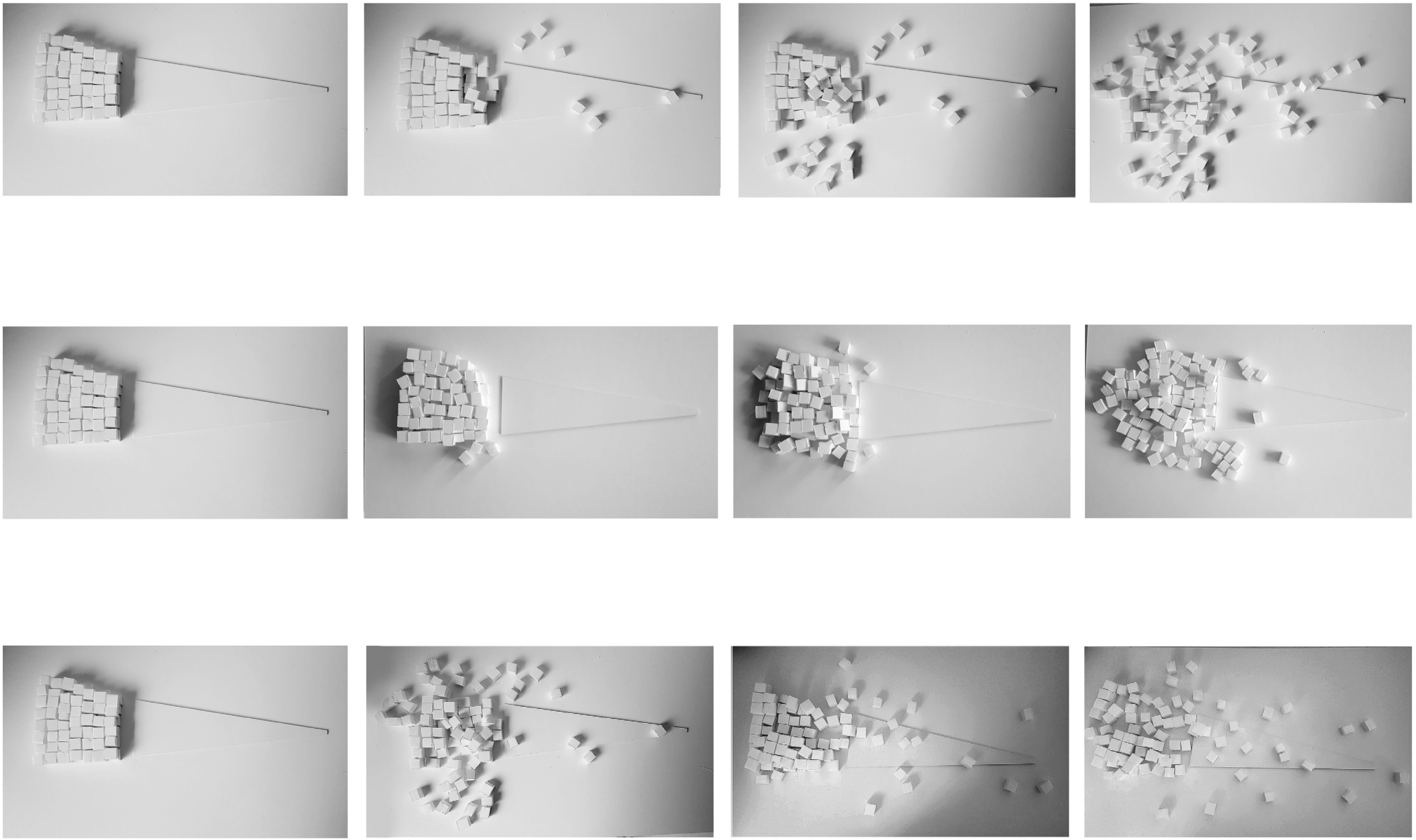


Fig. 4.05 My own scatter method test to explore possible urban layout

Fig. 4.06 Blind drawings and trace drawings of elements and creatures present in "Alice in Wonderland" to produce preliminary abstract forms that is to be developed into architecture.

The next step was to transform the foam board cubes into architectural forms. I wanted the forms to be abstract. I took inspiration from *Alice's Adventures in Wonderland* for subjects I can make abstract. I was fascinated by the smoking caterpillar, the forest where she met all kinds of interesting creatures, the giant edible mushrooms and fungi which made her grow and shrink.

I started doing "blind drawings" with these creatures and elements in mind and successfully produced abstract and organic forms.

I also did another set of drawings where I traced over photographs of these subjects. This produced more orthogonal contour drawings. I decided to develop the orthogonal drawings further as I thought these would respond well on site with the existing orthogonal buildings.

I selected the best two-dimensional drawings to represent each of the elements selected from the novel. After arriving at my final set of drawing (Fig. 4.07, second column), I transformed these into three-dimensional

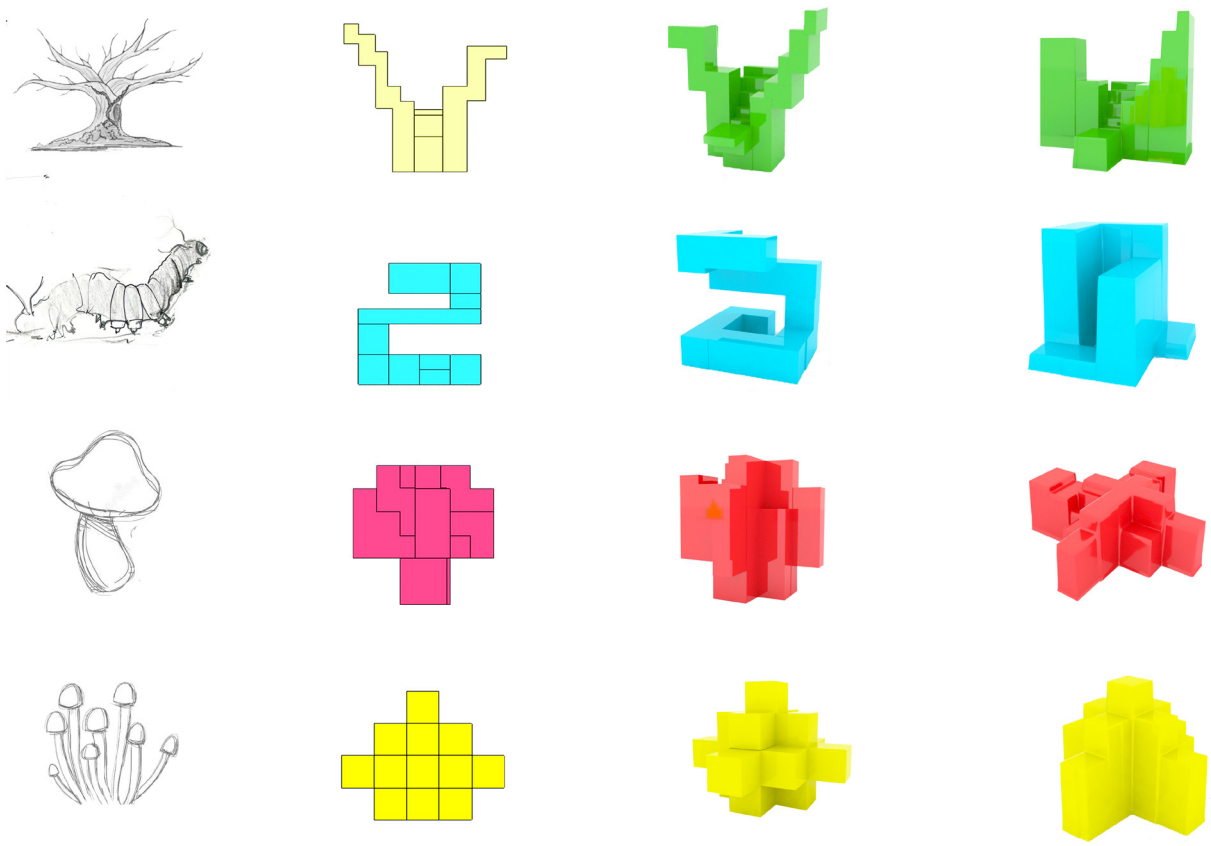


Fig. 4.07 Transforming two-dimensional drawings into three-dimensional forms.

forms (third column) by extruding surfaces. The geometries produced were developed even further (fourth column) by "draping" over the existing forms, adding a new set of interesting geometry. Although very abstract, I could begin to see this as an architecture, with spaces of different heights and sizes. The changes in scale yield much potential to provide a playful journey through space and this is when I decided to also explore how manipulating scale in architecture can afford play.

The new set of three-dimensional forms replaces the cubes from the *Scatter Method* experiment. The geometries in the third column, reproduced at different scale, acts as follies on site. It has no specific function, but its use is open to interpretation. This allow the public to freely explore the structures and encourage creativity. The set of forms in the last column is scattered on site, creating four buildings with assigned programmes.

PROGRAMME

Fig. 4.08 Pool of Tears and The Mad Hatter's Party

Taking inspiration from *Alice's Adventures in Wonderland*, the four buildings are used as Thermal Baths and Tea Houses. These are based on the popular Pool of Tears and Mad Hatter's Tea Party scene from the novel.

SITE PLAN

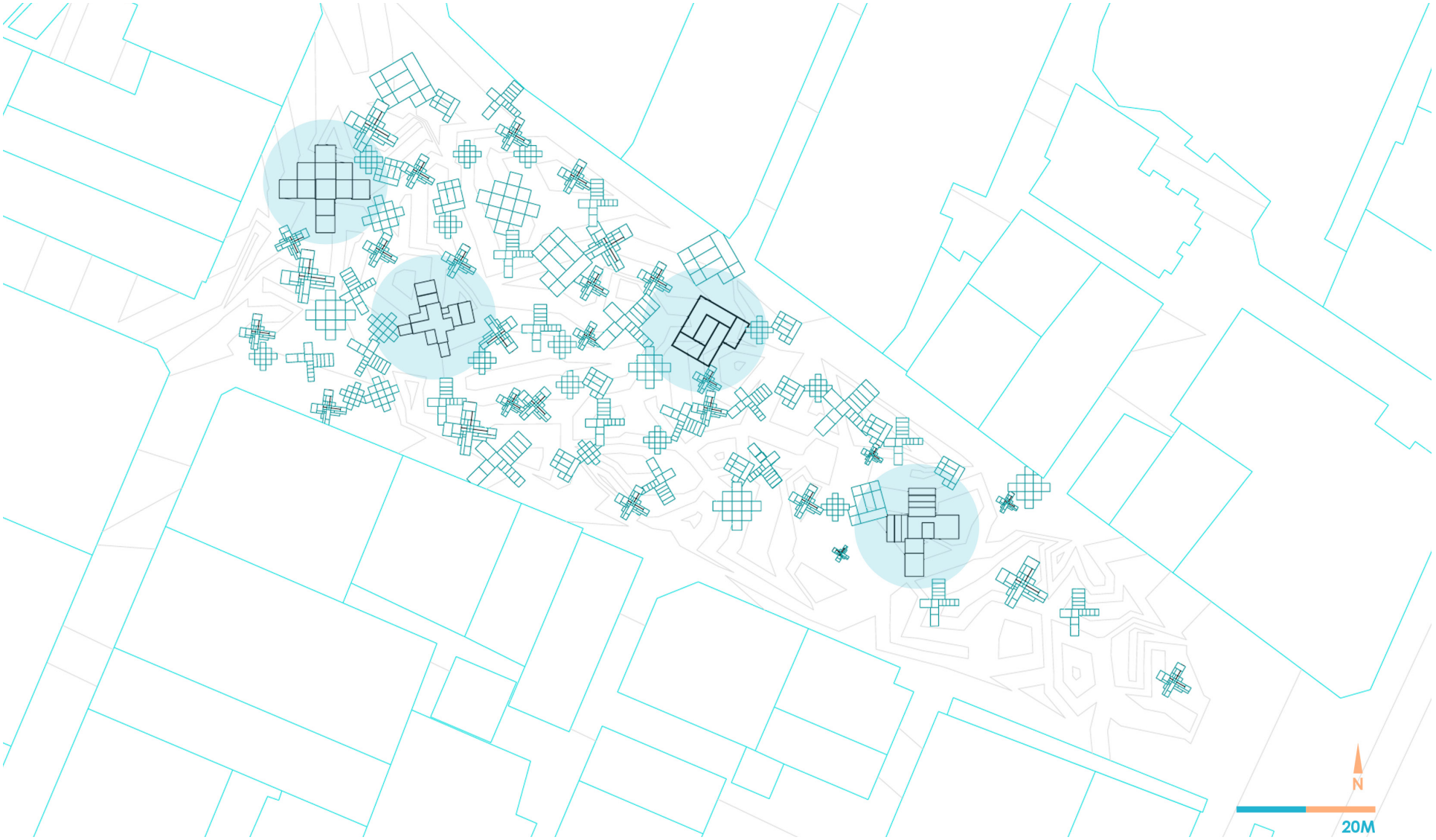


Fig. 4.09 Site plan showing a labyrinth-type of urban layout. The location of the thermal baths and tea houses are circled in blue with the scattered follies surrounding them.

SITE PLAN

The urban layout has no clear promenade but rather a culmination of different pathways and circulation methods, similar to Wonderland. Although the book did not explicitly discuss architecture, it was definitely present in Wonderland. Alice was always challenged by the physical structures of her fantasy world and when she encountered the Cheshire cat, she asked him:

The literature suggests that Wonderland is a labyrinth with spaces without names.

PRECEDENT

Sir John Soane's Museum

The John Soane Museum is formerly the home of the neoclassical architect, Sir John Soane.

The museum now displays the architect's collection of antiques, furniture, sculptures, architectural models and paintings. The museum's architecture plays with scale through light, space and density. It is a disorienting domestic space filled with surprises. As you walk through the museum you will find yourself in confined spaces with lowered ceilings which suddenly lead you into light-filled rooms with soaring skylight. The mix of expansive and intimate spaces give visitors that sense of suddenly growing larger and then rapidly shrinking.

John Soane's Museum is relevant to this design phase as it helps question how I can create an architecture which reveals new dimensions gradually and slowly over time. How can I use scale to engage curiosity and pleasure?

Fig. 4.10 A narrow and crowded interior hallway of the Sir John Soane's Museum

THE FINAL DESIGN

The design yielded challenges as spaces were not designed to fit the selected programme. The interior had some very confined spaces which suddenly lead into spaces with soaring ceiling. I saw a great opportunity here for scale to afford play in architecture. The design created a maximum sensory experience by provoking curiosity, providing a playful delight in uncertainty, and created a sense of mystery and surprise.

The sequencing of spaces led to a similar narrative in which Alice grows and shrinks, alternating her perception of the space she inhibits. Visitors in *Play in Space* felt either too small or too large for their surroundings. It gave the visitors the sense of suddenly growing larger and then rapidly shrinking, reminiscent of Alice's journey through Wonderland.

