

Synthetic Space (and the Architecture of Play)

by

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Making before describing

Description through making

Act before the thought

I is taken as the origin point for all else to come

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Abstract

This thesis is about the kinetic relationship between body and space. It attempts to read the world as a continuous experience rooted in bodily sensation and investigates relationships between human bodies in the conception, making, and experience of architectural space. More particularly, this thesis attempts to reveal and 'play' with the kinaesthetic forces of space in the pursuit of developing novel conceptions of architectural space.

The study of the relationship between the making and inhabiting of space was done by simply deconstructing space with a focus on the kinaesthetic relationship between the "body that modulates space" and "space that modulates the body". This was proceeded by probing the internal order of such modulations – allowing emergent attributes; compositional, tectonic, spatial, and ontological, to come forth. These emergent qualities are synthesized into a series of architectural projects that reveal the reciprocal relationship between the body and space.

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Chapter 1: Introduction

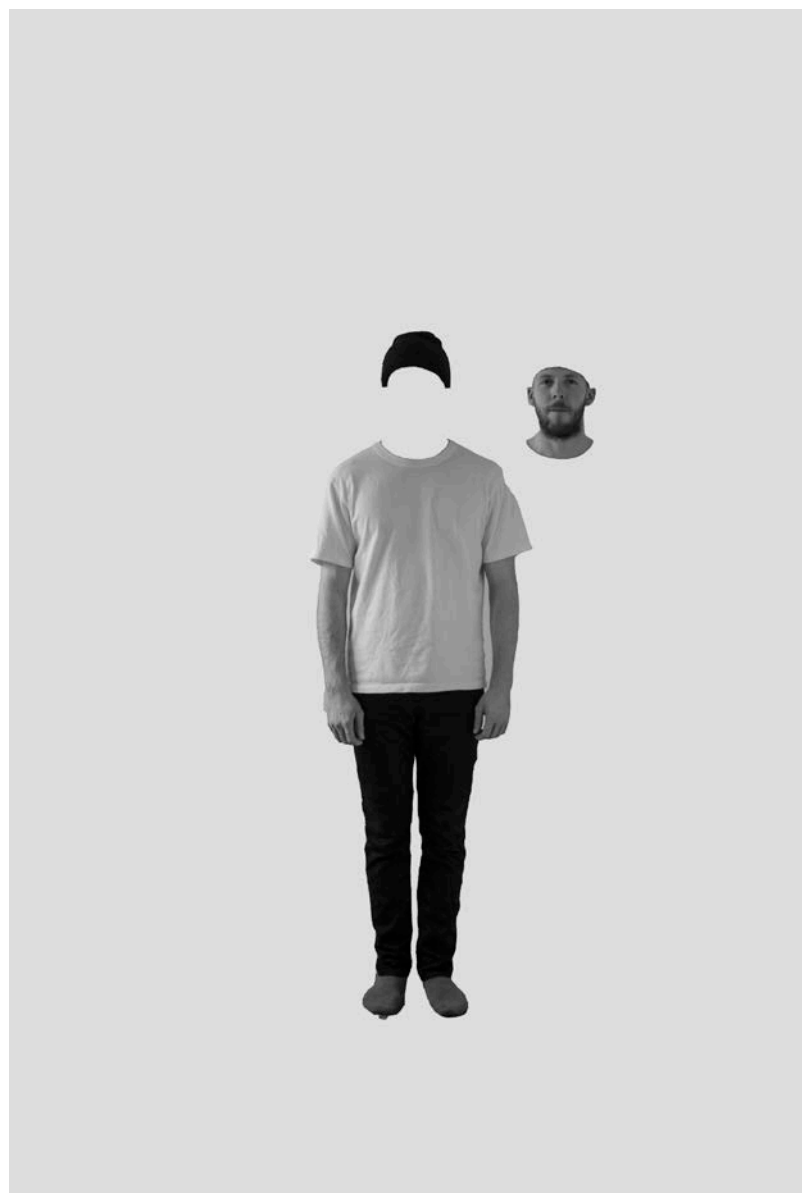
...unfortunately, it is also the space of blank sheets of paper, drawing boards, plans, sections, elevations, scale models, geometrical projections, and the like. Substituting a verbal, semantic, or semi logical space for such a space only aggravates its shortcomings. A narrow and desiccated rationality of this kind overlooks the core and foundation of space, the total body, the brain, gestures, and so forth. It forgets that space does not consist in the projection of intellectual representation, does not arise from the visible – readable realm, but that it is first of all heard (listened too) and enacted (through physical gestures and measurements). (Lefebvre and Nicholson-Smith 1991, 200)

In architecture, space has been annihilated, but it might be better understood not as the annihilation of space, but the sense there of it.

We live in the age of separation.