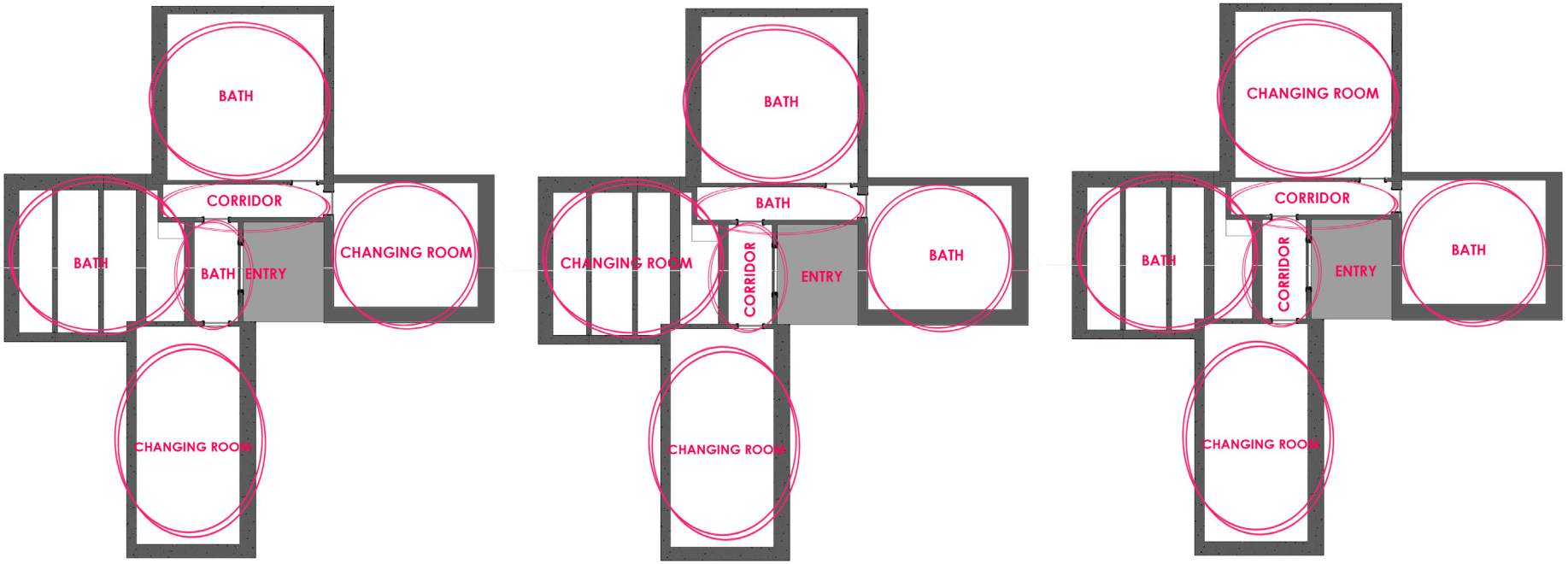


Fig. 4.11 Space planning of the thermal bath house

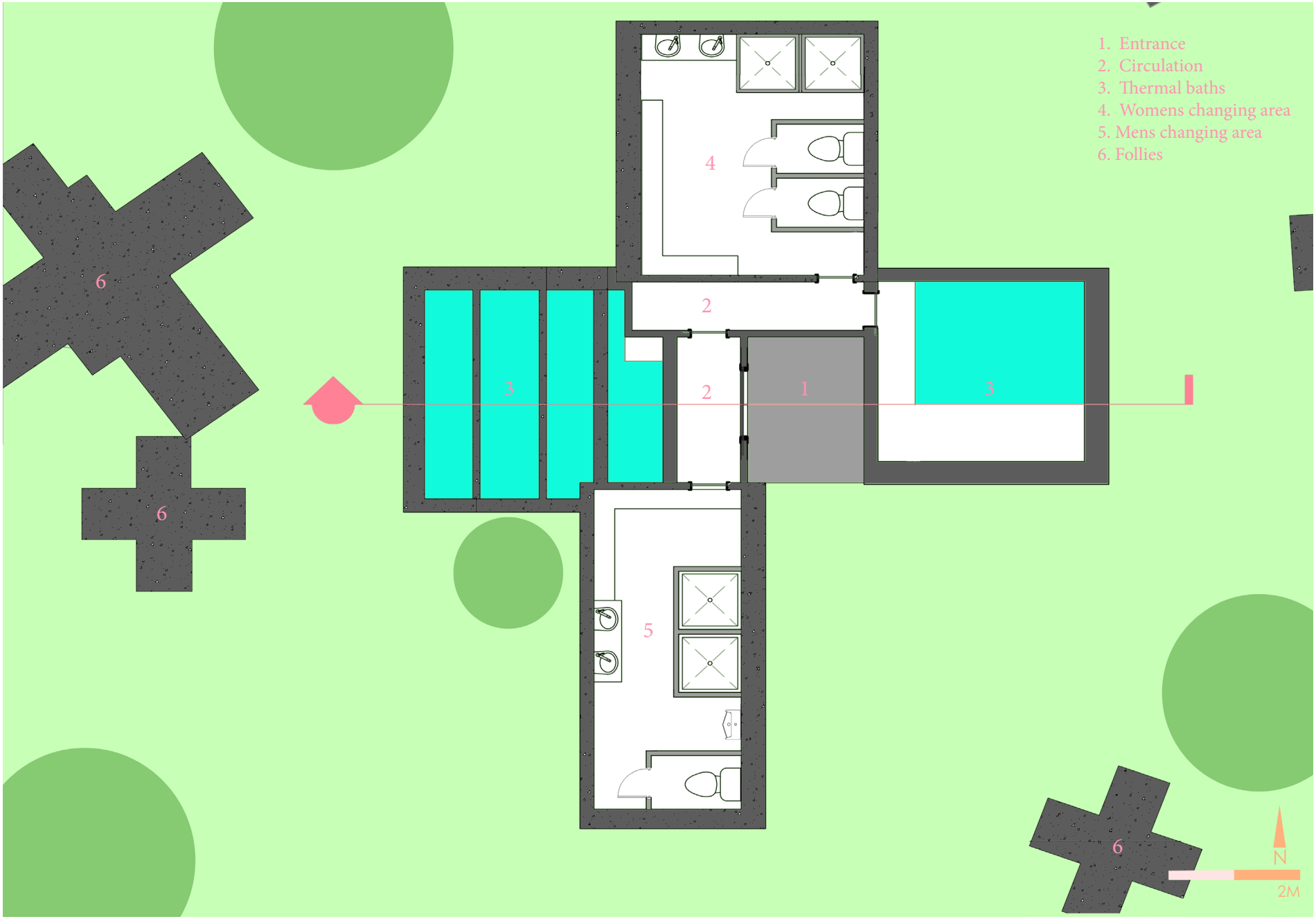


Fig. 4.12 Thermal bath floor plan

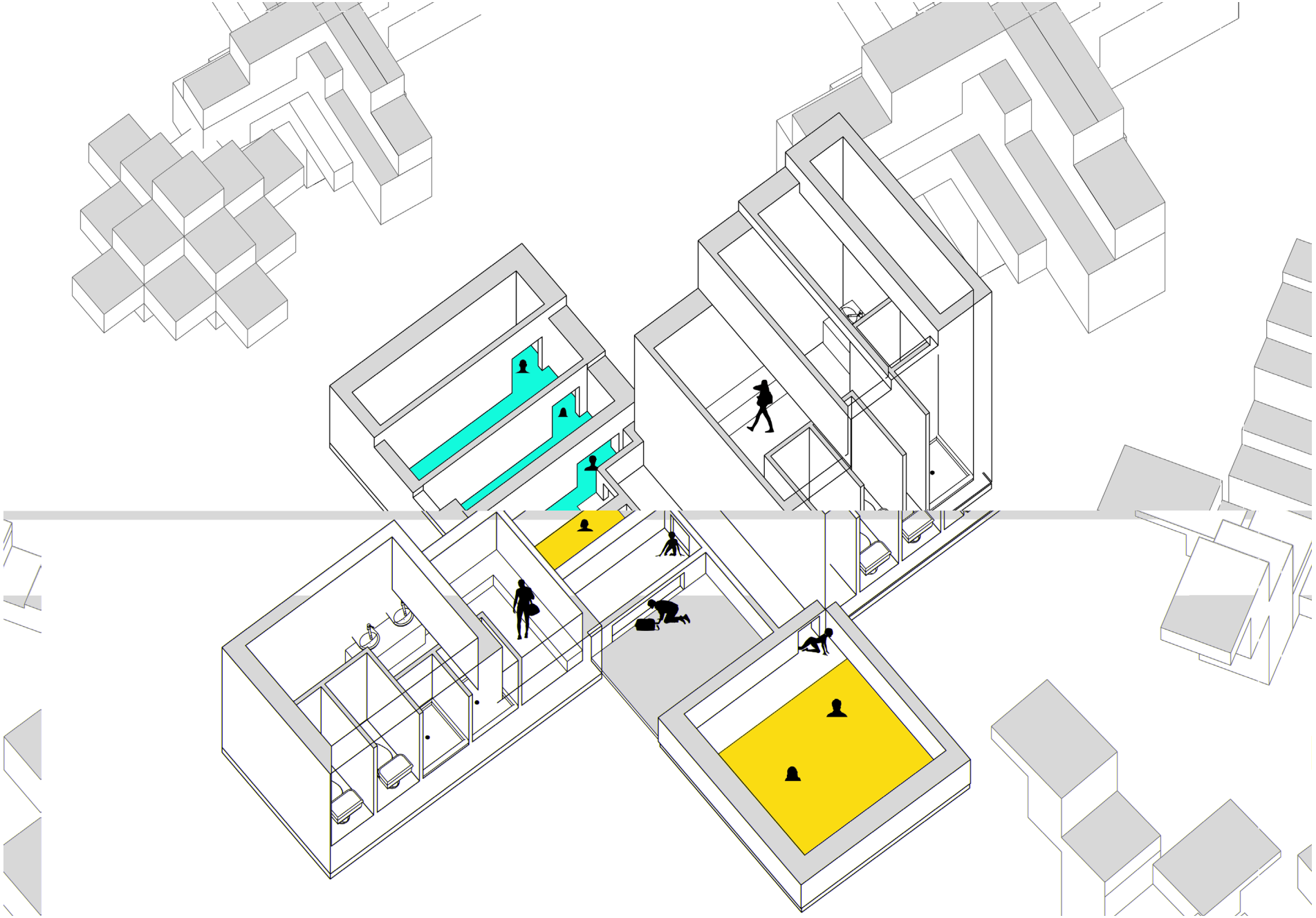


Fig. 4.13 Thermal bath axonometric view

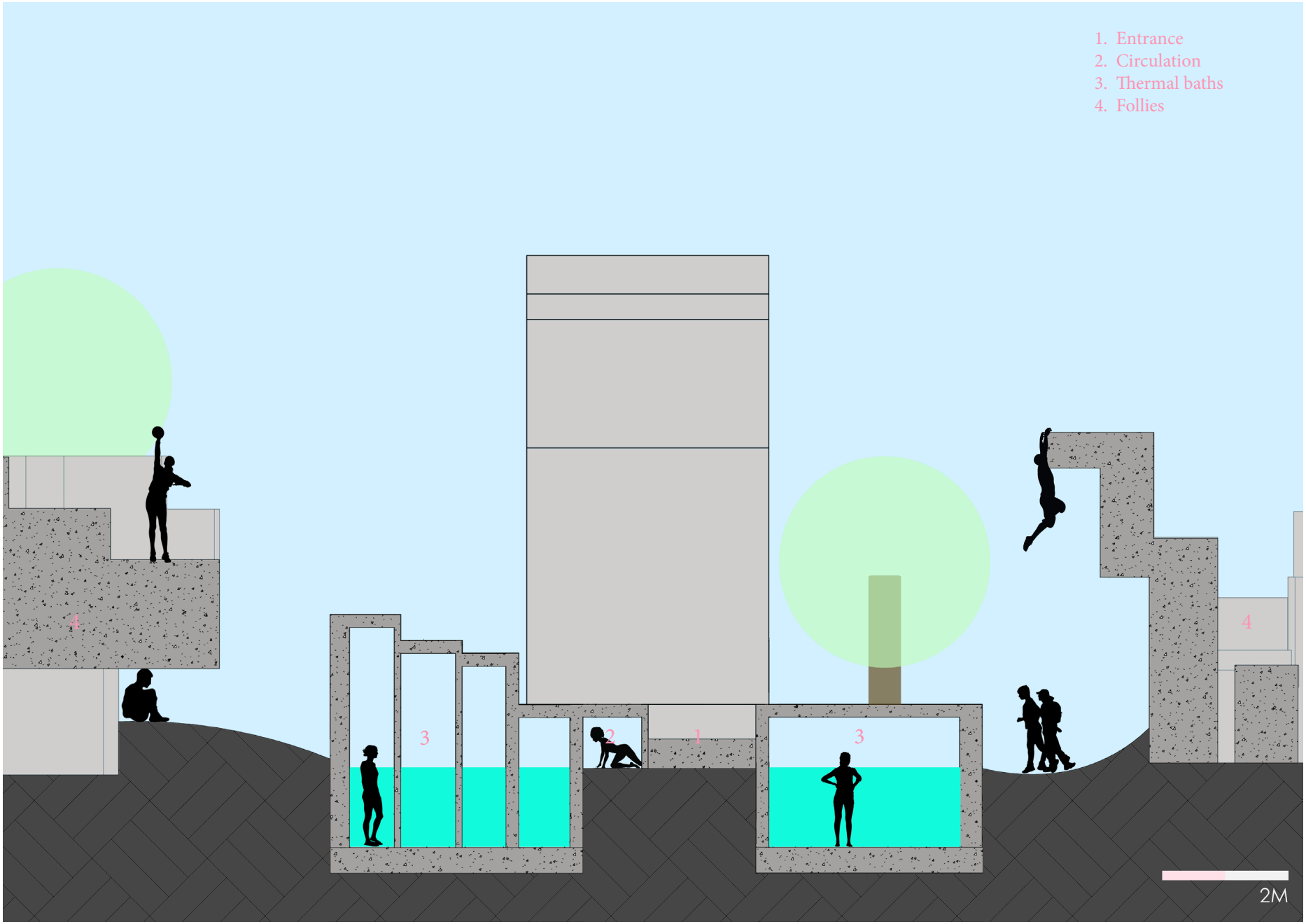


Fig. 4.14 Thermal bath section plan

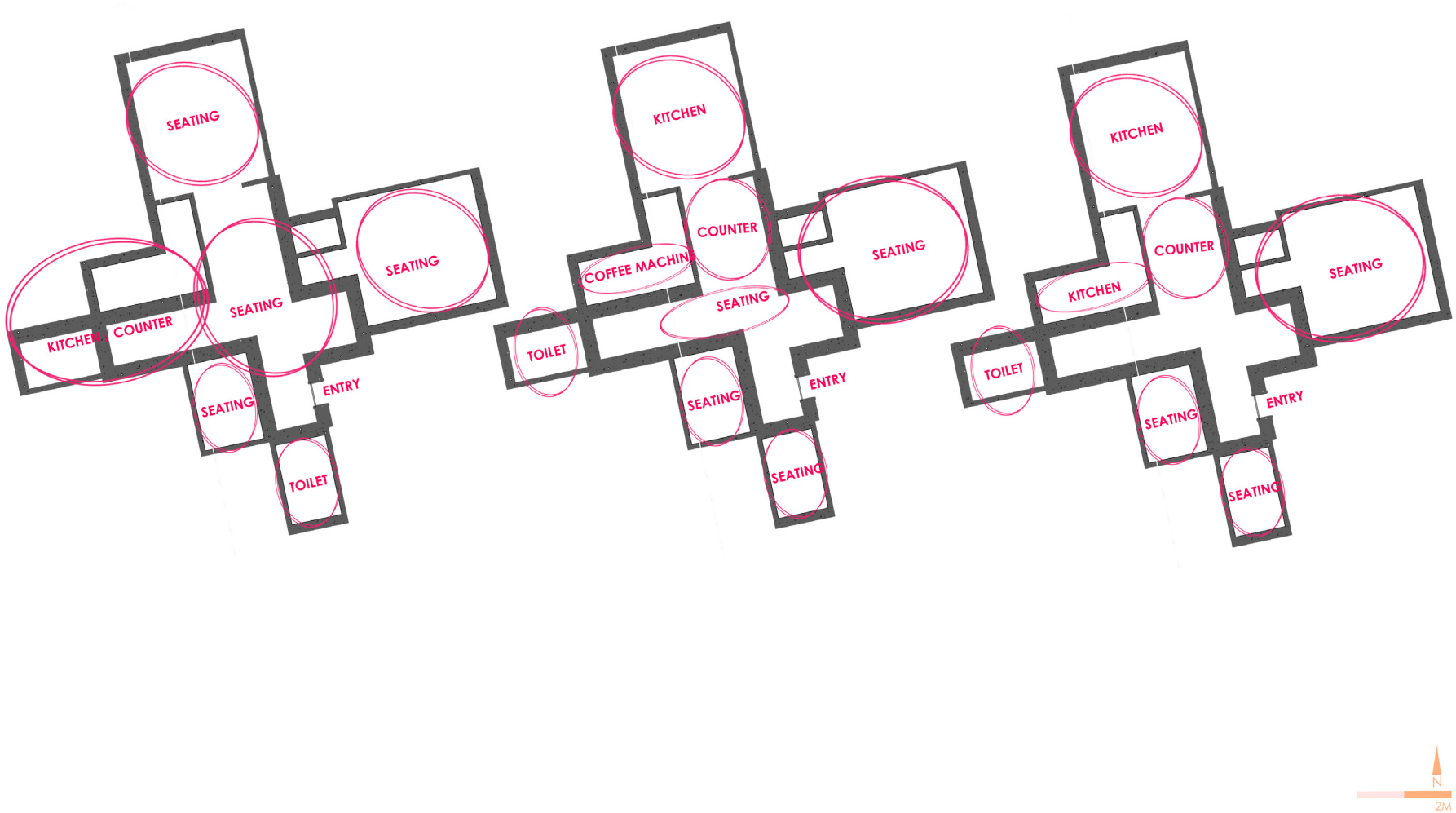


Fig. 4.15 Space planning of the tea house

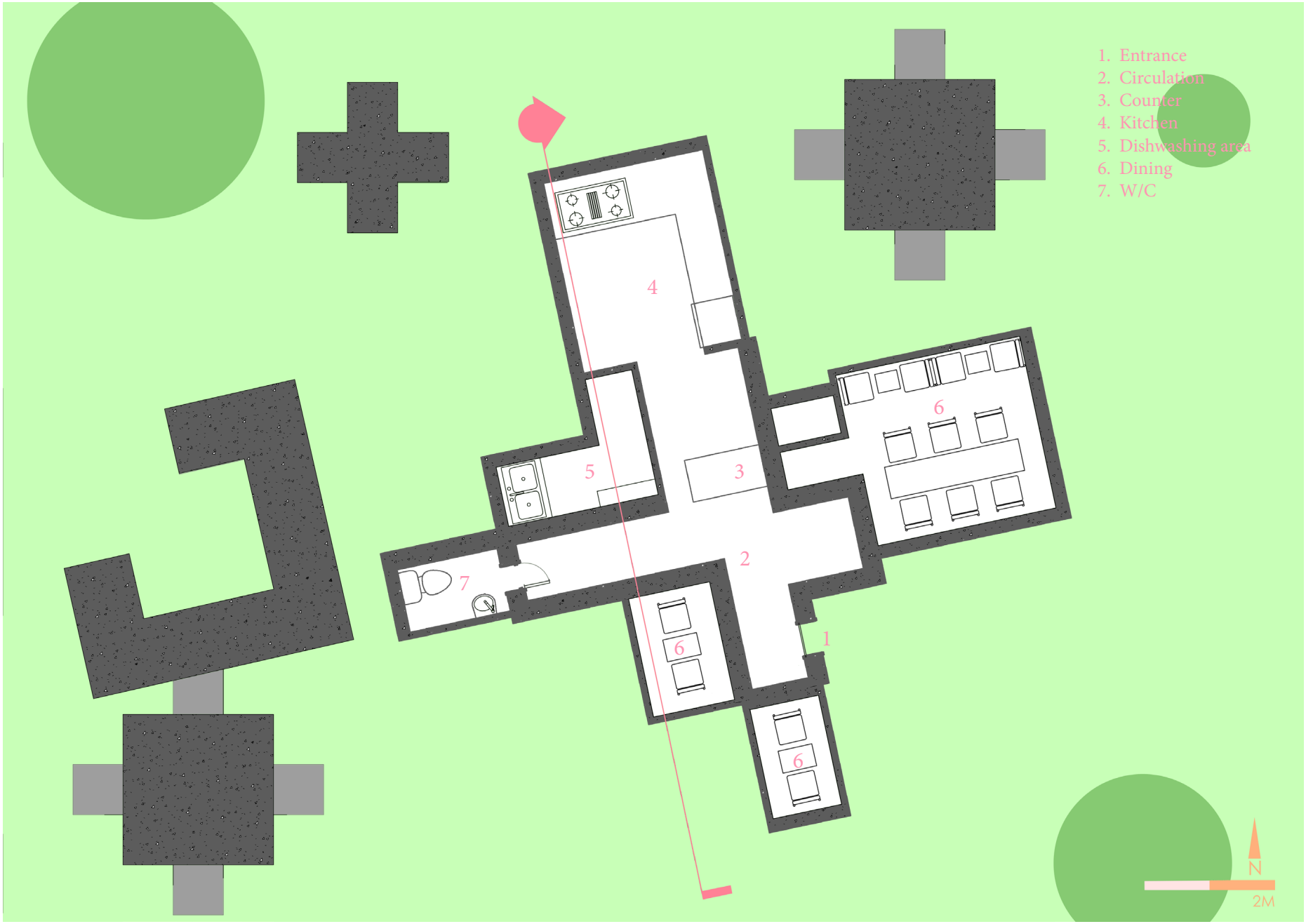


Fig. 4.16 Tea house floor plan

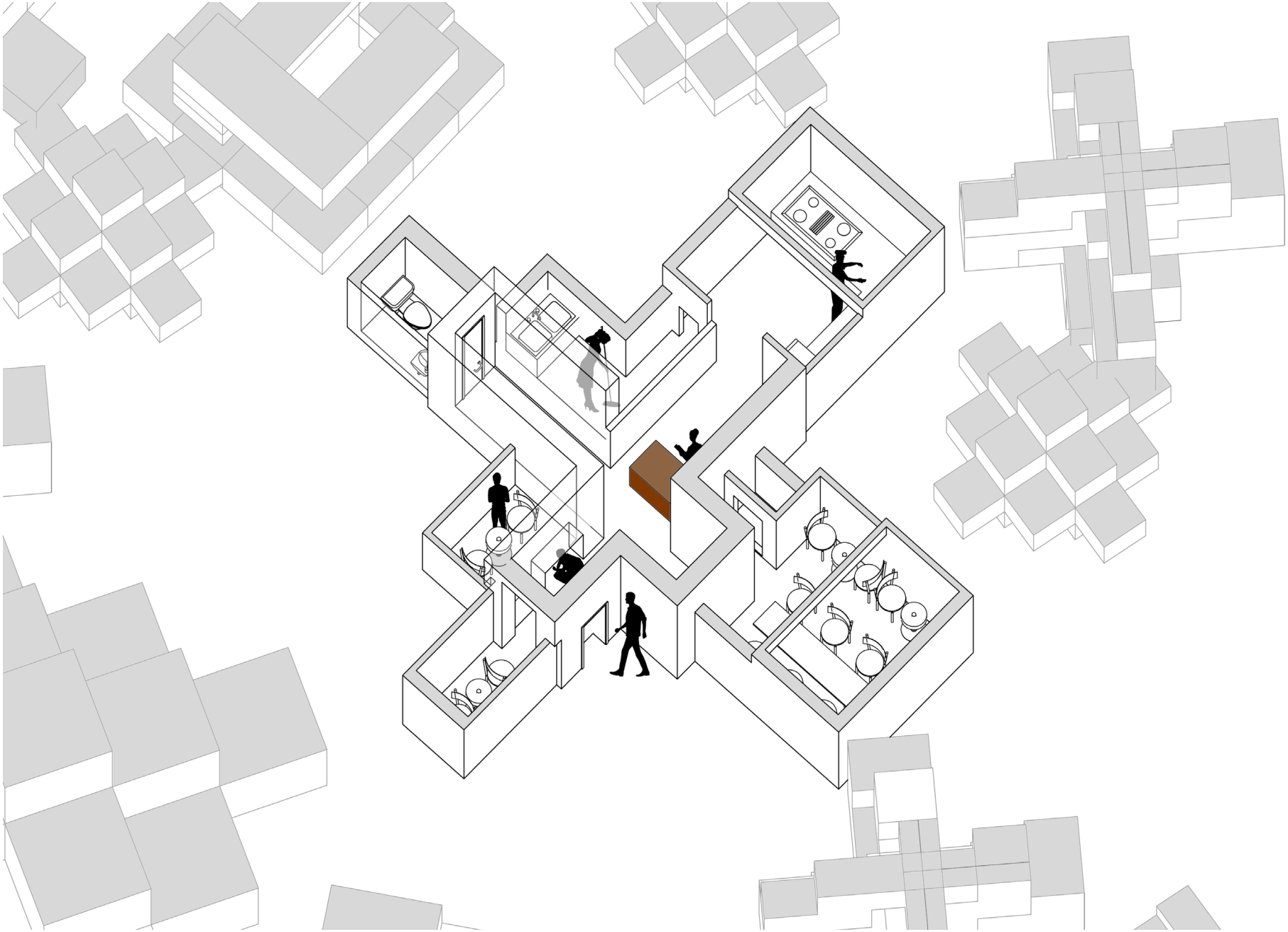


Fig. 4.17 Tea house axonometric view

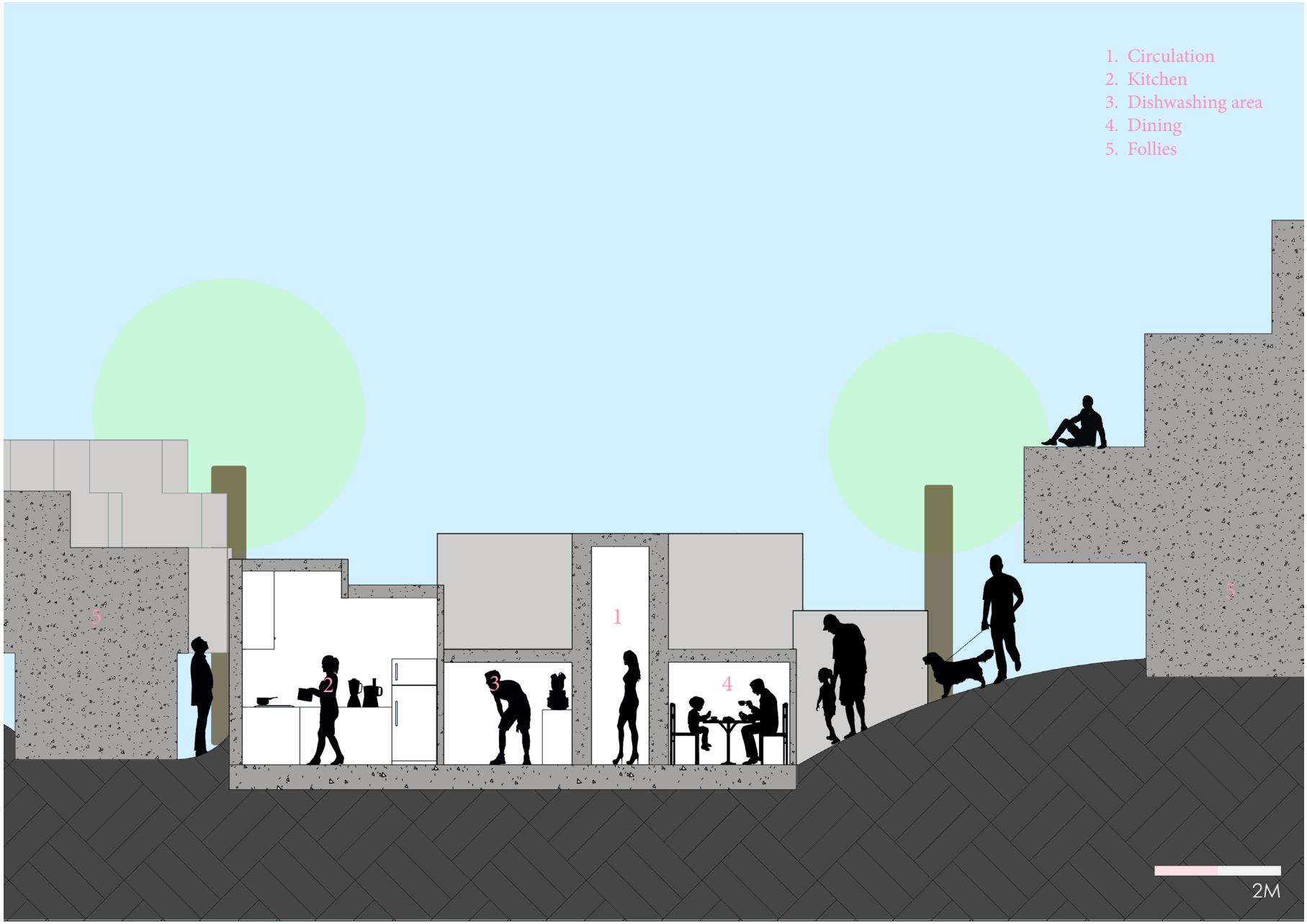


Fig. 4.18 Tea house section plan

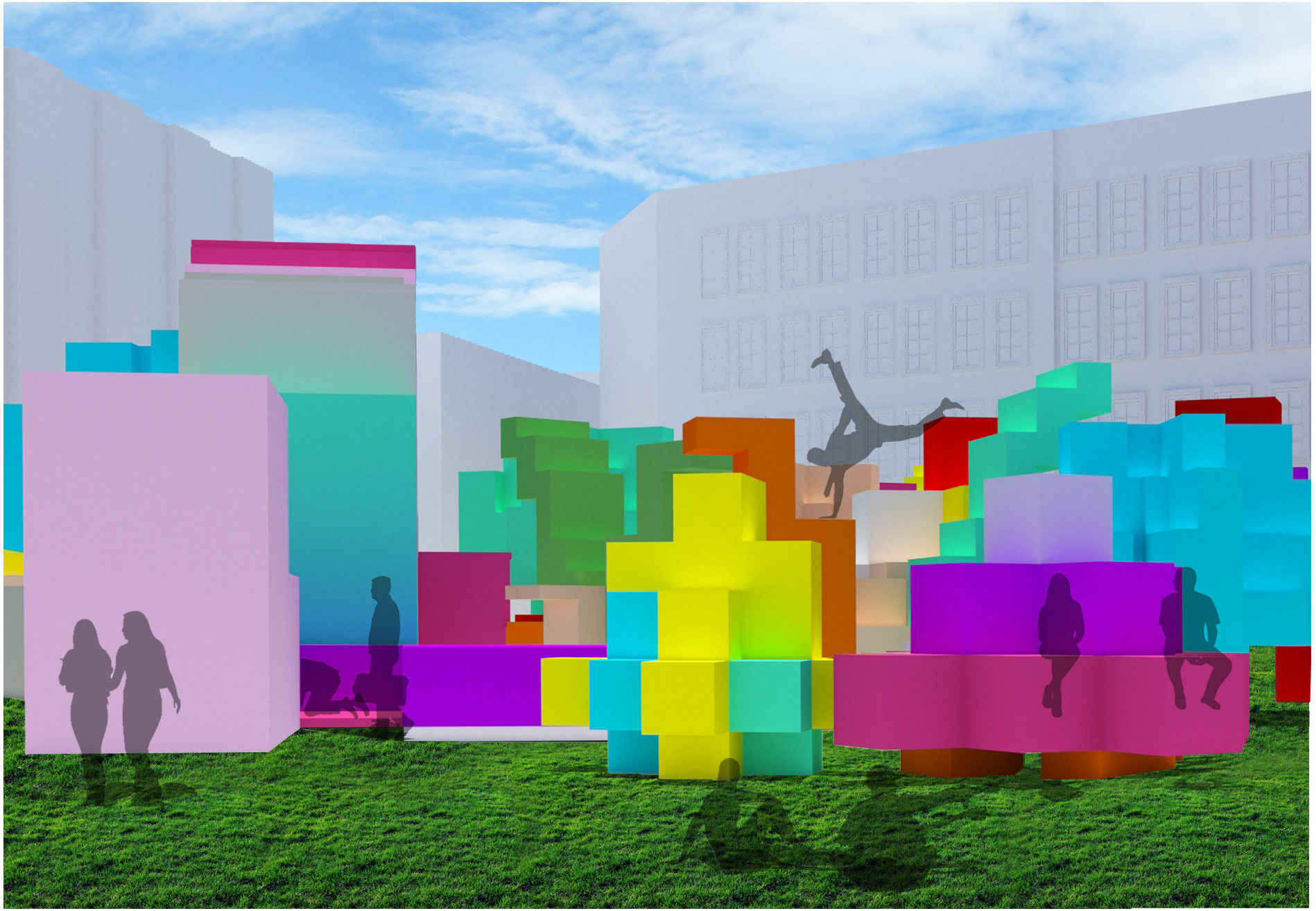


Fig. 4.19 Exterior render of the site the Thermal Bath obscured by the many follies

Fig. 4.20 Exterior render of the site showing different uses of the follies

Fig. 4.20 Mid-scale public space scale model

Fig. 4.21 Mid-scale public space scale model

CRITICAL REFLECTION

The challenge of exploration and fear of getting lost created by the labyrinthine urban layout, together unite to create a playful experience, opening users to the immense variation of pleasures in this world. The urban layout provided a sense of mystery, urging the players to take risks and explore the space and become excited.

Playing with our perception through shifts in scale was also an effective tool in creating a playful experience in architecture. Making visitors feel too small or too large for their surroundings played with their perception of scale and altered their expectations of space. The sense of mystery aroused curiosity, and in turn, users felt compelled to find out more about whatever was partly revealed and partly hidden from their view.

Reflecting upon successes and failures of the design, I found the follies to be unsuccessful. They attracted a small amount of curiosity and offered very few play behaviours. It can be sat and climbed on, used as a stage or a parkour obstacle course, but after that initial burst of enthusiasm, its use can become predictable and monotonous.

THE PLAYCE

INTRODUCTION

The Playce experiments with a new and more spontaneous design method to produce an even more abstract design.

Painting as a medium to convey theoretical ideas in architecture is not new. Will Alsop and Zaha Hadid considers painting an integral part of designing to assist in discovering and exploring ideas which later became forms.

Painting plays a vital role in this design phase as I explore how this medium can allow a much greater level of creativity and spontaneity in my design research.

PRECEDENT

Will Alsop

Fig. 5.01 Will Alsop's concept painting for Xi'an Hotel (2013)

Fig. 5.02 Will Alsop's concept painting for Abu Dhabi Hotel (2007)

Will Alsop's projects are whimsical and colourful, and his playfulness makes him unusual. His buildings often have playful elements - strong colours, blobby shapes, and stilts at crazy angles - but they are functional too. He doesn't see the point in creating architecture that simply blends in.

When Will Alsop starts a project, he often paints as a way of exercising his brain. His paintings become a record of conversation about a project. It's not about designing something, it's about discovering what something could be which is a very important distinction to him. Most of his built work are definitely like his paintings: full of bold gestures, bright colours and patterns. When it works, it's playful and unique, like his design of the *Sharp Centre for Design* which has become a landmark in Toronto. The elevated building extension to the *Ontario College of Art and Design* features a black and white pixelated skin and 12 multi-coloured legs which stands 26 metres above ground.

I adopt a similar approach in my design exploration to assist in exploring how the method of painting can generate creative, imaginative and spontaneous ideas in my design.

Fig. 5.03 Zaha Hadid's painting exploration for MAXXI Museum (2010)

Fig. 5.04 Zaha Hadid's painting exploration for Vitra Fire Station (1993)

Zaha Hadid