This thesis is a critical analysis of the current Western social movement which continues to perpetuate an existence of separation. Arguably the increasing use of machines, transportation and communication technology and the spread of ever more mediated and specialized operations drives a lifestyle of separation. This is a lifestyle in which people have not only become alienated from the goods they produce and consume, but also from their emotions and desires; people have become passive spectators of their own lives, compartmentalized in front of machines, in their cell like spaces. An outcome of this is an ever-expanding separation between human and self, intellect and action, production and consumption, representation and reality, object and experience, body and mind. This thesis is very much concerned with this ongoing state of separation within the field of architecture.

This state of separation exists at several scales of thought in relation to the spaces we make and inhabit.



“State of Separation”

A homogeneous and utterly simultaneous space would be strictly imperceptible. It would lack the conflictual component (always resolved, but always at least suggested) of the contrast between symmetry and asymmetry. It may as well be noted at this juncture that the architectural and urbanistic space of modernity tends precisely towards this homogeneous state of affairs, towards a place of confusion and fusion between geometrical and visual which inspires a kind of physical discomfort. Everything is alike. Localization and lateralization are no more. Signifier and signified, marks and markers, are added after the fact – as decorations, so to speak. This reinforces, if possible, the feeling of desertedness, and adds to malaise of society. (Lefebvre and Nicholson-Smith 1991, 200)

Contemporary spaces that are produced and consumed are separated from those bodies that inhabit them. The current view of space as a commodity lends itself to space becoming evermore homogenous, relying on object value rather than subject value for meaning. These homogenous spaces lack meaningful engagement with the human body; spaces are increasingly being produced in a homogenous fashion, lacking the contradictory, accidental, and imaginative, oppositional characteristics necessary for the engagement of the human body. This ever-increasing homogenization of space results in the degradation of one's sense of space.

Architecture, as with all art, is fundamentally confronted with questions of human existence in space and time; it expresses and relates man's being in the world. Architecture is deeply engaged in the metaphysical questions of self and world, interiority and exteriority, time and duration, life and death. (Pallasmaa 2012, 19)

At another scale of thought, separation occurs within the field of architecture as architects have been separated from the actual making of space – architects no longer work with the substance they supposedly deal in. Historically, this has not always been the case. For example, in pre-Renaissance, the medieval master-builder worked with his hands as much as with his mind in the composition of architectural space. This notion transitioned in the Renaissance period where the

architect focussed attention and the mind to representations of space rather than space itself. In other words, the physical was sacrificed for the abstract. Architects have been separated from the substance of space and resigned to the act of producing abstract representations of space. The 'making' of space and the 'design' of space have been separated; the making of spaces is left to the builders and the design of space is left with the architects. In light of a duality that once was perceived as unified one might ask, if an architect does not experience the making of actual space, how can he learn to sense space and recognize the affects it has on the human bodies inhabited by it?

Efforts to use advances in information technology to improve productivity and develop new architectural forms are all well and good, but we must not become addicted to their convenience and forget this important truth about architecture, that they originate in the ideas of human beings, in ideas born of flesh and blood. (Ando 2010, 11)

Within the act of 'design', it may be said that the architect has separated his own body from the process of making of representations of space. The physical, in comparison to the digital (which arguably is quickly obliterating the physical in both the educational and professional fields of architecture) places the architect 'in touch' (physically and emotionally) with what he/she is making. The digital further accentuates the duality this thesis is critiquing. With the adage of digital technology in contemporary architecture, much is gained, but an equal is sacrificed. A material engagement is different from digital content because it gives making an aspect of risk – unknowns, failures – a tension that potentiality heightens the experience of making and thought. There is a feeling associated with making a physical cut, be it with a knife, saw or pencil, that heightens the sense of self. This idea is supported by seminal craftsman and theorist, David Pye,

who asserts that ‘making’ has psychological and physical effects that are potentially heightened by the manner in which one makes something. When performing an operation of risk (ie., that in which the outcome is undetermined) the experience may be heightened as the outcome depends entirely on the care, judgement and dexterity of the maker (Pye 1968).

As architects continue to ‘design’ in digital spaces, are they losing access to a carnal knowledge that is found within the physical body?

This separation between ‘body’ and ‘space’ is a loss of sense of self in this world; a lack of direct engagement with the body in the making and inhabiting of space. The thesis is a critical analysis of how ‘separation’ has diminished the art of architecture and attempts to reclaim the practice of engaging the architect’s sense of space, one in which the body and mind are synthesized—one which encourages the emergence of novel conceptions of space that heighten the kinetic relationship between the body in/of space.

Thesis Question

How can a designer leverage the body in the conception, representation, and experience of novel architectural spaces?