When Zaha Hadid began her architecture career, she was influenced by artist Kazimir Malevich to use paint as a tool for architecture exploration. Since then, she has used paintings to explore deconstructivism and futurism. She utilised painting techniques to portray masterplan proposals for cities to enhance connectivity between urban nodes. She also used this to develop architectural proposals, many of which were built, such as the *Vitra Fire Station* and the *MAXXI Museum.*

I am using Hadid's technique as inspiration in this design phase to produce abstraction and explore how it can lead to creative abstract plans.

Fig. 5.05 Splattered paint on clear acrylic sheets

Fig. 5.06 Paintings were superimposed which created a labyrinthine space reminiscent of the Verner Panton's "Visiona II" exhibition

DESIGN EXPLORATION

Splatter painting is a technique made famous by abstract expressionist painter, Jackson Pollock. I was inspired by his action painting technique as the result can be unpredictable, uncontrollable and fun. I created my own series of abstract painting, splattering acrylic paint on clear acrylic sheets. Once the paint has dried, the clear sheets were superimposed, which created a psychedelic labyrinthine world. I began to see a landscape consisting of vibrant colours and organic form, a dazzling maze of winding path and spaces, each with its unique size and form.

To further explore how the painting can be translated into architecture, I imported my artwork into a model-making software. The paintings were traced and then extruded to create three-dimensional organic forms. Characterised by dynamic curved shape, the results were reminiscent of Danish designer, Verner Panton's, 1970 exhibition called *Visiona II* (Fig. 5.07). He created a impressive space filled with bright colours and organic shapes. The exhibition consisted of numerous, interconnected rooms that provided visitors with a mind-bending, multi-sensory journey.

Visiona II was considered playful with its use of explosive colours and spatial design that broke traditional architecture concepts: floors, walls, ceilings and recesses were seemingly moulded from one piece. It challenged expectations, which triggered curiosity and became an invitation for play to begin.

Fig. 5.07 Verner Panton's Visiona II exhibition during the IMM Cologne Furniture Fair in Basel (1970)

Fig. 5.08 The first design exploration was inspired by "Visiona II" where my three-dimensional paintings were situated on site. The centre image explores how this can be used at a furniture scale, while the right image looks at how this may appear as a large-scale architecture.

Using *Visiona* II as inspiration, I re-created the exhibition in Te Aro Park, using my own architecture, exploring this first as a furniture scale and then at a much grander, architecture scale. I also tested the possibility of the architecture being suspended up in the air (Fig. 5.09) which challenged our expectation of architecture even further to help invite play to occur. Both ideas yielded great potential in affording play, however, further design experimentation is required to explore other possibilities.

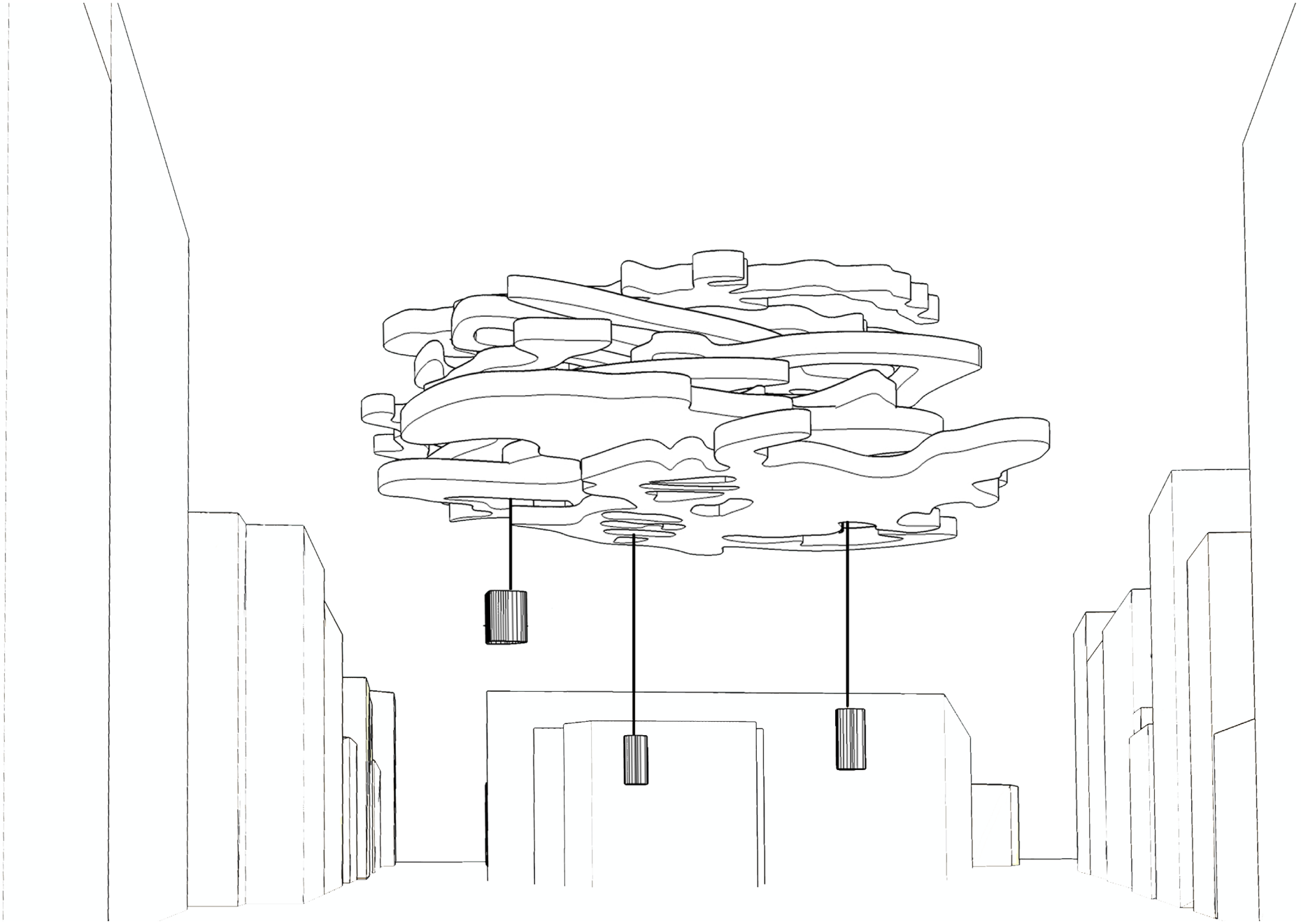


Fig. 5.09 Exploring how the architecture appears on site when suspended up in the air, breaking from the traditional ground-built architecture.

VIRTUAL REALITY

Exploring various mediums allowed me to see what is possible. Virtual Reality Tilt Brush allowed me to discover new ways to experience and create art. The app liberated painting from the two-dimensional canvas to create works that occupy three-dimensional space. It did not only inspire myself but served as a fun and accessible introduction to other means of creating art, and hopefully, architecture.

Using the Google Tilt Brush app, I created more abstract painting, utilizing the different colour palettes and the available three-dimensional brush palettes. I exported the painting onto a model-making software to allow myself to place and manipulate the form.

The first experiment involved placing the three-dimensional painting directly on site. This comprised of a number of different geometry which I found overwhelming. I decided to select certain parts instead and explore how they can be developed into architecture.

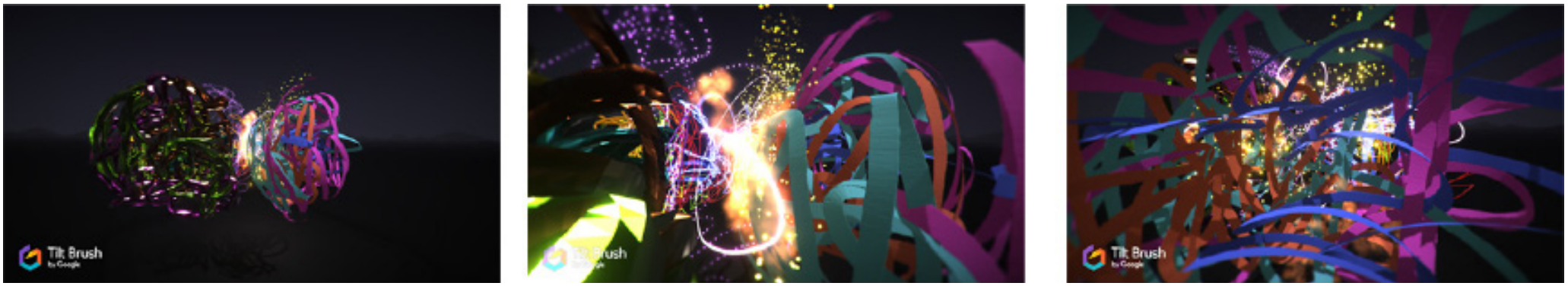


Fig. 5.10 Virtual reality three-dimensional painting using the Google Tilt Brush app.

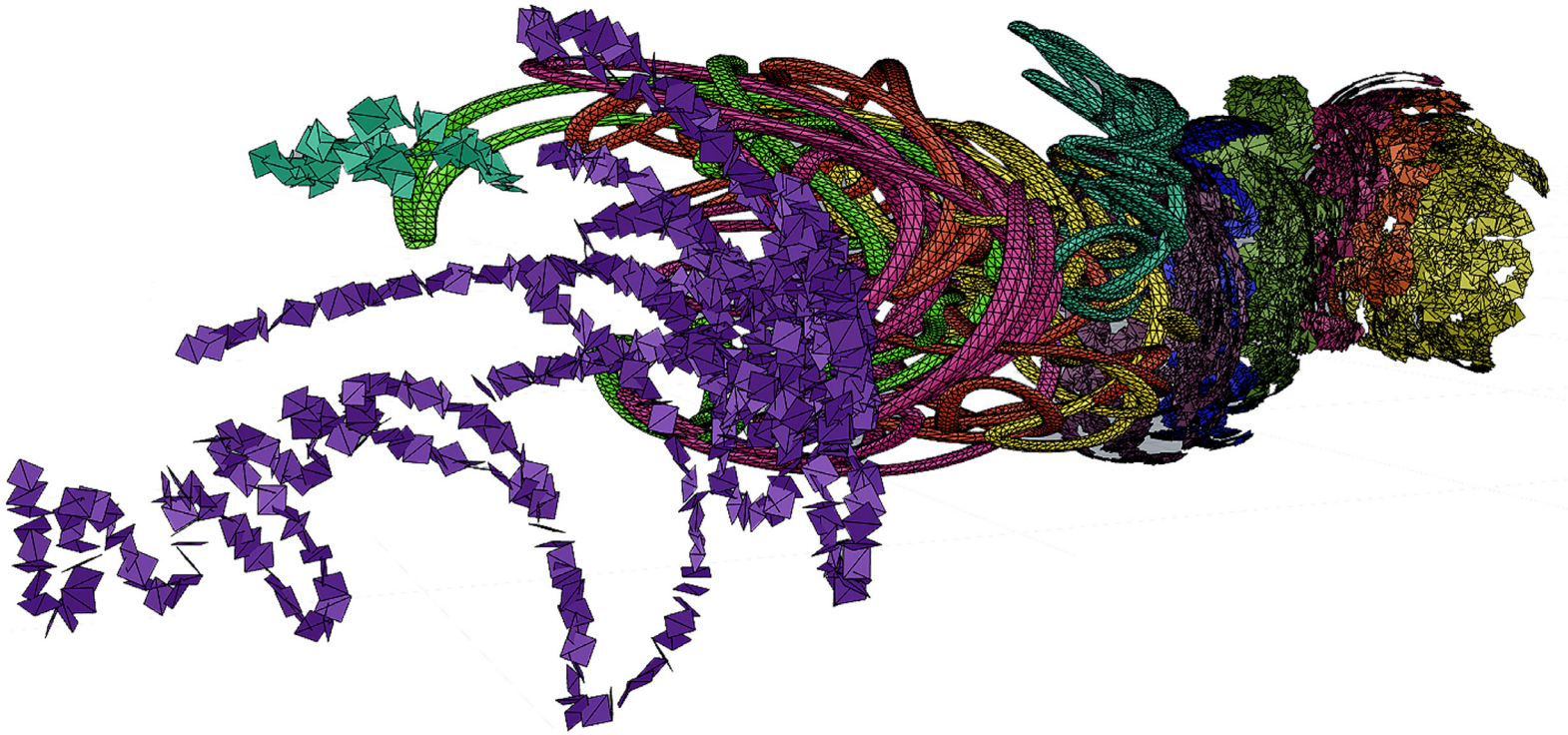


Fig. 5.11 The three-dimensional painting imported onto a model-making software for manipulation

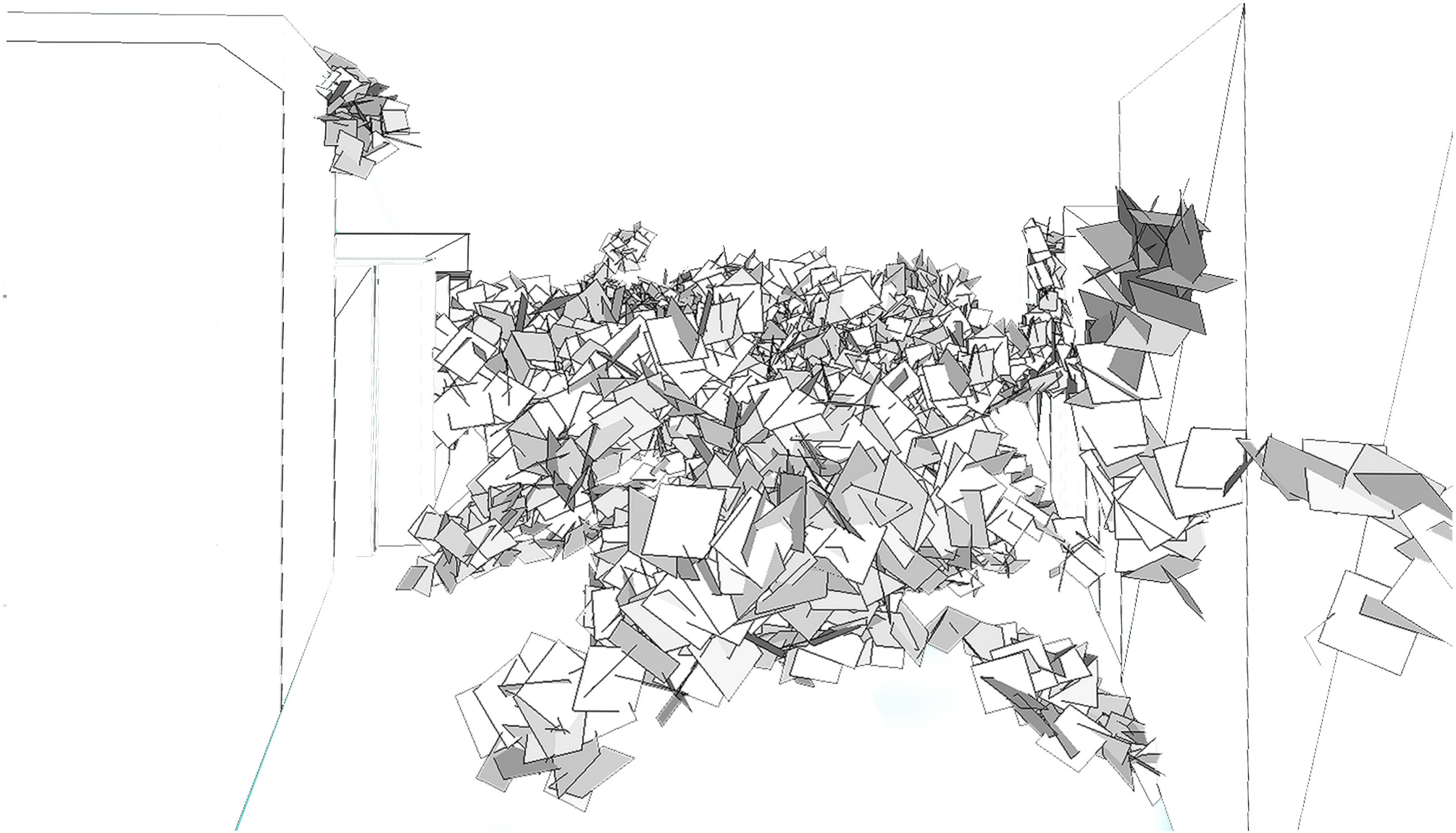


Fig. 5.12 A selected part of the virtual reality painting was placed on site for experimentation.

Fig. 5.13 A test render of the structure on site with materiality applied

The shard-like structure (Fig. 5.12) was tested on site with applied materiality to better envision the design. The structure was coated in dichroic film where the mirror-finish panels turned the site into an immersive kaleidoscope, projecting the urban context in unusual and unexpected ways. The reflections from light and its surroundings help create an ever-changing, dynamic site.

Although the experimentation with materiality and colours can seduce exploration and play, developing the forms further proved challenging. The structure appeared canopy-like which may limit programme options. The panels were chaotic and overwhelming. Its sharpness posed danger and looked extremely fragile. After much consideration, I set the idea aside and explored other possibilities.

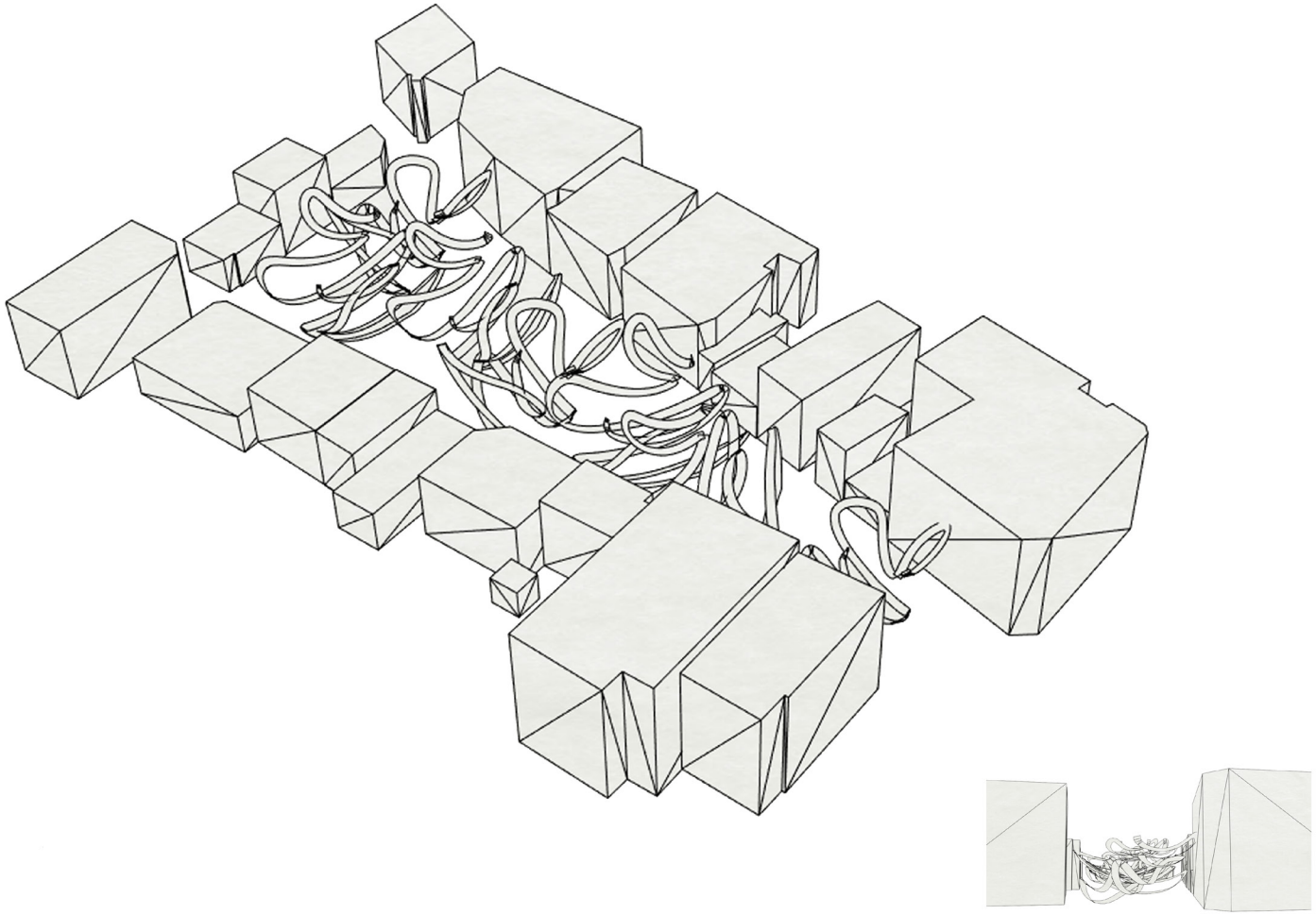


Fig. 5.13 Ribbon-like VR painting tested on site

I tested another geometry from the virtual painting, such as this undulating ribbon-like structure. The ribbon appeared like a large-scale footbridge providing various routes across Te Aro Park. Although the infrastructure stood out on site and appeared playful, I also had difficulty developing the design into architecture.

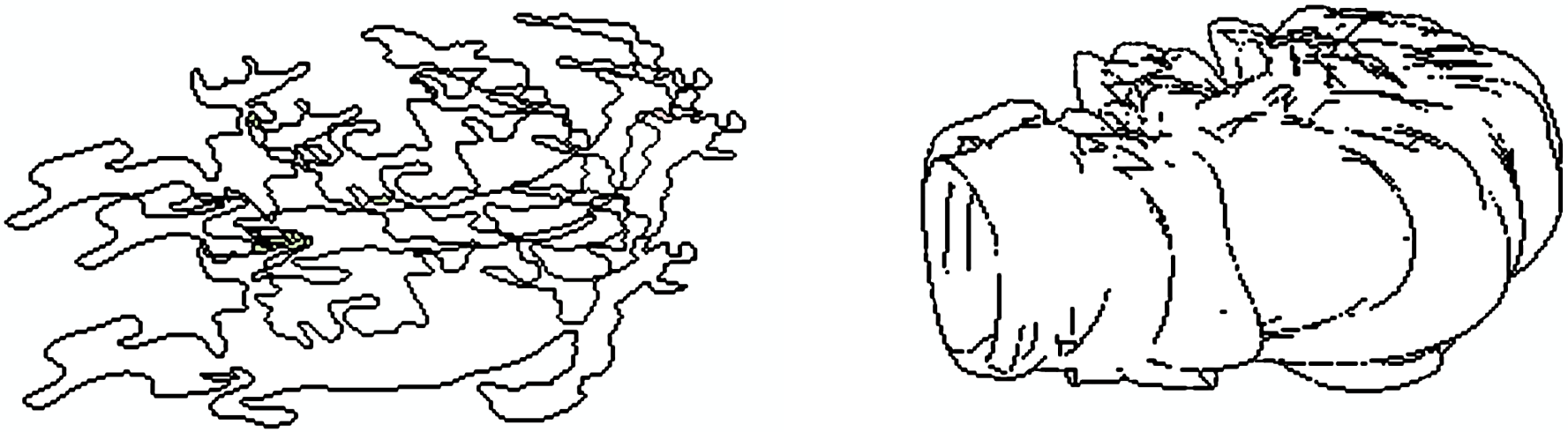


Fig. 5.14 Transforming my hand paintings into profile curves and lofting these to produce an abstract three-dimensional form

I decided to revert back to my hand paintings for ideas. I exported and traced my paintings into a model-making software and the curvilinear surfaces were layered, each slightly offset from the other. I lofted these layers which produced abstract and organic three-dimensional forms, almost like sea shells. I repeated this process was repeated with the rest of the paintings.

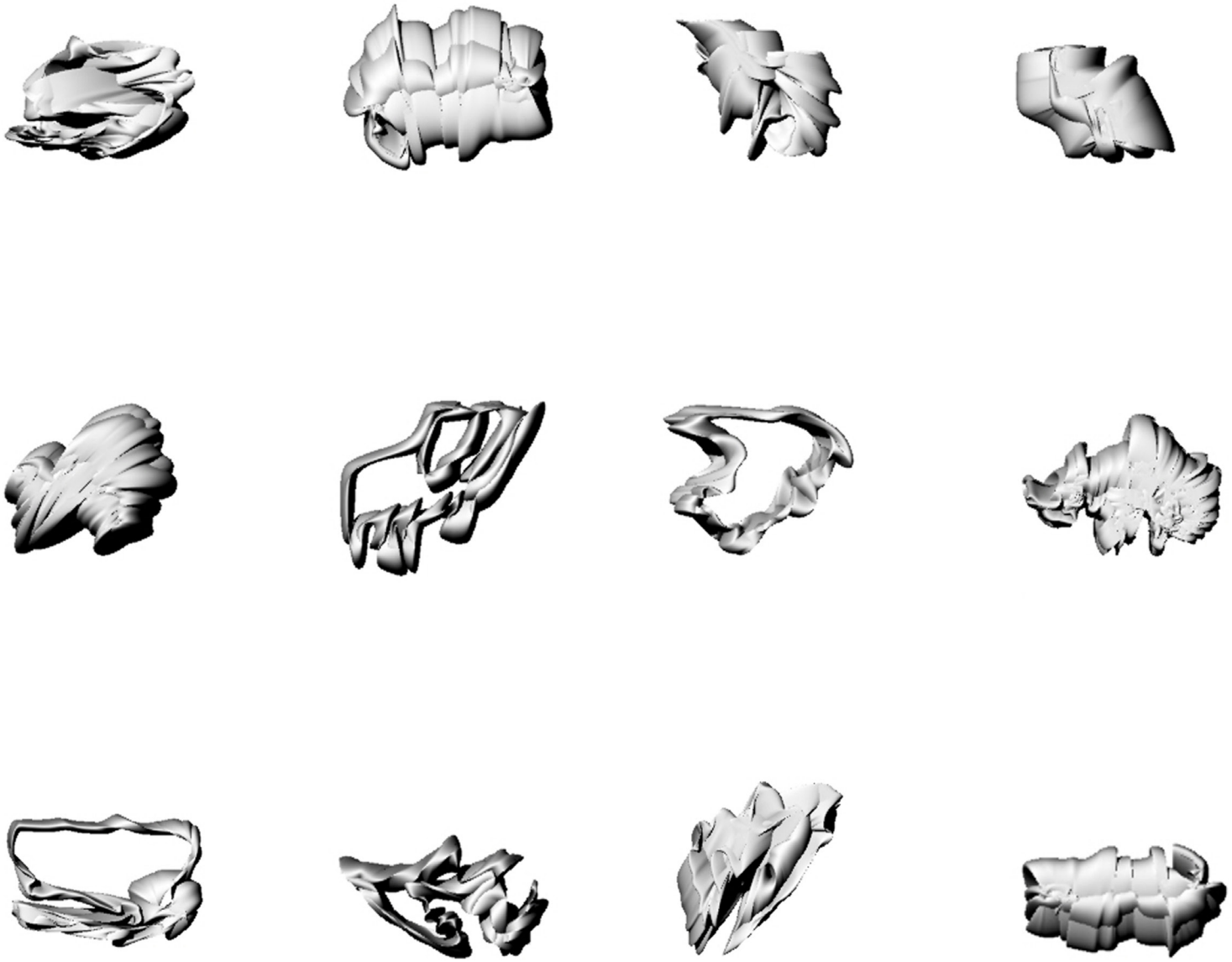


Fig. 5.16 Abstract and organic three-dimensional forms were produced from the lofted hand paintings

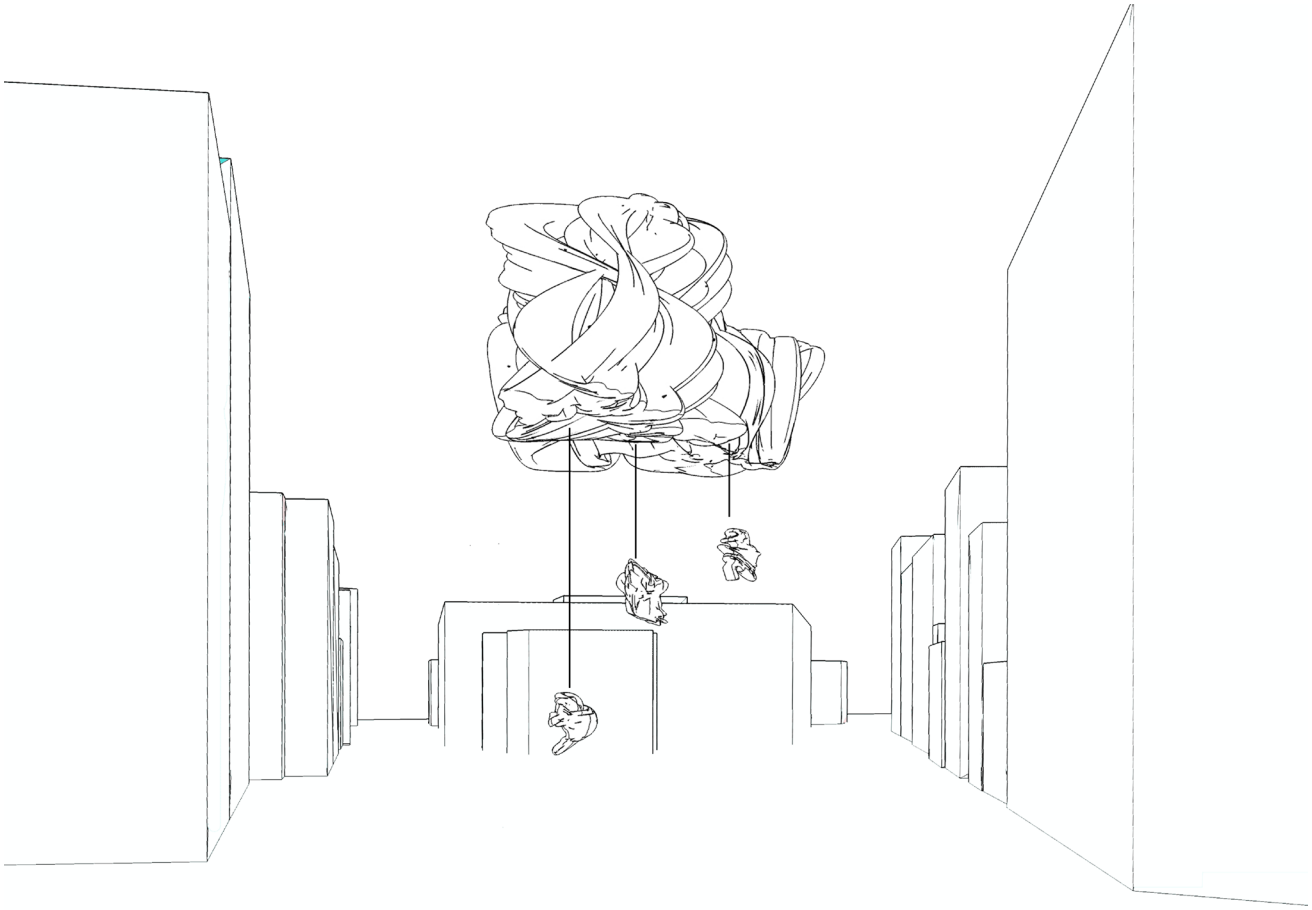


Fig. 5.17 Suspended architecture inspired by Will Alsop's Gao Yang architecture in Shanghai

I selected one of the organic forms and experimented with how it could situate on site. Taking inspiration from Will Alsop's mixed-use development in Shanghai called *Gao Yang*, I tested my design as a suspended architecture. It stood out on site as it greatly contrast its immediate context. I selected some more of my organic forms and used these as elevators, which can be fascinating to watch as it constantly moves vertically, taking visitors to and from the building.

After much thought, the predictability of the elevator movement and the sameness of the architectural form became boring and monotonous. The design needs to provides a strong methodology for ensuring ongoing satisfaction for its users.