Chapter 2: Framework

A Body in Action

Indeed, the fleshy (spatio-temporal) body is already in revolt. This revolt, however, must not be understood as a harking back to the origins, for some archaic or anthropological past; it is firmly anchored in the here and now, and the body in question is 'ours' – our body, which is disdained, absorbed, broken into pieces by images. Worse than disdained – ignored. This is not a political rebellion, a substitute for social revolution, nor is it a revolt of thought, a revolt of the individual, or a revolt for freedom, it is an elemental and worldwide revolt which does not seek a theoretical foundation, but rather seeks by theoretical means to rediscover – and recognize – its own foundations. Above all it asks theory to stop barring its way in this, to stop helping conceal the underpinnings that is at pains to uncover. Its exploratory, activity is not directed to some kind of 'return to nature', nor is it conducted under the banner of an imaged 'spontaneity'. Its object is 'lived experience' – an experience that has been drained of all content by the mechanisms of diversion, reduction/extrapolation, figures of speech, analogy, tautology, and so on. There can be no question but that social space is the locus of prohibition, for it is shot through with body prohibitions and their counterparts, prescriptions. This fact, however, can most definitely not be made into the basis of an overall definition, for space is not only the space of 'no', it is also the space of the body, and hence the space of 'yes', of affirmation of life. It is not simply a matter, therefore, of a theoretical critique, but also of a 'turning of the world upon its head' (Marx), of an inversion of meaning, and of a subversion which 'breaks the tablets of the Law [Nietzsche]. (Lefebvre and Nicholson-Smith 1991, 201)

If it is the body that is being separated from the spaces we make and inhabit, it is through the body that a new synthesizes of architectural understanding may be derived.

The body is the root of our existence. The body is that which I measure myself against the world. This 'body' is not just the 'physical' body – in this sense, the body may not be separated from the mind. The body this research is referencing is the thinking, intuitive, moving, acting body. This body may not be broken apart, it is a synthetic whole that is the fulcrum for a continuous, simultaneous state of perceiving, imagining, thinking, and acting.



“Synthetic Body”

The study begins with an understanding of the synthetic body; a body that does not make a clear distinction between body and mind, thought and action, sense and intuition. In this sense I understand the synthetic body as a union of spirit and the flesh. As such the body becomes a means by which to act against the current state of separation within the field of architecture – a means towards exploring architectural language based in the live state of experience.

The motivation of the inquiry is to reconnect the body to one's self within the theory, production, and experience of 'architectural' spaces – to reconnect the body to the perception, conception, and sense of space.

Philosophically the inquiry is concerned with human ability in that it strives for an experience, thought, and action rooted in the human body. The motivation of this research is the engagement of the body in the existential experience of making space as opposed to the external and objectified notions of consuming space.

Memory

This research negotiates questions of how space phenomenologically engages human activity.

The foundation of material for the work comprises, among other things, a certain base knowledge with regard to the interrelationships of space and phenomena as they exist and present themselves through imagined and actual spaces. This base knowledge is developed through lifelong discovery and which becomes an intuitive understanding transferred through individual experience and interpretation. It becomes knowledge as bodily memory, easily accessible

to the imagination for the following projected metamorphic exercises.

This memory exists on several levels; memory related to physical contact, physical contexts, mental sites, and physical acts. As an intuitive knowledge base, it transforms through further improvisation to become part of the illusive base underlying the work of this thesis.

The notion that the body is thinking or acting without the reason of conscious rationality is a contradiction to a rationally founded definition. A thesis that attempts to confront the 'thinking body' must confront the contradiction that comes with it; irrational, unconscious actions based in a corporal knowledge cannot be fully explained, defined, ordered, or categorized. When one is attempting to disseminate an idea, but the structure of language is unqualified to encompass said idea, part of the act of dissemination is the restructuring of language itself.

Object

It would be wrong to say that the body is critical simply because it is what senses and what "does," because it is what smells the low and the high motive, because it places us in the here and now, in the concrete, in the "real" that we have lost under all simulations. The body must not replace god. Simulation lets us "have" reality without having to risk or to "work", or I should rather say, "play", through the resistances and lead-ons of the real. (Knesl 1988, n.p.)

The theoretical assumption of this thesis is that architecture begins in the 'physical'. Things are made by hand; spatial experiences are sought out and documented in the 'real world'. The intention of this method is to bring attention to the power of making a physical connection to the objects, representations, and images that architects make. The intention of working with the physical is to subvert the