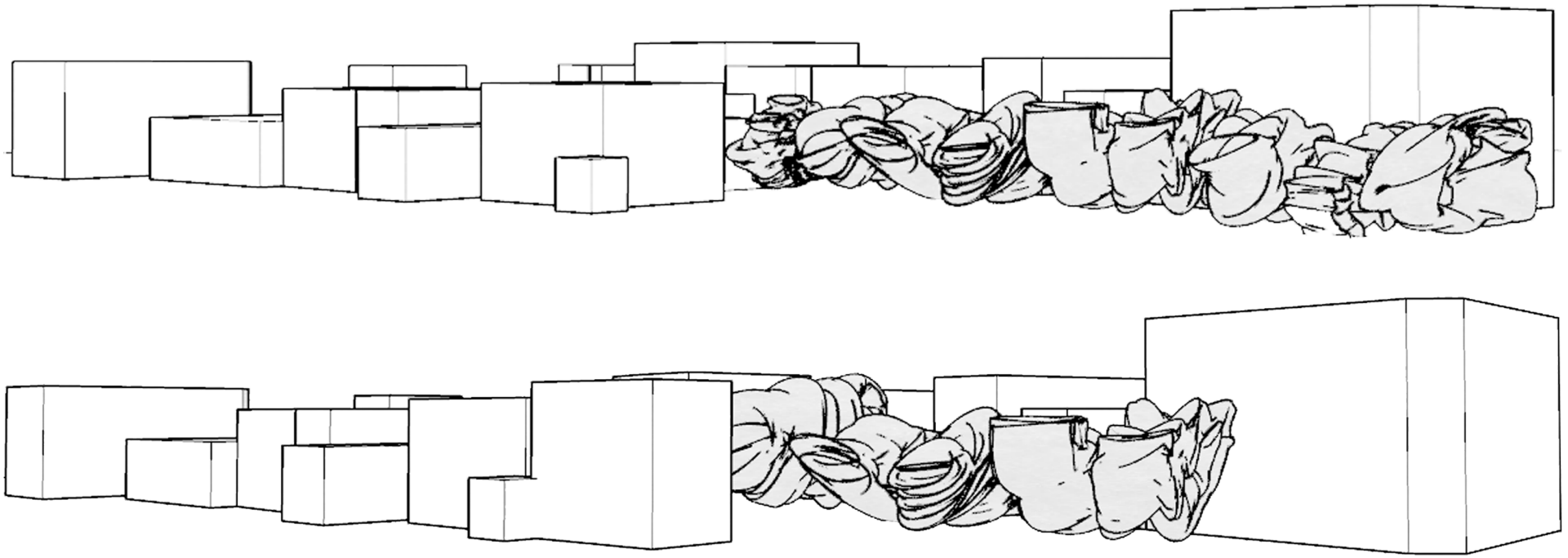


Fig. 5.18 The architectural forms were situated on site at ground level

I tested a few of the organic forms again on site, this time situating them at ground level. I shortlisted the forms to nine of the best ones and finally to five buildings. I discarded forms with holes in the middle or forms which provide very minimal interior space to hold any programme.

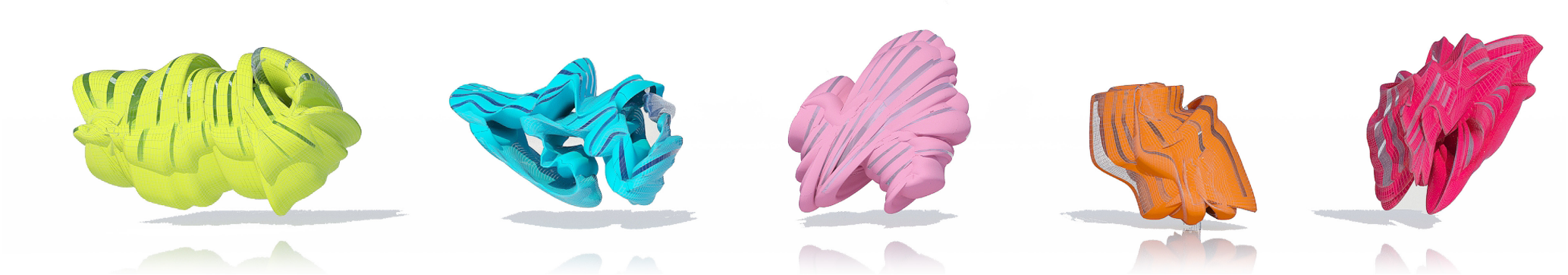


Fig. 5.19 The final five: Lime, Blue, Pink, Orange and Fuchsia

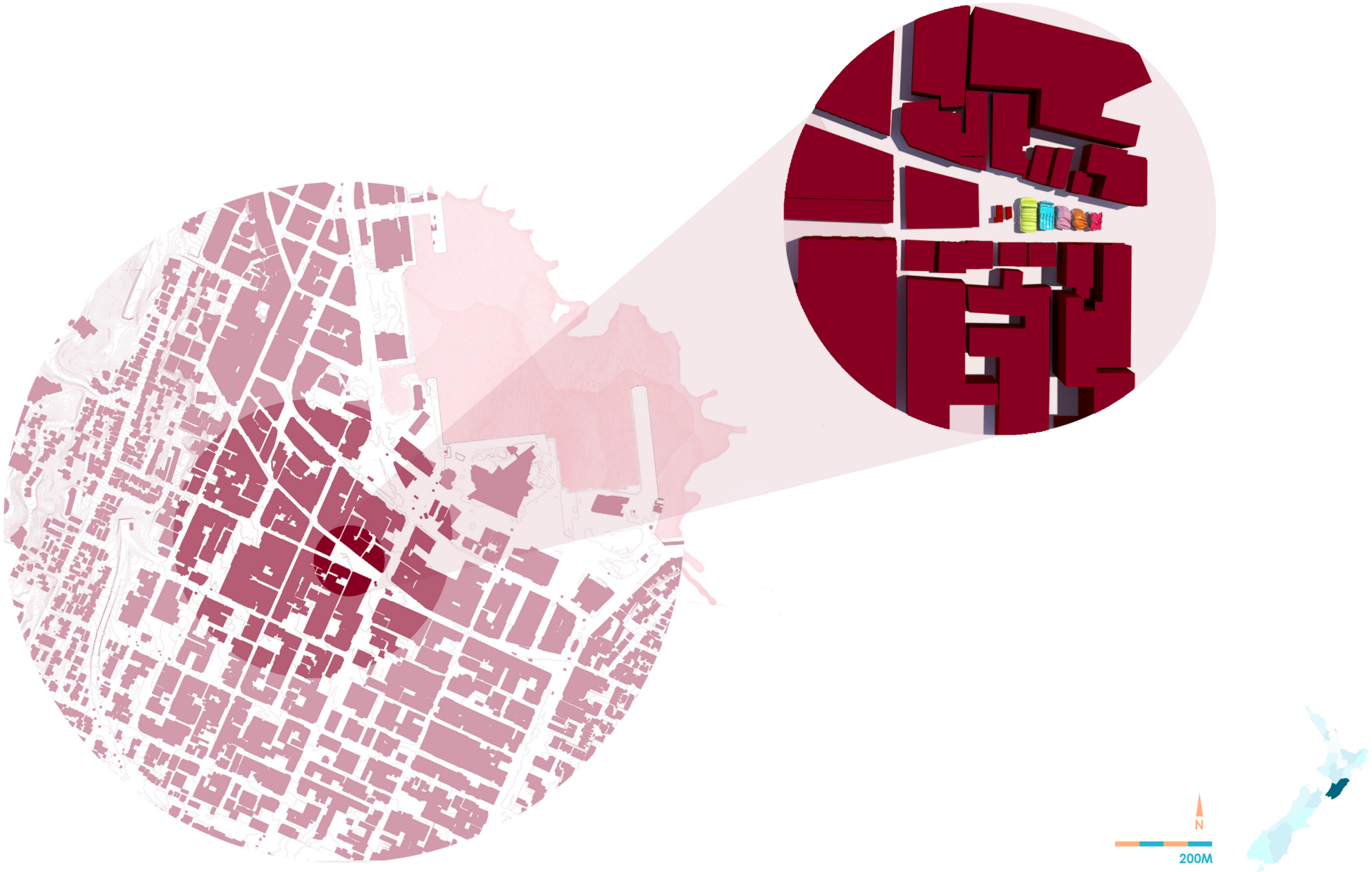


Fig. 5.20 Site Plan of Te Aro Park, Wellington where The Playce is situated

THE FINAL DESIGN

The Playce is also situated in Te Aro Park, Wellington.

The design is a departure from the static form of architecture we are accustomed to seeing. Each building is active and dynamic as it sits on a mechanism similar to a scissor lift, which allows the building to move vertically. The act of transformation is considered the rule of playful architecture, a concept explored in *Play in Manipulation*, and a theme I carried forward in this design phase. I discovered that an environment that is constantly changing adds wonder, mystery and excitement, which are all important for play to occur.

The abstract design of *The Playce* offers plenty of potential to be interpreted in different ways. It consists of five buildings, four of which were designed in minor detail to explore possibilities, and one designed in greater detail.

Fig. 5.21 Axonometric section cut showing how buildings move independently via scissor lifts

Fig. 5.22 Long section showing buildings at various heights which are controlled by scissor-lift mechanism

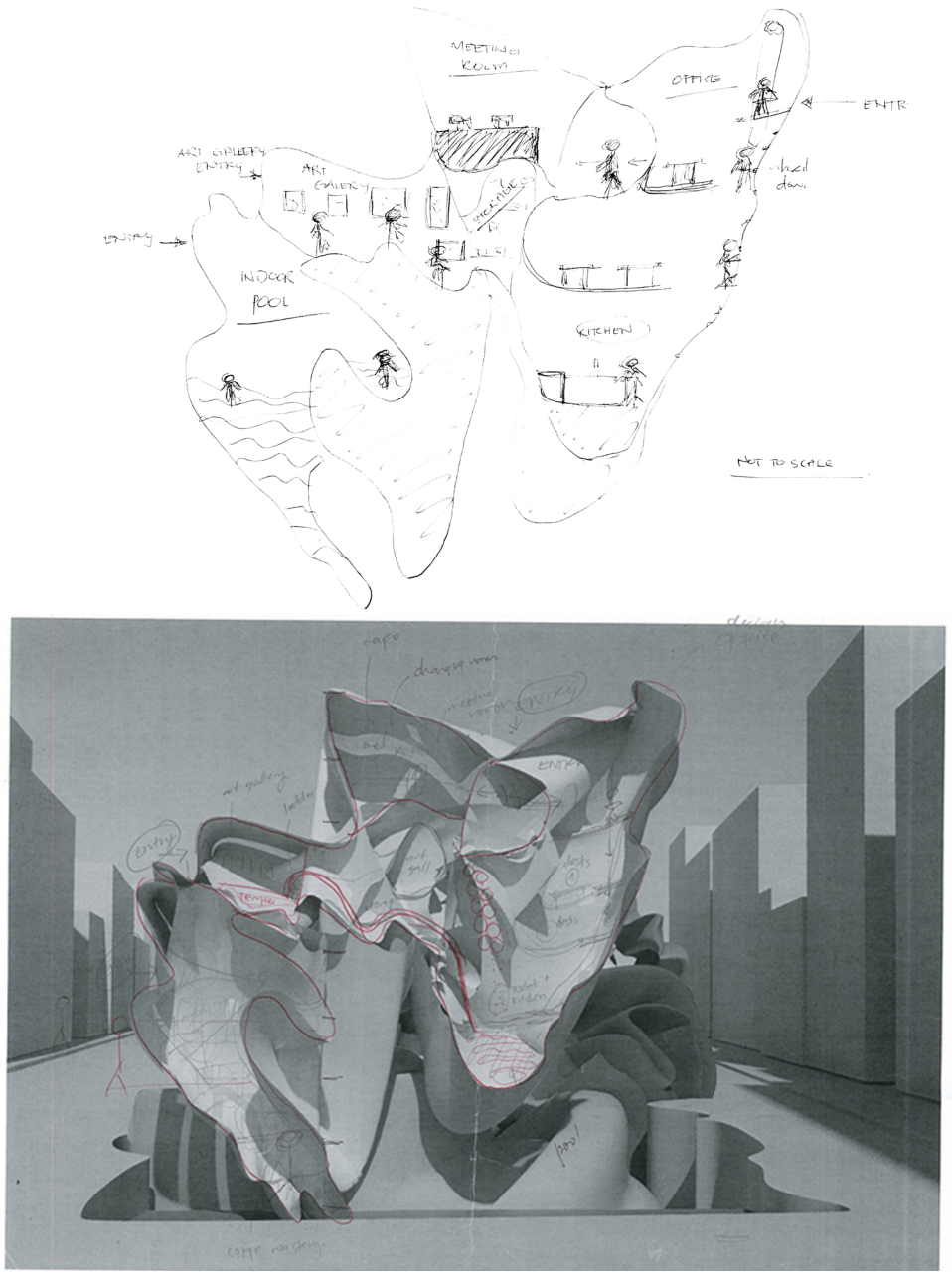


Fig. 5.23 Space planning sketches exploring possible programmes

FUCHSIA

Fuchsia is tested as a space for a coffee factory, a barbershop and an apartment. The design challenges expectations and ignores all precedents.

Rooms are separated by curvilinear walls. Spaces offered no flat floors and stairs. In some spaces, users are required to abseil to reach the bottom of the room, as seen in the coffee factory and barbershop area. By discarding traditional notions of architecture, I created something unfamiliar, therefore spaces became open to user's own interpretation and use. By allowing them freedom to inhabit the space, I was able to encourage playful behaviour to occur.

Each space has their own entrance and to access these spaces, the building must vertically move until their entry door is at ground level. This concept can be likened to an elevator but at a greater scale.

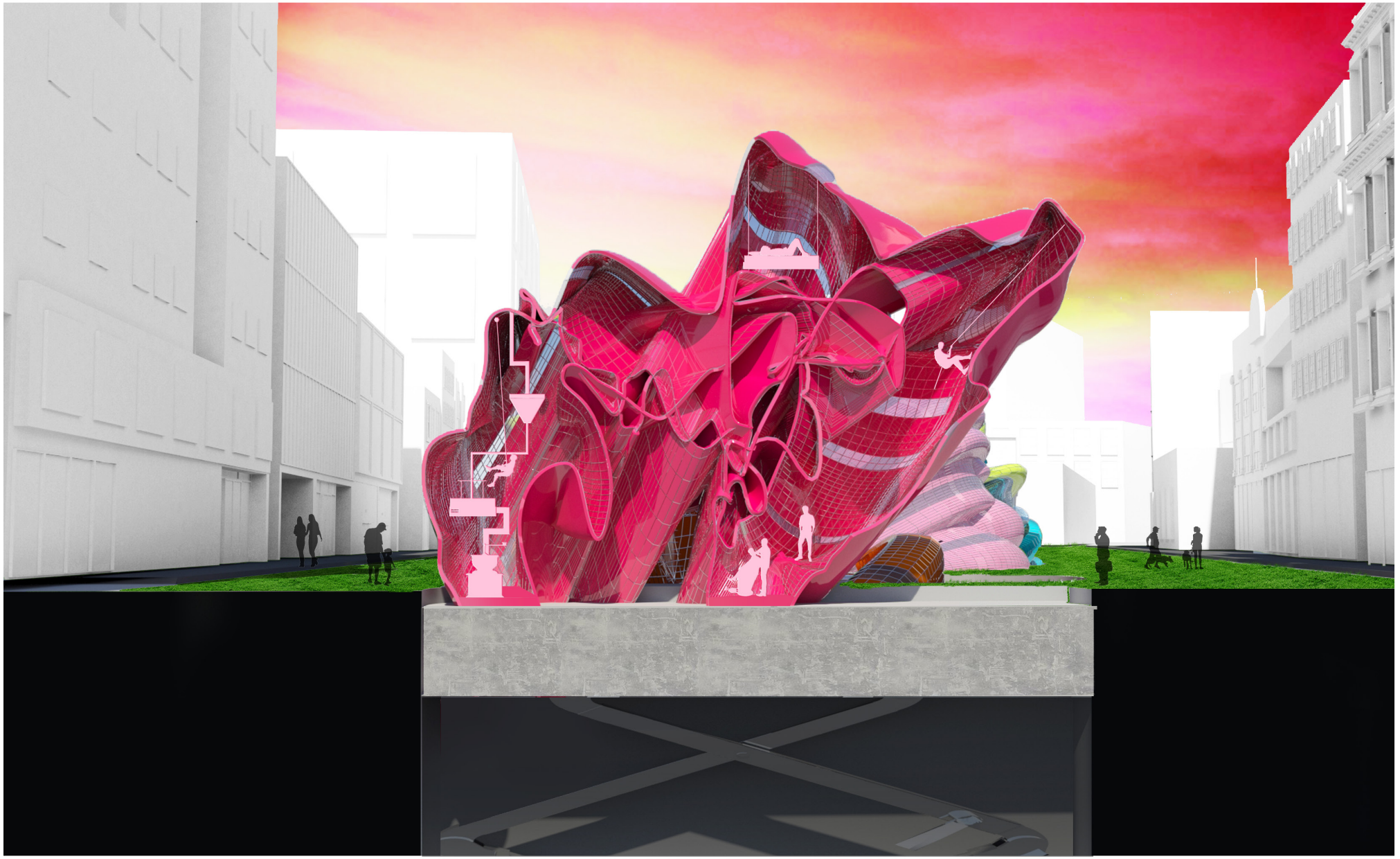


Fig. 5.24 Fuchsia has a coffee factory, a barbershop and an apartment

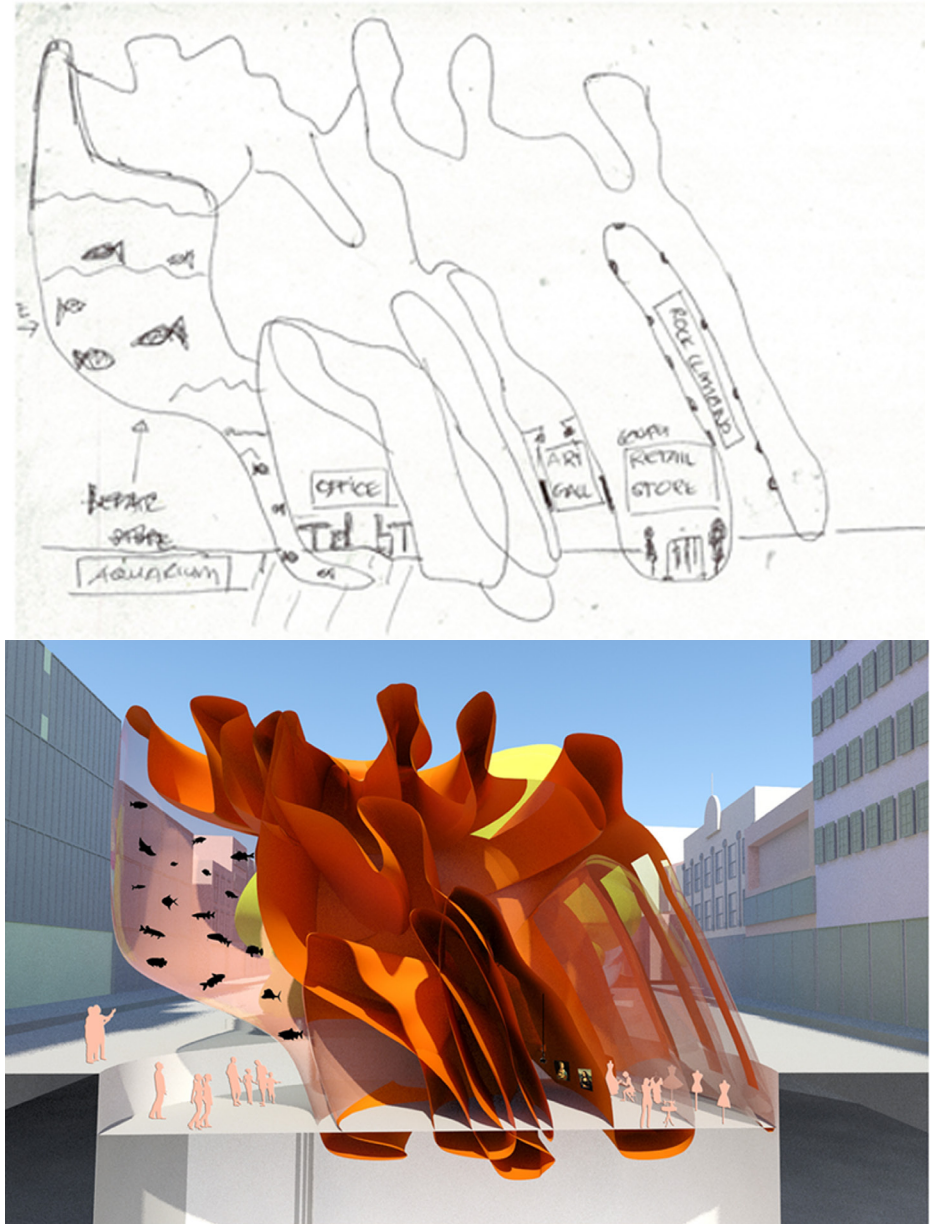
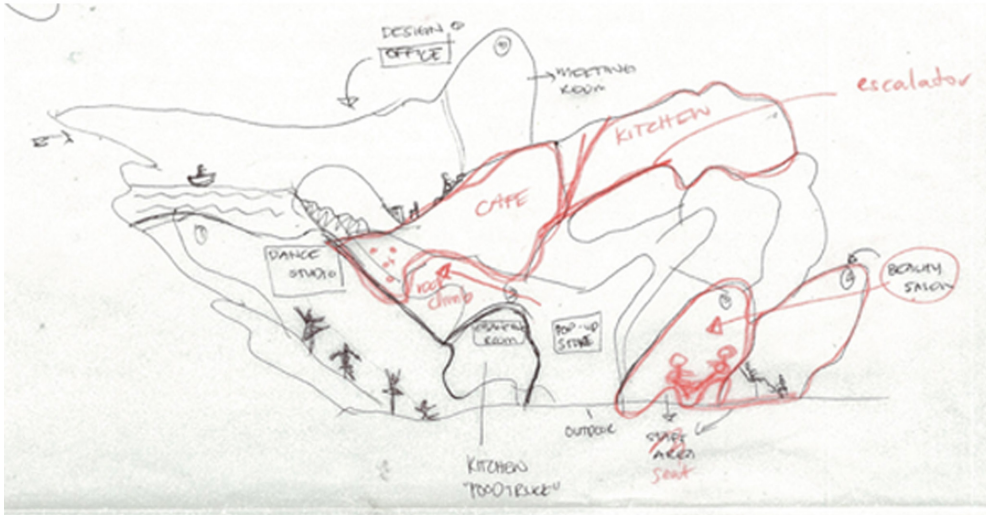


Fig. 5.25 pace planning sketches exploring possible programmes

ORANGE

Orange also challenges our preconception of the built environment, refusing to interpret architecture in a rigid way thus making architecture more playful. I propose *Orange* to house a large aquarium that can be publicly viewed through a large curved glass. It also has a tailor shop with extremely high ceiling making its occupants feel too small for the surroundings. The office space uses a rock climbing wall as means of access, replacing conventional stairs or elevators.

Fig. 5.26 Orange has a public aquarium, office spaces and a tailor shop



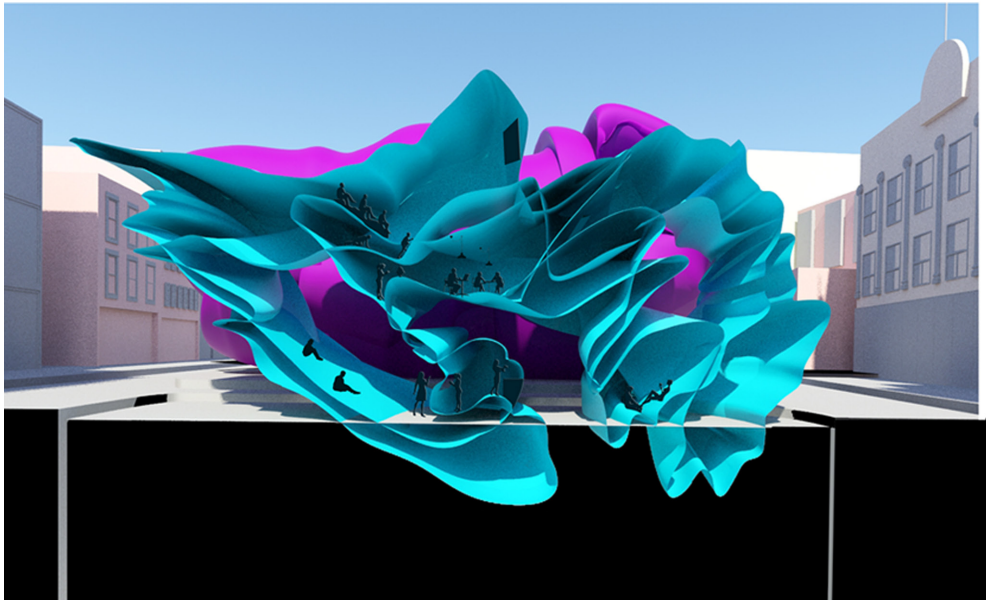


Fig. 5.27 Space planning sketches exploring possible programmes

BLUE

Blue has a medical and dental clinic, a yoga studio and a beauty salon. The architecture encourages users to see beyond what they are intended to be. Curved walls are used as seats. Angled wall becomes a skate ramp.

I discovered that giving abstract forms or non-representational spaces a purpose is the basis for so much creativity and play in architecture.

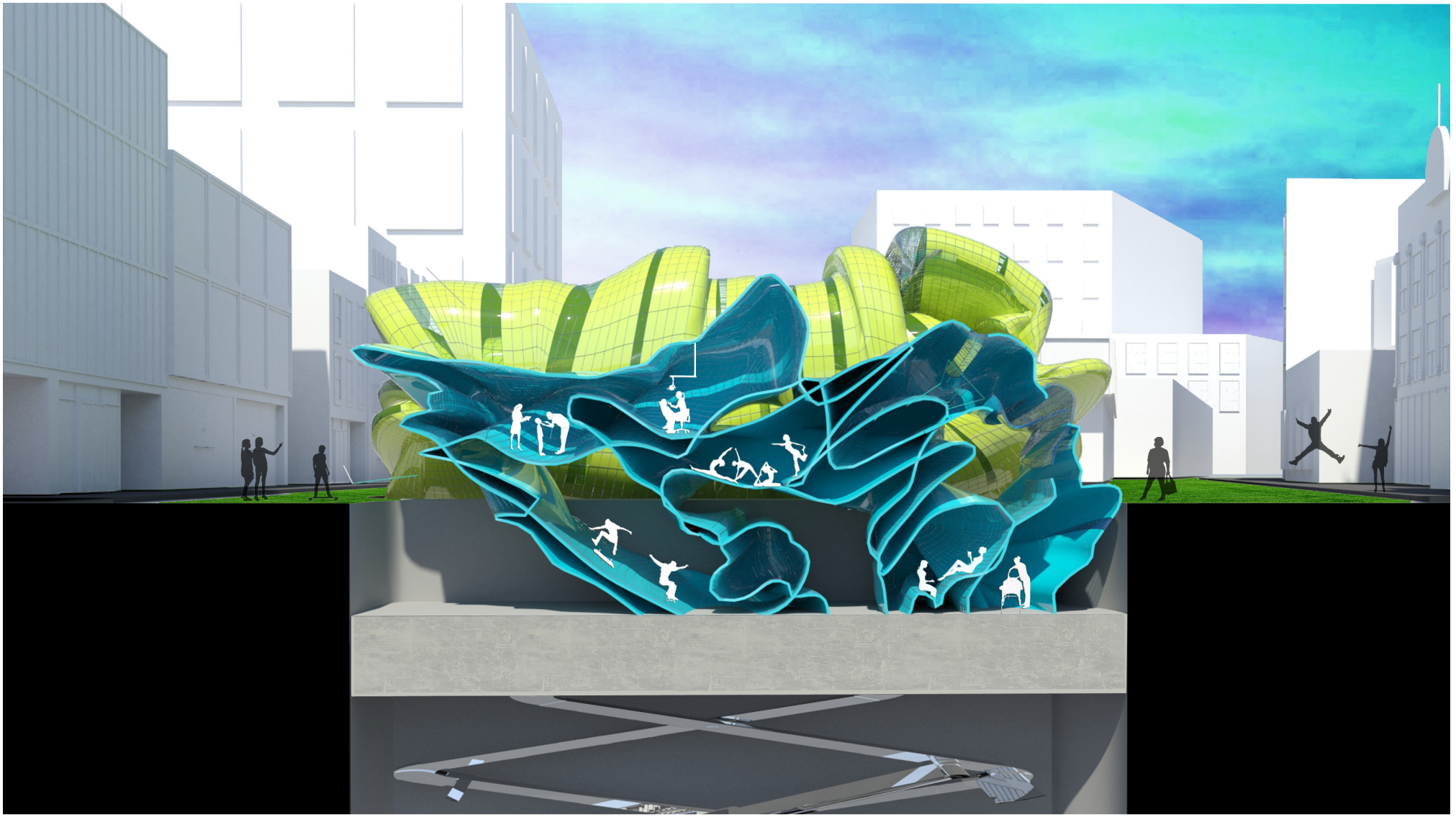
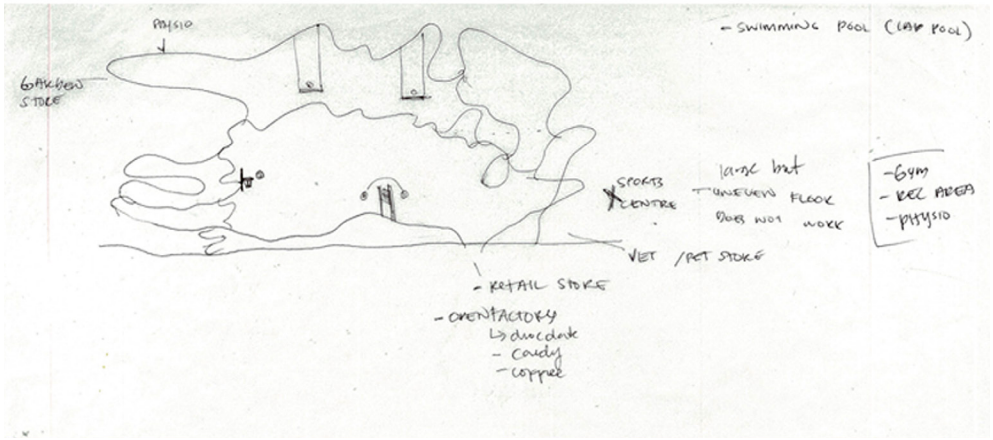


Fig. 5.28 Blue houses a dental and medical clinic, a yoga studio and beauty spa



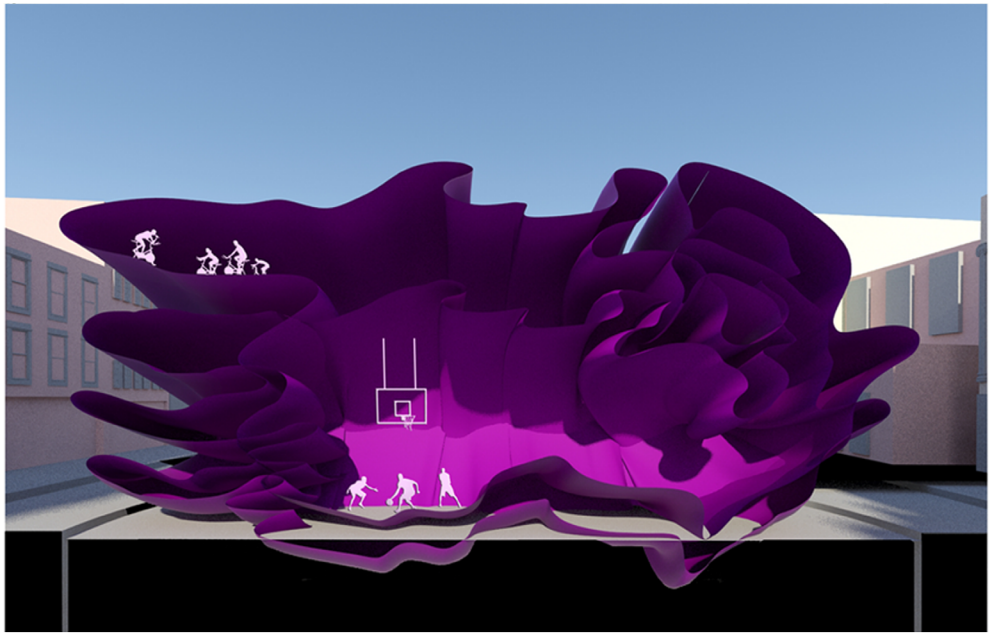


Fig. 5.29 Space planning sketches exploring possible programmes

LIME

Lime is a recreational space with a basketball court, a break-dancing studio and a spin class studio. The design's intention is to invite movement through space in creative and playful ways. The architecture transforms, challenges and dismantles preconception of what a recreational studio should be like. They signal paths, activities, challenges and possibilities. The architectural form suggests many kinds of potential interactions and is expressive instrument for playful behaviours to occur. The more complicated the space, the better the play is.

Fig. 5.30 Lime is a recreation space with a spin class studio, a basketball court and a breakdancing stage.

THE CHOCOLATE FACTORY

PINK

Pink is one of the five buildings of *The Playce* which is been explored at a greater detail. It proposes to house a chocolate factory.

In this chocolate factory, players are able to explore and create their own chocolate. As they enter the factory, they are challenged by structural trusses where they must climb through it to enter the space. They are taken into a space of pipes which hold and transport chocolate ingredients.

The chocolate factory imposes a goal, which is for players to create their own chocolate. They must get to the end of the pipes where a wheel is located which allows the release of ingredients. Each pipe holds different ingredients, therefore, players must crawl, jump and climb the colourful pipes to complete their own chocolate recipe. To get to the end of the pipe is up to the player's intuition. *Pink* consists of undulating floors and no conventional stairs. The playful construction of the pipes open themselves to interpretation; they suggest behaviors to users. The pipes signal paths, activities, challenges and possibilities. The design suggest possible means of circulation. The design of the space only suggests but does not determine.

Once they have completed making their chocolate, they must travel towards the chocolate fountain where their chocolate mixture is released, creating a chocolate pool. They can scoop their chocolate mixture from the pool and pour these into their own moulds. Once these have solidified, they are ready to take home their very own block of chocolate.

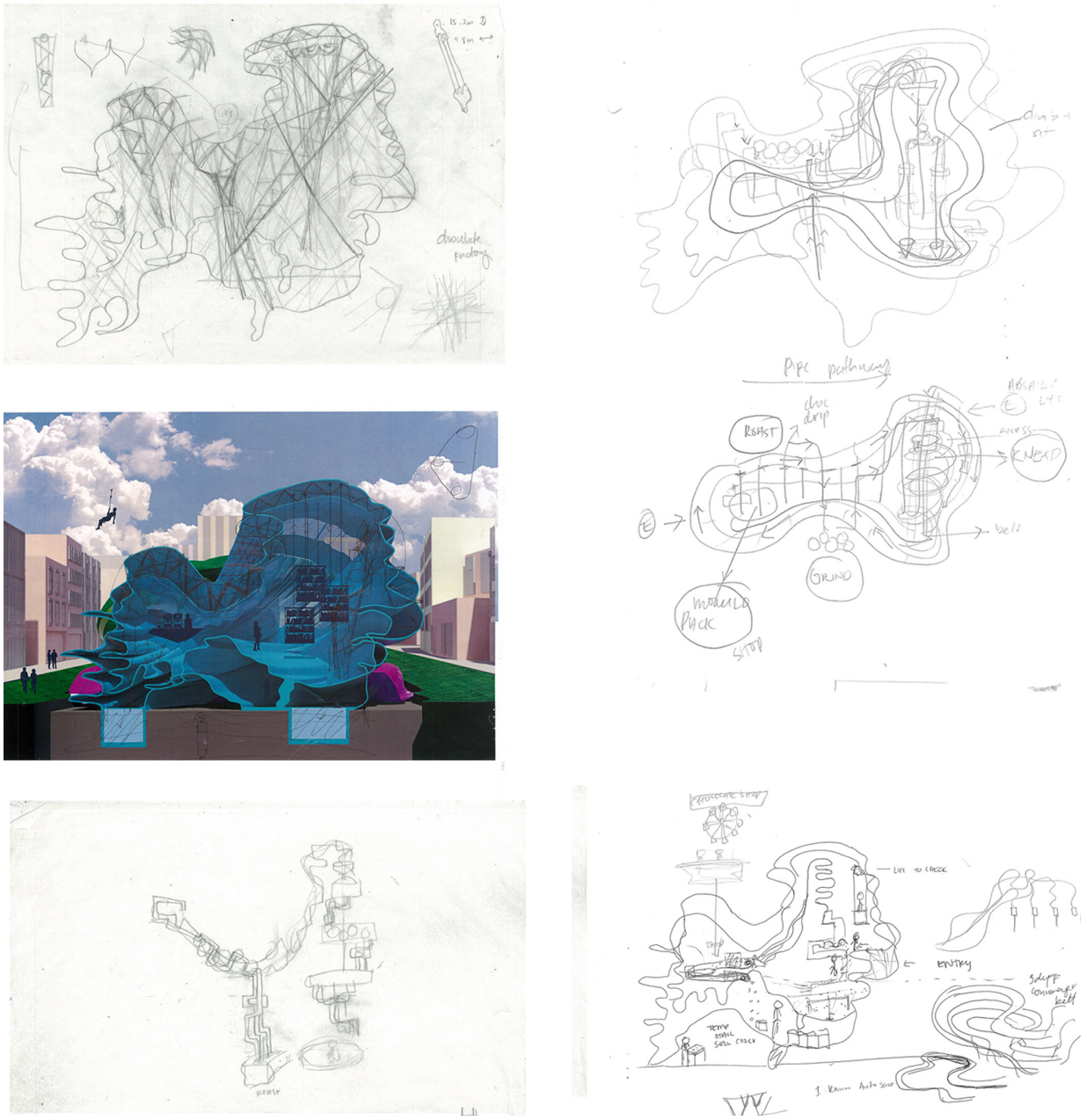
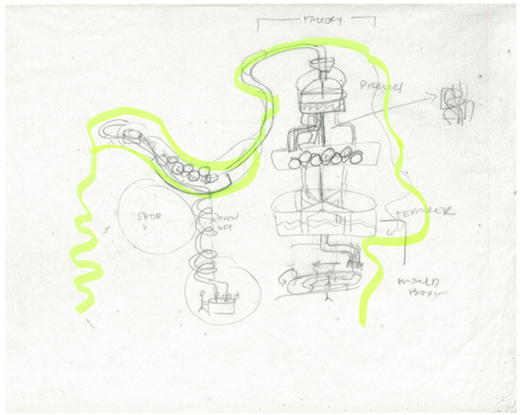
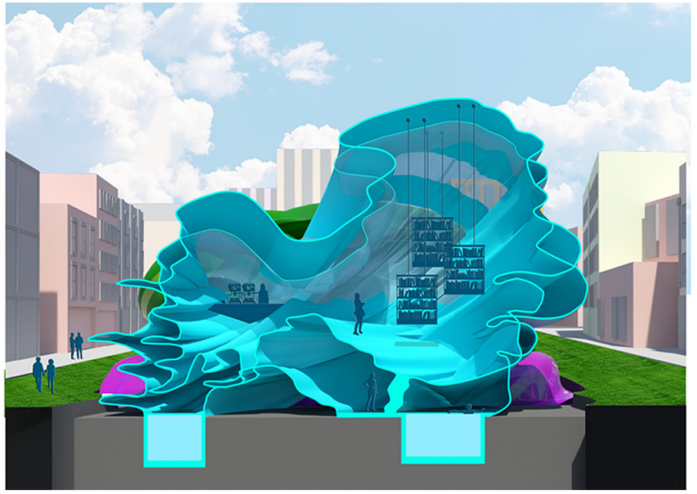
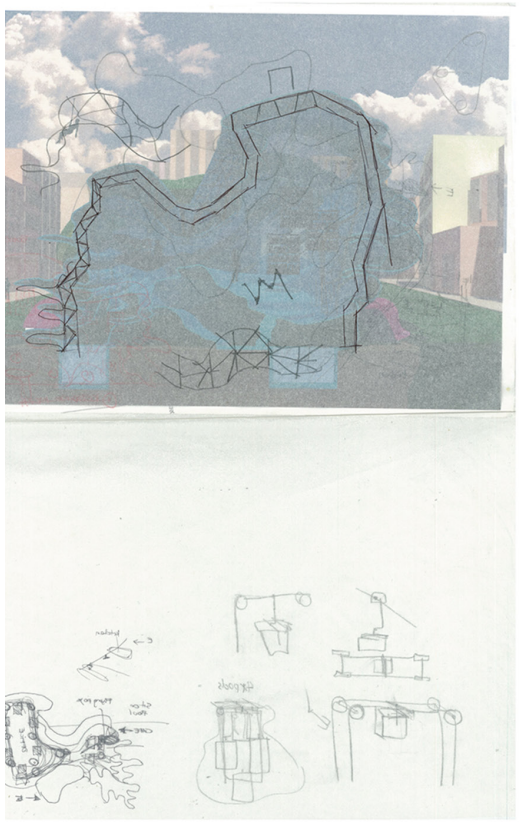