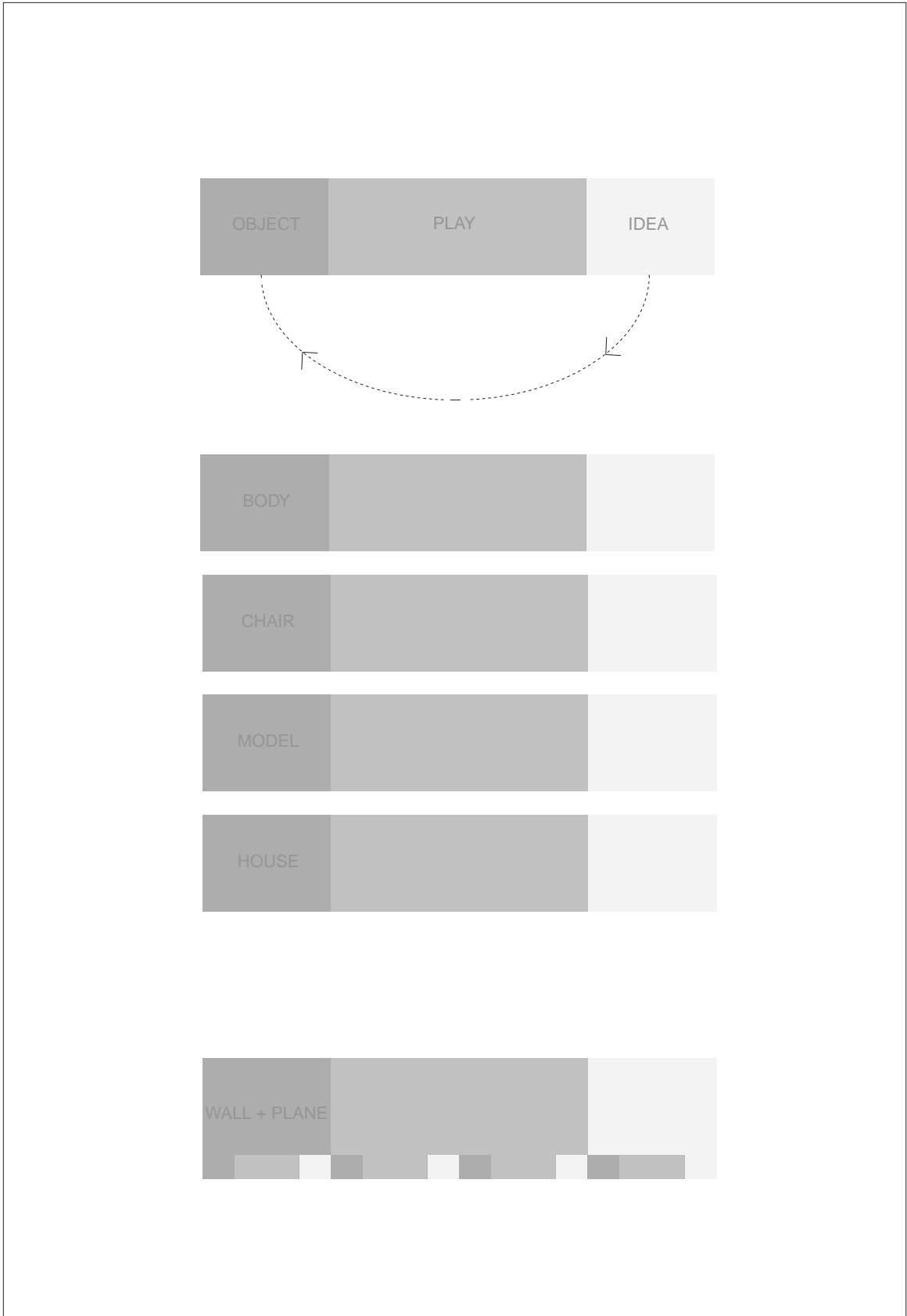
conscious mind and its closed rationalism. Unexpected things 'happen' in the process of making – whether it be the making of an object, a drawing, or a house – that may not be explained. The body sometimes just 'knows' something should go together in a particular way, implying that there is a knowledge base within the body that cannot be rationalized. This is an emergent rather than explicit knowledge. Rather than suppress these actions because they cannot be controlled or defined, the thesis attempts to create a framework that encourages such irrational happenings while providing a structure of language that brings forward what is largely invisible.

Play

This thesis regards architecture as the art of manipulating kinaesthetic spatial forces that affect the body in space. The explicit task of this research is to isolate spatial phenomena relating to the kinaesthetic forces of space and to clarify, restate, expand, or otherwise develop them toward an architectural language based in a relationship with the 'synthetic body'.

The isolation of spatial phenomena is structured around a framework of 'object - play - idea'. A spatial idea is gathered through the experimentation and use of an object. It is significant that the spatial object supersedes the idea; it is by exercising my own body that an 'idea' comes forward.