Fig. 5.31 Space planning sketches exploring possible programmes







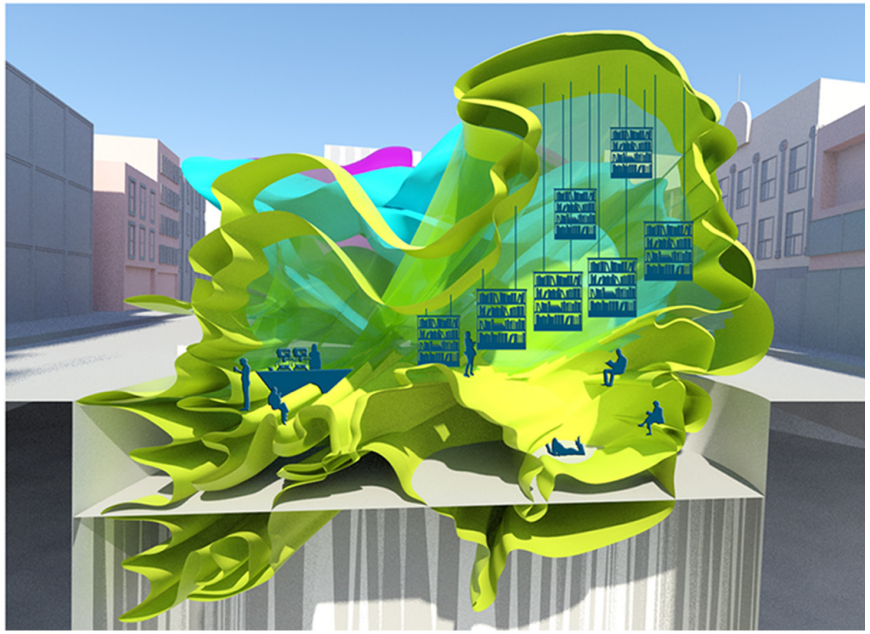


Fig. 5.32 Space planning sketches exploring possible programmes

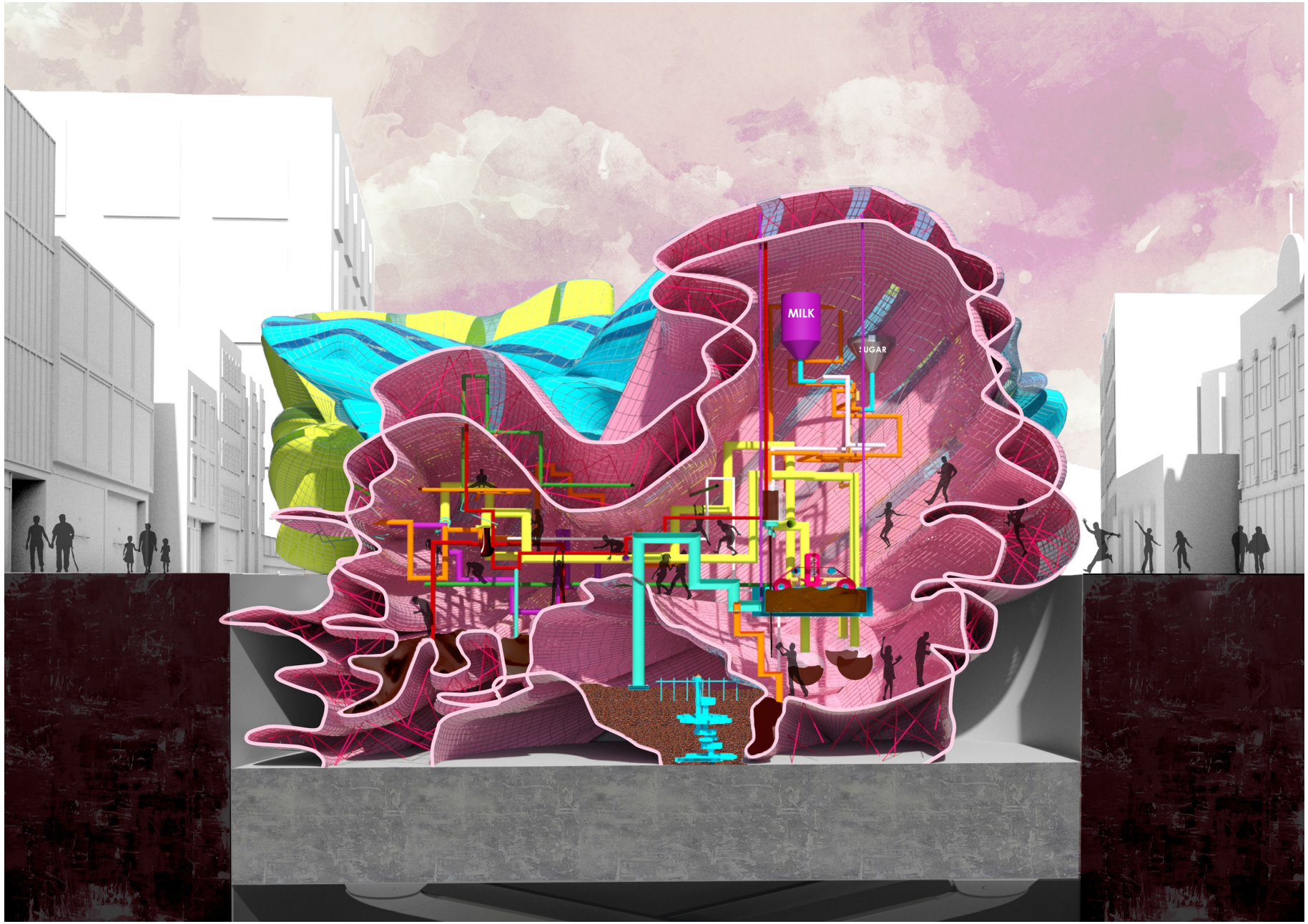


Fig. 5.33 Section of the chocolate factory where players make their own chocolate