The framework begins in the object (the object may be a chair, an architectural model, or a house). Tension is added to the model through the act of 'play'. Play is the tension needed to create the possibility of an aesthetic moment - in this instance the aesthetic moment is the emergence of an spatial idea. As a 'player', I know that the aesthetic moment

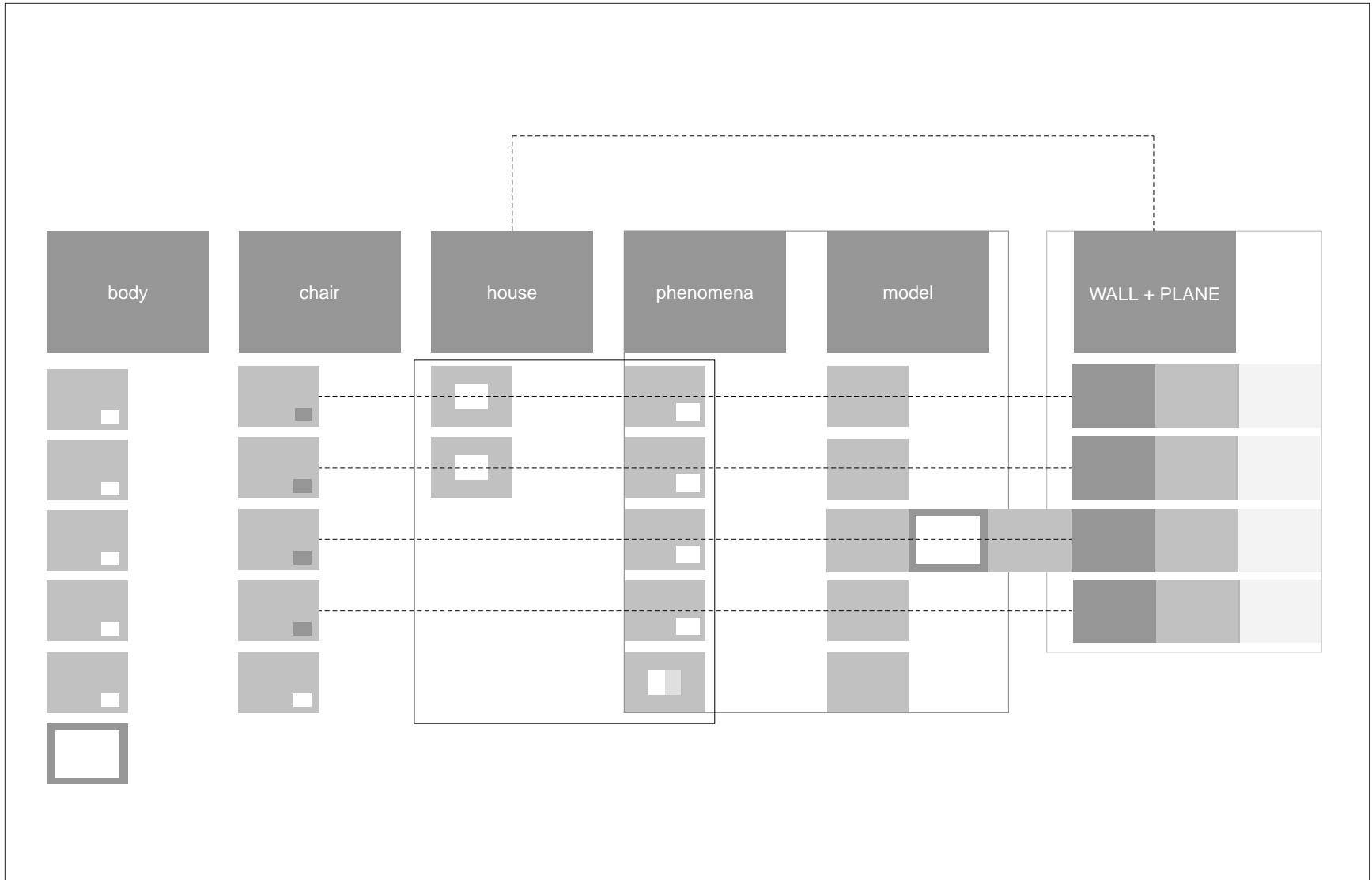


Methodological framework

is possible but I do not know if it will “come off”. I have practiced, developing my skills and knowledge, anticipating the aesthetic moment...but it is possible that nothing emerges from my endeavor (there is an unknown) ...but I do know that the creative moment, the emergence of a novel idea, cannot occur without the mechanism of “play”... it is the energy needed to evoke a new synthesis.

The methodological framework used in this thesis follows the work of Hegel. The framework of ‘object - idea - play’ parallels the three stages of thesis, antithesis, and synthesis, whereby, inherent in one’s knowledge resources (thesis) there also lies discrepancy and contradiction (antithesis) which when creatively interrogated produces a reconceptualized synthesis (Hegel 1977). In the thesis, what I know, is the spatial object. The antithesis is the action of play, it is by playing that tension arises within what is known (object). The emergent qualities of that play are potential novel conceptions of architectural space.

Five spatial objects are used as the initial reference points: (1) body, (2) chair, (3) model, (4) house. The fifth object, (5) ‘Wall and Plane Model’ emerges from the preceding four. Each object is played with the intention of drawing out spatial phenomena as a relationship of the body modulating space and space modulating the body. Through the act of play, ideas emerge. Ideas are emergent rather than explicit because they are unexpected; an idea may “come off” or not. Ideas may range in scale. An idea could be to shift a single component in the composition of a model, it could be an idea for an entirely new arrangement, or it could be an idea for an entirely new object. This is a recursive process.



“Framework” - Graphic table of contents

Each act of play is an attempt to draw out a phenomena or experience connected with the body in/of space. The ideas that emerge in the process of acting are metamorphic, changing as the act proceeds. Each act of play attempts to simultaneously isolate and synthesize spatial phenomena.

Idea

The body articulates space. Space articulates the body. Man is not a dualistic being in whom spirit, and flesh are essentially distinct, but a living, corporeal being active in the world (the synthetic body). The 'here and now' (object) in which this synthetic body is placed is what is first taken for granted, and subsequently "a there" (idea) appears. Through a living of that distance, or playing within that distance, the space one is immersed in manifests itself as a substance endowed with emergent properties that modulate the body in space, and are subject to modulation through the body.

In order to experience the qualities of space, the distance between the here and there must be changed in some way. This change is brought about by movement. Spatial awareness is not the result of a single, absolute vision, but a multiplicity of directions of 'visions' from a multiplicity of viewpoints made possible by actual and potential movement of the "synthetic body".

Architecture as the art of modulating the world through kinaesthetic spatial forces – the body modulates space and space modulates the body – in simple architectonic forms. The force of space is recognized through the synthetic body as the differences between one and the other. For example, I recognize that this room is expansive because I moved into it from a tight corridor. The force of space exists as that

which is in-between the two...that which separates and unites opposing tensions in space.

Chapter 3: The Body

The phenomenal base of this thesis begins in the human body. Defined here as not one to be separated, broken apart, frozen, or defined by Cartesian measurement. Nor, may we even separate the understanding of our bodies as physical and psychological. In this context, the initial definition of the 'body' is taken from Anthropologist Richard Griffith:

Man is at one with his body, his psychology inseparable from the structure of his several parts and the harmony which is between them. The body is at once what man has and what he is. The Cartesian chasm is not bridged by that simple sentence; no, not bridged over but closed, by the earthquake of it. For man is a synthesis, he is not spirit, mind, and matter glued together, but a synthesis of these things so tragically ripped apart. Study of the mind must be extended from mind to man; psychology must seek its true base in an anthropology. (Spicker 1970, 274)

The definition of the body begins in synthesis – the coming together of body and mind, thought and action, sense and perception. The origin of the word 'synthesis' and similarly 'synthetic', is based on the Greek 'sunthetikos', based on 'suntithenai', or to 'place together'. This use of the term "synthetic body" implies placing together body and mind to create a synthetic whole. This notion is drawn out through a series of acts, whereby this 'synthetic body' is documented encountering particular situations in the world. Each act draws out a concept of how the body experiences and articulates space, leading to a basic understanding of the relationship between this synthetic body and the world it finds itself in.

Spatially Active Body

My body is always a field of immediately lived sensation, Empfindnisse, to use Husserl's term. Its presence is fleshed out by a ceaseless stream of kinesthesia, cutaneous and visceral sensations, defining my body's space and extension and yielding information about position, balance, state of



“Spatially Active Body”

tension, desire, and mood. (Leder 1990, 23)

Definition

The body as a complex set of actual and potential motions in space. In other words, the body is not a static lump of flesh—it is a live object that has the potential for an indefinite number of postures and positions in space.

Action

I move and act in space. I am the space where I am. By moving my body in space, I alter the makeup of that space.

Orientation

Definition

The synthetic body in space is oriented along three axes: frontal, horizontal, and vertical. The body is asymmetrical in two of these planes. The body has a front and a back, top and bottom – there are physical and psychological differences between these distinctions. The body may be moving or static. To clarify, the static body itself is a dead body. While the body may appear to be static to the eye, being alive it is actually always moving in its various dimensions (e.g., sensation). The movement of the body is defined here to move frontally, laterally, vertically, and/or in a complex manner. As the body moves in space, it is also continually orientating itself in space. The body seeks out similarities and difference in space in order make sense of where one exists in space.

Action

As I climb the switchback staircase, my body is sequentially turned back over itself. I face a direction, move, turn, climb, face about...eventually coming back to face the initial



“Orientation”



“Overcoming”

direction of orientation. My body recognizes that I am in the same orientation, yet I am now presented with new horizon. I noticed both the similarities and the differences.