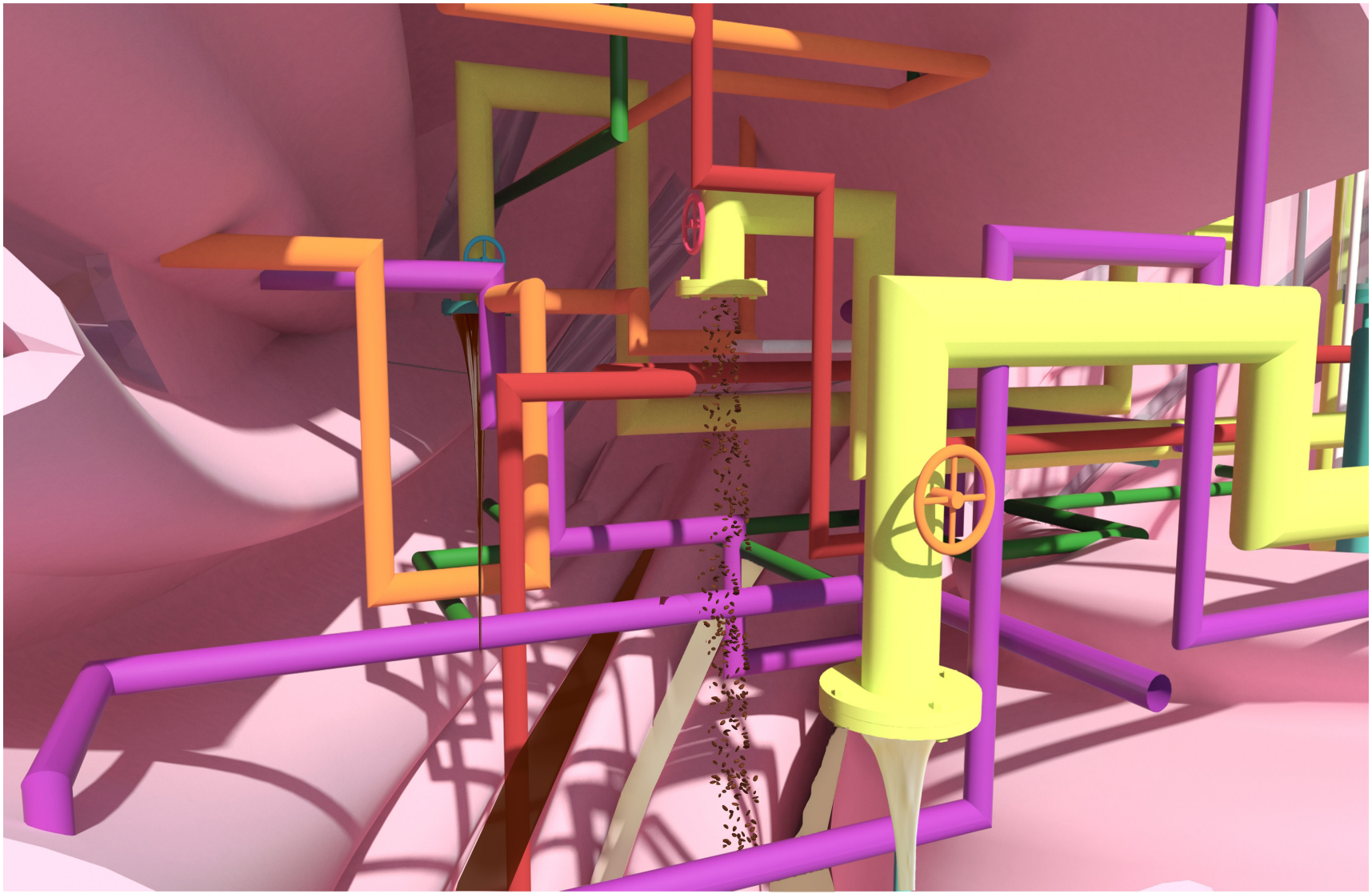


Fig. 5.34 The playful construction of the pipes releasing chocolate ingredients

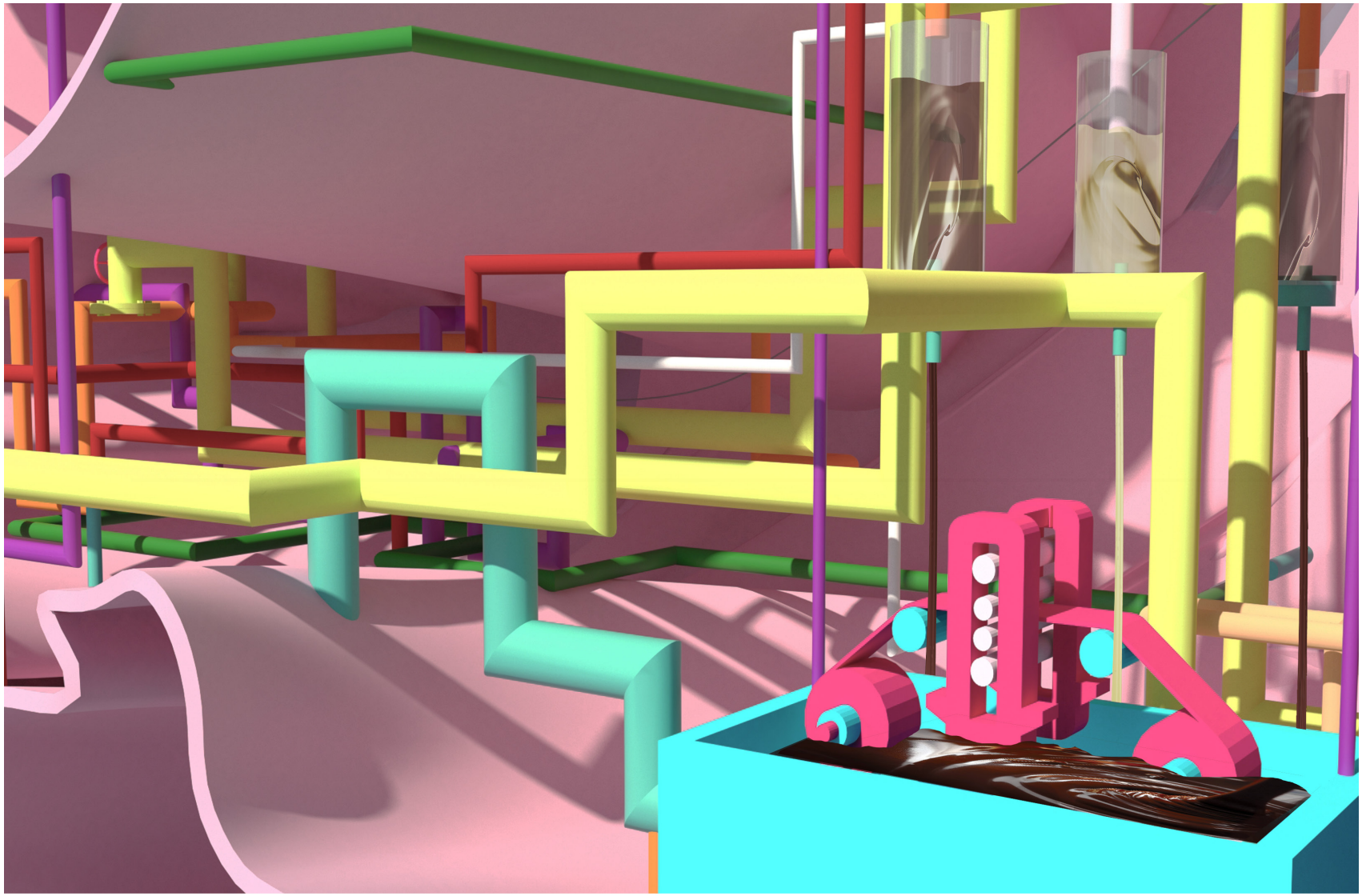


Fig. 5.35 The chocolate mixture is mixed and ready to be poured on moulds

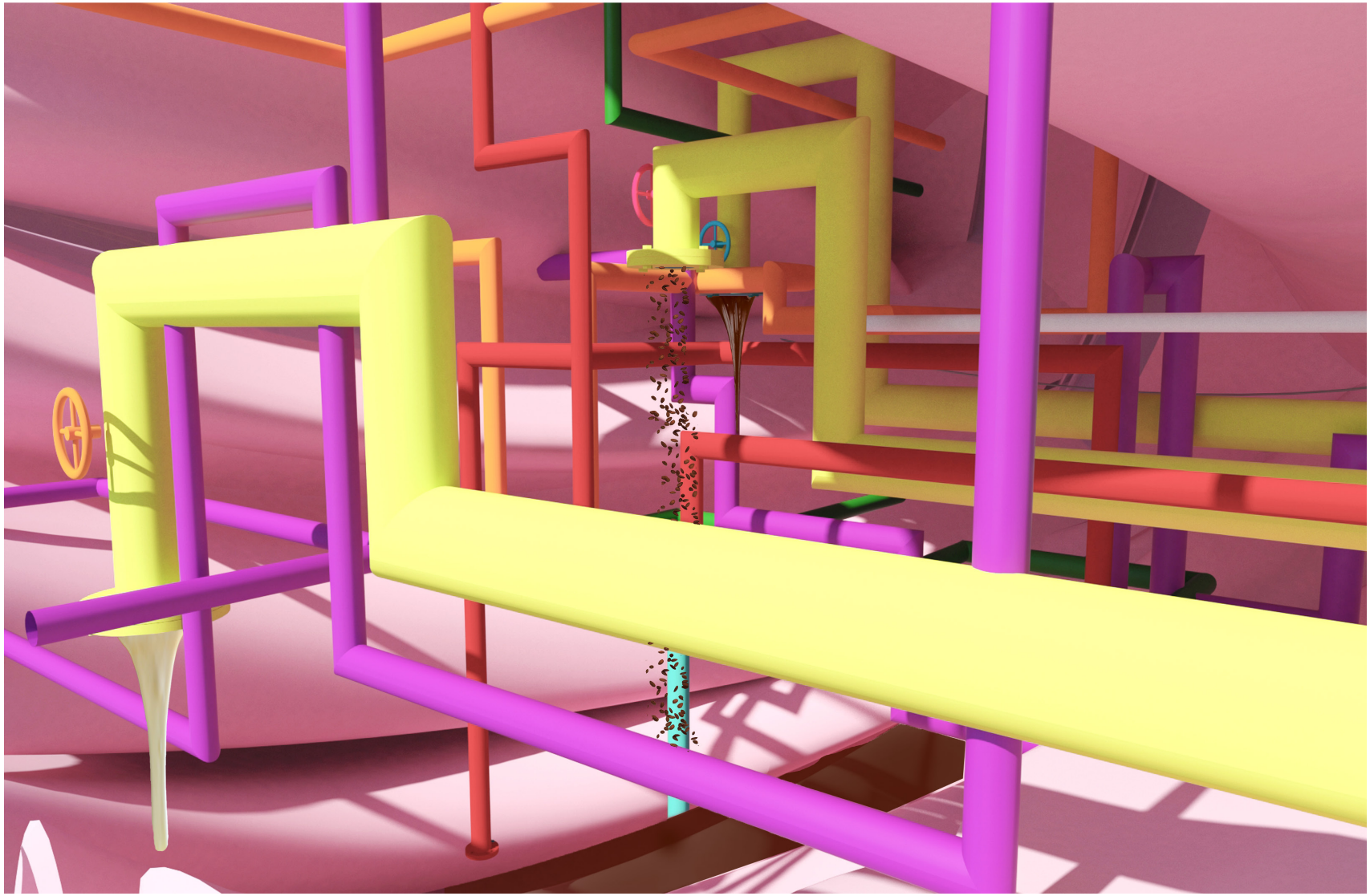


Fig. 5.36 Pipes releasing ingredients creating a chocolate pool at the bottom

Fig. 5.37 The final design of The Playce

Fig. 5.38 The final design of The Playce

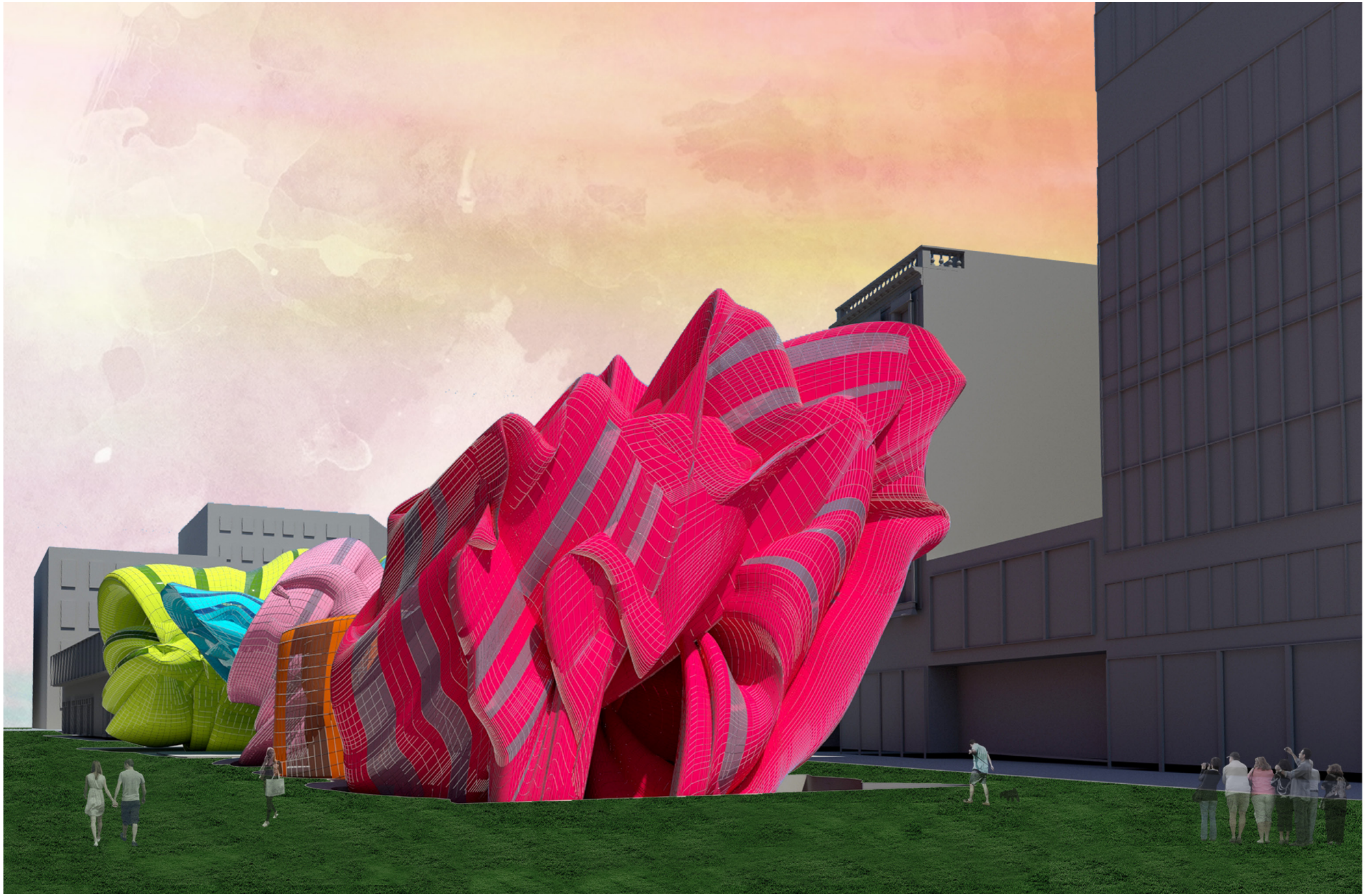


Fig. 5.39 The final design of The Playce

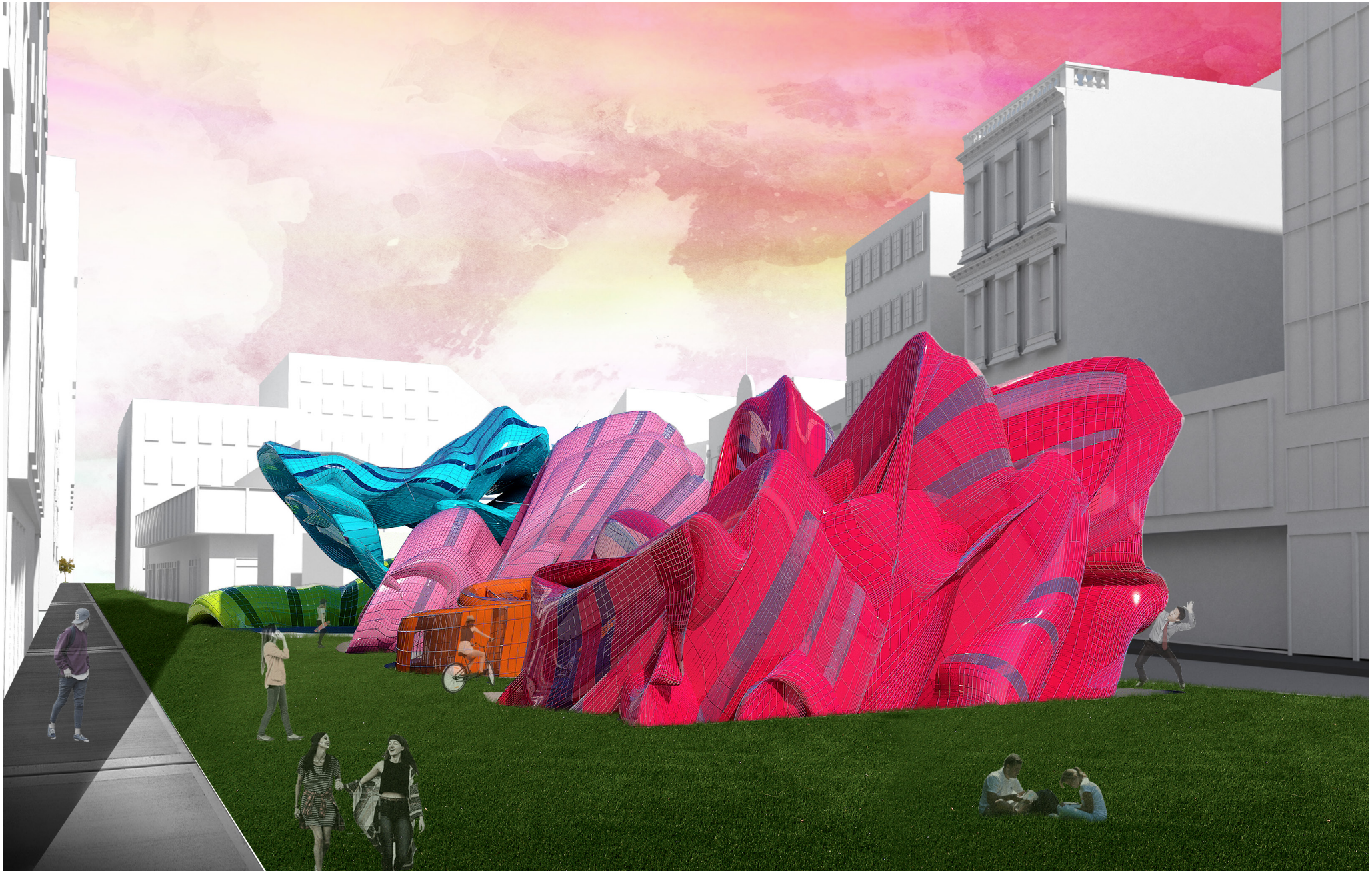


Fig. 5.40 The final design of The Playce

Fig. 5.41 The final design of The Playce

PRECEDENT

Archigram

Fig. 5.42 Ron Herron's unrealised project, Walking City on the Ocean (1966)

Archigram was an avant-garde architectural group formed in the 1960s by group of young architects: Warren Chalk, Peter Cook, Dennis Crampton, David Green, Ron Herron and Michael Webb. Their work drew inspiration from technology in order to create a new reality that was solely expressed through hypothetical projects.

The Walking City (Fig. 5.42) was an idea proposed by British architect Ron Herron in 1964. He proposed building massive mobile robotic structures, with their own intelligence, that could freely roam the world, moving to wherever their resources or manufacturing abilities were needed. Various walking cities could interconnect with each other to form larger 'walking metropolises' when needed, and then disperse when their concentrated power was no longer necessary. Individual buildings or structures could also be mobile, moving wherever their owner wanted or needs dictated. (Boddy 29)

Archigram wanted to bring fun, imagination and a blast of iconoclasm to the dull, utilitarian world of post-war architecture. In their imagination, architecture was about freedom and flexibility. Buildings would be plugged in or simply picked up and driven away, constantly changing and adapting as technology provided inhabitants with the chance to make personal choices. Archigram's architecture was exciting and unexpected and I took inspiration from this with my own design of *The Playce*, as these are key qualities of playfulness in architecture.

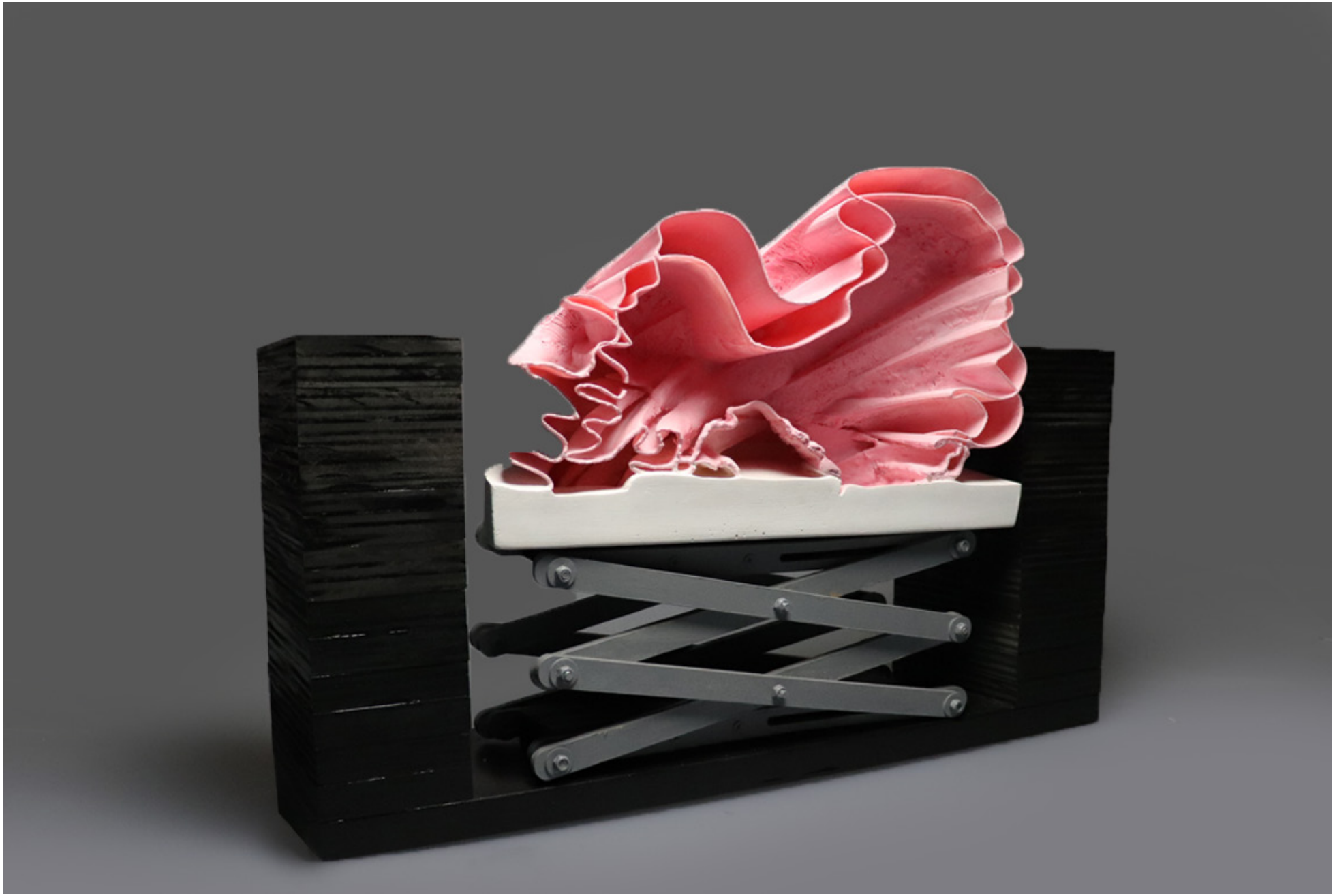


Fig. 5.45 Section model of the chocolate factory building

Fig. 5.44 Section model of the chocolate factory building

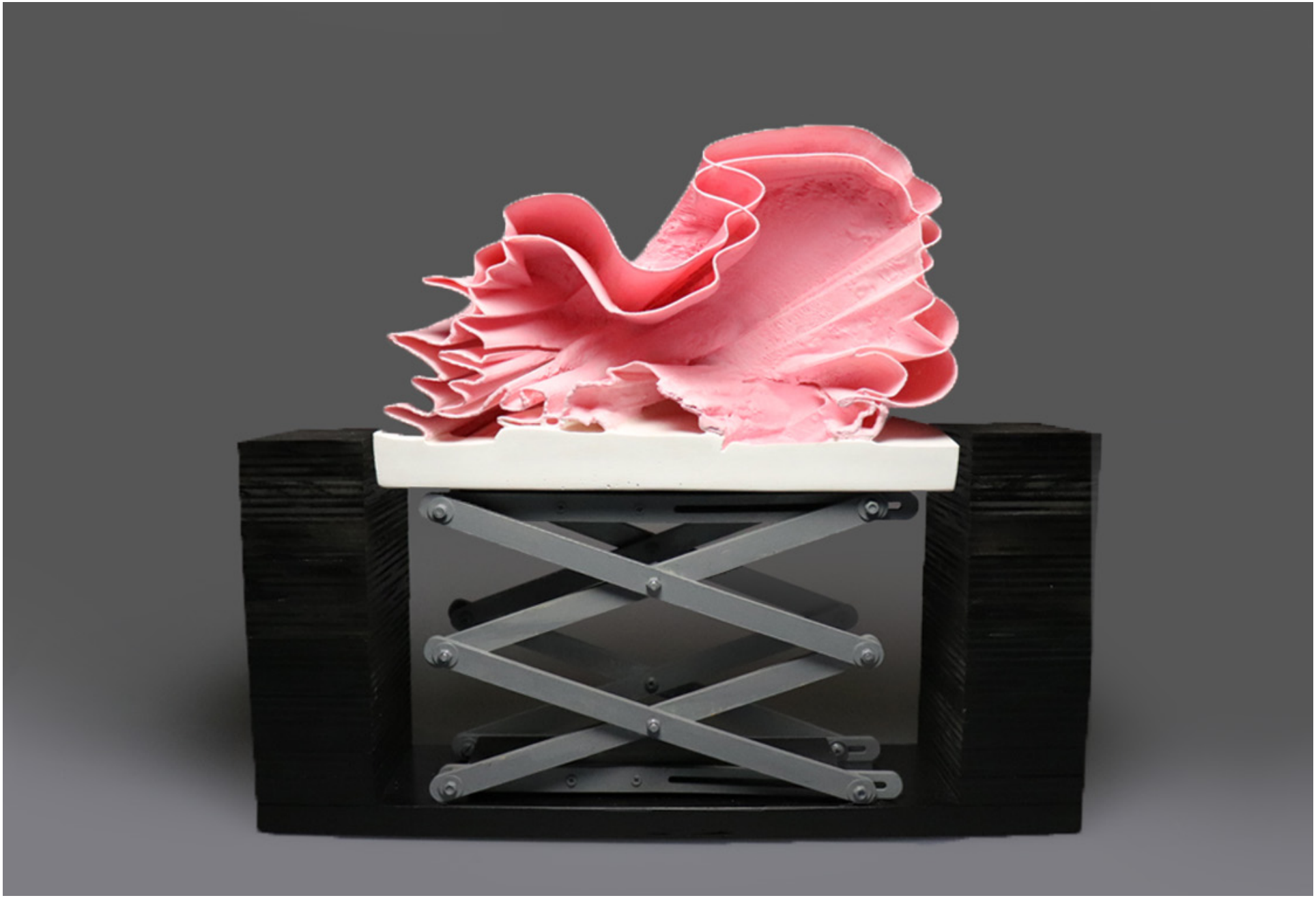


Fig. 5.47 Section model of the chocolate factory building

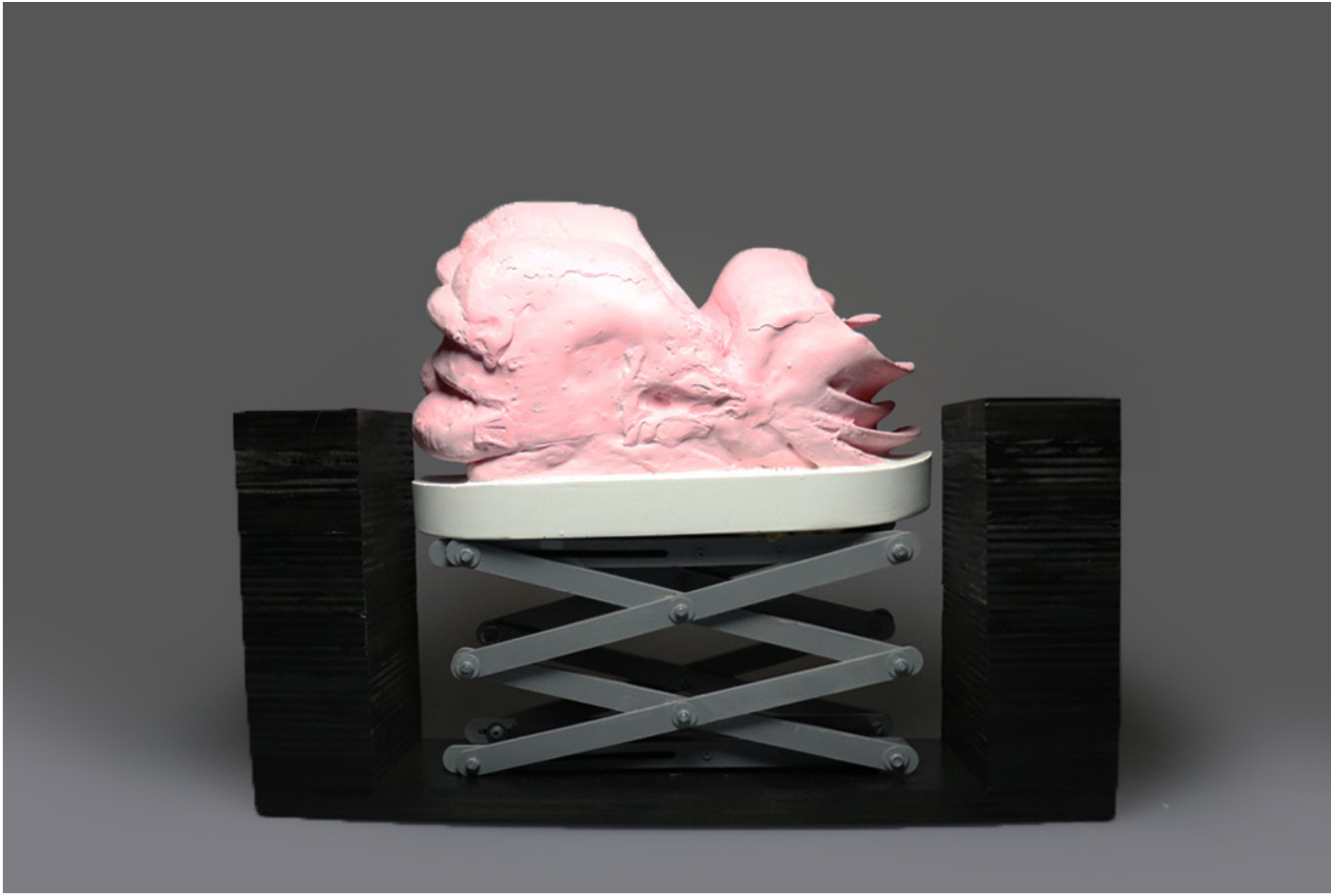


Fig. 5.48 Section model of the chocolate factory building (back)

CRITICAL REFLECTION

Through painting I was able to explore the latent beauty of unusual forms. Painting became a way of exercising my brain and I considered this an integral part of designing. It helped me discover and explore ideas, which become forms. The spontaneity of the design method also added to the concept of play.

The design of *The Playce* communicated playfulness through the play between the organic and orthogonal forms. Malleability contrasted with structural rigidity. The polemical contrast had been an important function of communication. The play of opposites enabled things to stand out and be discerned from each other.

The pipes in the chocolate factory served a double-functioning element. It did not only transport ingredients but was also used to assist in circulating the space, replacing stairs. This disrupted conventional architectural expectations and engendered surprise and delight. The uncertainty of what outcome was pursued is a component of play.

The architecture challenged expectations of space. It was a familiar place yet how they were used, circulated and accessed provided play opportunities, which other spaces don’t afford. How spaces were used did not fulfil normal expectations of them.

FINAL REFLECTION

My research portfolio led me to identify design parameters that provide a framework to understand how architecture can afford play. The essential qualities of an environment that affords play must:

- **Be separate from the ordinary.** This relates back to Johan Huizinga's theories of play and was achieved by utilising a number of design principles. Playfulness exist and thrive when it greatly contrast its immediate context. This was most evident in *The Playce,* where the playful contrast between the organic and orthogonal forms establish extremes and enabled the architecture to stand out and communicate playfulness.

- **Add vibrant colours.** Colours stimulate our senses, heightening our experience of space. It has the power to elevate our senses and this was why explosive colours were used a lot in the design of *Play in Manipulation, Play in Scale* and *The Playce*. Use of colour also made the architecture stand out from its immediate context. All of these extremes in the environment differentiated the play place from the real world.

- **Manipulate scale.** This was a successful architectural tool in creating a space for play. When we present something, which does not correspond to the public's expectation of its relative size, the opportunity of play can exist. *Play in Scale* manipulated scale to make players feel extremely large or small within a space. It created a maximum sensory experience by provoking curiosity, providing a playful delight in uncertainty, and creating a sense of mystery and surprise.

- **Allow active engagement through physical manipulation.** Physical manipulation of the environment allowed participatory design methods. Play is an active engagement. It is not passive; it is something that one does. When we play, we are doing something. *Play in Manipulation,* gave adults a creative outlet by allowing them to become architects of their own space. The architecture allowed flexibility and was malleable to allow players to express, act and interact. It satisfied their needs to play, to become creative and imaginative. *Play in Illusion* encouraged a more passive engagement. Although playful interaction was present in the installation, it did not allow any physical interaction to occur.

- **Be abstract.** Abstraction invoke playfulness and this was evident in all four design phases. I discovered that through abstract forms, users were encouraged to appropriate and reinterpret space on their own, making the architecture an expressive instrument for playful behaviours to occur.

CONCLUSION

This explorative study examined how architecture can afford play, specifically for adults. It first explored various theories of play by key thinkers to provide an insight on its relationship with urban design and evaluate how architecture can foster play.

The design exploration was structured into four design phases, all of which contributed to introducing how architecture can afford play in various scales. The first design phase, *Play in Illusion,* explored ways of seeing. It was about understanding and interpreting objects and places, and learning to look beyond the visible into the unseen qualities of things. It was an exploration on how illusions can invite players to begin interacting with their environment in playful ways.

The second design phase, *Play in Manipulation,* was a design of an ever-changing space along Wellington's inner-city laneway, Holland Street. The architecture encouraged playful experimentation, allowing users to become architects of their own space.

The third design phase, *Play in Scale,* was a design of a large-scale public space, which played with perception through shifts in scale. Making visitors feel too small in space and then suddenly large created a playful experience as it was constantly altering their expectations of the space.

The Playce, which was the final design phase, was another large-scale public space, which applied design principles established from previous design explorations. It provided an environment rich in qualities that were separate from the realm of the usual, augmenting our expectations of their use. It was an architecture where different rules or behavioural norms apply.

The design methodology had more emphasis towards the design process, where the design process was reflected in the end result. Utilising a playful design process, leaving the design outcome to chance, the accidental and the random, became a valid design tool as these were key components of play.

The design outcome is considered unconventional, however, the aim of this design research was to create an evolution, not a revolution. Through designing with play as a priority, I discovered that something unconventional or completely outside the field of urban design was successful and the only way to go.

Playces was entirely speculative, not detailed nor is it final, but the architecture was merely to challenge what it could do and how it could encourage playful behaviours to occur. Extended research is required but this should provide an understanding of a few of the underlying forces that can pave way for the ideas of playful urban design.

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