Haptic

I confront the city with my body; my legs measure the length of the arcade and the width of the square; my gaze unconsciously projects my body onto the façade of the cathedral, where it roams over the mouldings and contours, sensing the size of recesses and projections my body weight meets the mass of the cathedral door, and my hand grasps the door pull as I enter the dark void behind. (Pallasmaa 2012, 43)

Definition

The haptic sense is the sense of touch reconceptualized to include the entire body rather than being limited to instruments of touch, such as the hands. Developed by the psychologist James J. Gibson, to sense haptically is to experience the environment through the body by making contact with objects within it. Treated as a perceptual system the haptic sense incorporates the sensations of pressure, temperature, and kinetics, which previously had been distinctly separated; for example, as in the sense of touch as theorized by Aristotle. Thus, a haptic sense brings the separations together including all aspects of sensual detection which involve physical contact both inside and outside the body (Bloomer and Moore 1977, 33-35).

Action

I climb the stair. I do not look at the stair and make decisions how to climb the stair, rather I sense the act of climbing with my body. I feel the hardness of the tread underfoot and grasp the handrail to keep me steady. I do not think as I climb the stair, I sense my way through climbing the stair. I ascend, I move in a rhythm with the stair, each step internally ingested and incorporated into the next step. The stair morphs into a



“Simultaneous Multi-Sensory Experience”

ladder. I make contact with it, changing my posture as I step upwards. A new technique is required. I grasp my way till I reach the end of the space and transition my body.

Simultaneous Multi-sensory Experience

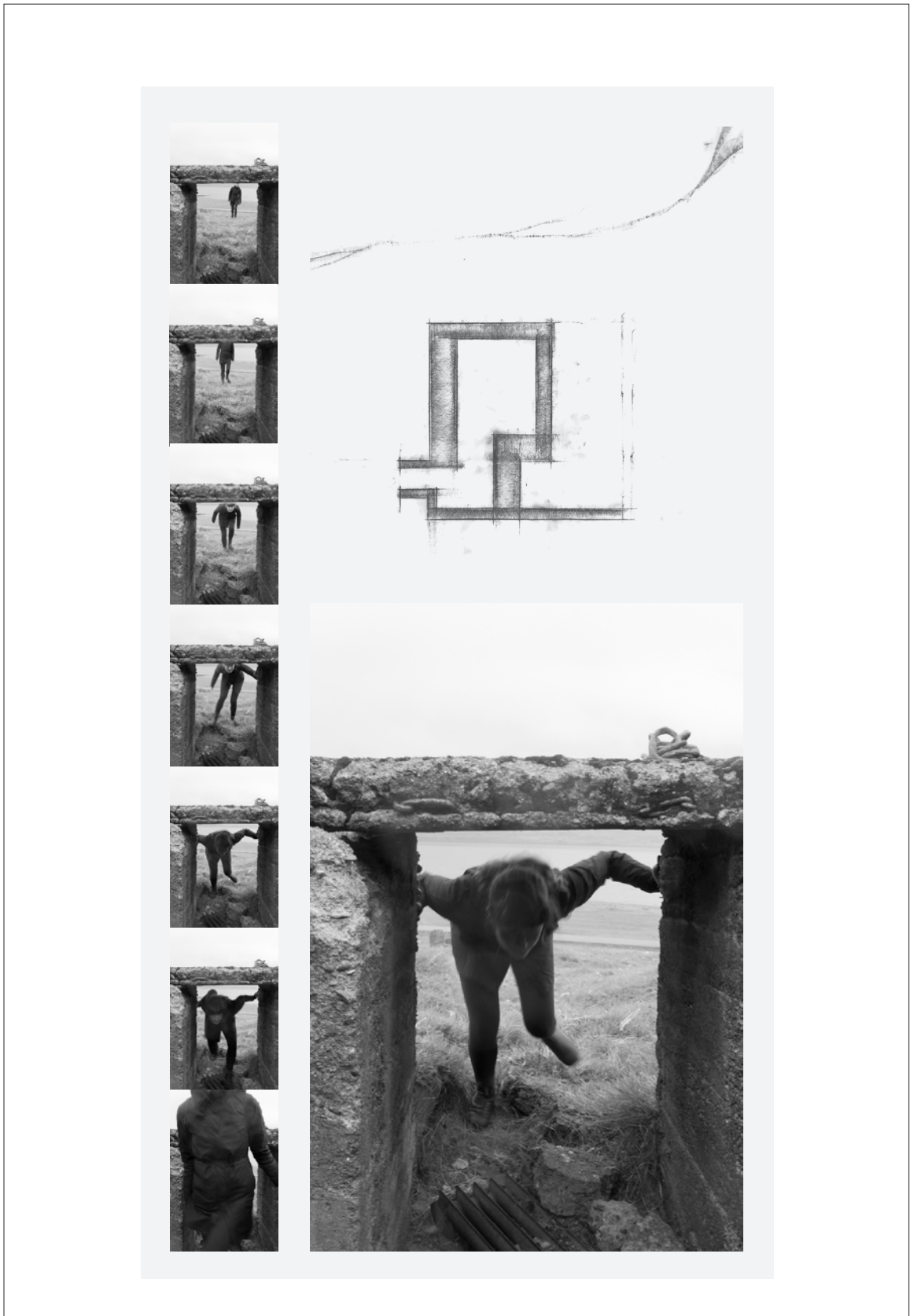
But one may wonder what connection exists between this abstract body, understood simply as a mediation between 'subject' and 'object', and a practical and fleshy body conceived of as a totality complete with spatial qualities (symmetries, asymmetries) and energetic properties (discharges, economies, waste). In fact, the moment the body is envisioned as a practico-sensory totality, a decentering and recentring of knowledge occurs. (Lefebvre and Nicholson-Smith 1991, 62)

Definition

The expression of the senses not as an isolated phenomenon but rather represent a holistic experience. Senses are not to be separated but intertwined into experience. Senses may come forward or recede, enfolding within live experience of space.

Action

The sun begins filtering through the mesh screen enclosing me. Its rays warm me as they strike across my exposed face. I toss and turn, eventually moving myself into a sitting position. I keep myself wrapped in my blanket. I drink the coffee from my thermos, the vapour rises from the mug. I feel the warm liquid moving through my chest. Surveying the scene and taking stock of my day. I roll up my bed and secure it to my backpack. One final look and then I cross over the beam to the stair. I hop over the guard and descend towards my day.



"Body in Space"

Body in Space

Definition

The modulation of the synthetic body through spatial composition is a physical and psychological interchange. Central is the question, how can the material composition of space alter the immaterial substance of human feeling, emotion, and thought? To answer this question, an act of moving through space is performed. The words used to describe this movement, in association with the images capturing the action taking place, are a means of drawing out the intertwined nature of the physical and psychological self.

Action

I exist in the open landscape. I move towards a building. It fills my view, larger and larger. I come to a doorway. I must crouch and contract my body in order to move through. I am closed in and put in a posture of subservience. My mind is empty. I come through and feel relief as I stand back upright, a new sense of expansion floods over me. A new realm unfolds before me.

Chapter 4: The Chair

On the Chair

The reciprocal relationship between the body and space – the body that modulates space and the space that modulates the body – revealed itself in the idea of the chair. The chair is a simple construction of planes or surfaces in space that acts both as an object that may be viewed and a subject that may be kinaesthetically experienced. The chair is a basic composition of material that is capable of immersing and modulating the body in space. The spatial qualities of a chair parallel the spatial qualities of architecture. The chair becomes a basic form that engages the dwelling self.

A Series of Chairs

The making of a chair follows a process that synthesizes that which is separated in contemporary architectural practice: design and building. Instead, idea, design, thought, action, imagination, realization; the matters in making a thing are understood to occur recursively, in a continual state happening and re-ordering. There is no linear pattern or process. Design does not come before building; idea does not come before design...there is no separation between thought and action; design and making; body and mind in the course of making these spatial objects (chairs).

The making of the chair was iterated and refined within a recursive process: the idea of the chair; or the 'order' of chair is developed through repetition. It is through the repetition of making that the physical process becomes incorporated. Decisions about how to make the chair or what the chair wants to be, fades from the conscious mind, morphing into unconscious action. What emerges is a chair composed of



Modulation of the body in space through a spatial object (chair)



"4 Plane Chair Series" - Four iterations of the same idea

four planes in space. A horizontal plane (seat), a vertical plane in elevation (back rest), and two vertical planes in section (rails). The connections between the planes are made entirely with countersunk '#8' 1 3/4" screws. The intent within this connection is to allow the chair to be taken apart, reassembled, or reused in various ways.

From the initial idea of the '4 plane chair', a series of chairs are produced.

Description

The father is stern and composed, yet always comforting. He envelopes you when you need it most. The mother is relaxed, but brilliant, sometimes bringing up the things in life that everyone would rather ignore. The older sister is dramatic at home but is polite in public. She is elegant but has a chip on her shoulder. The son is the odd ball. He is smart, active, and energetic. He looks at the world in a different way from everyone else. He is shy, not sure of his ideas yet. He is proud like his father and takes on a solemn attitude when people ask him about what he is thinking.

The preceding description is a means of drawing out the emergent attributes of the chairs in an affective way. Each chair is based on the same language, like a family with the same DNA makeup, yet each presents itself as a different character. Each chair develops its own attributes and personality through the process of making. Like the person who made them, the chairs (the articulated world) naturally become parallel heterogeneous spatial objects. The description of these spatial objects is a means of giving a narrative to a process that starts out with no presumption of where it may lead to.

Continuing the process of 'object - play - idea', the chair may be played with from the perspective that space modulates the body. In using the chair, two emergent ideas come forward that further the potential of the chair as a spatial object.

The Unconscious Turn

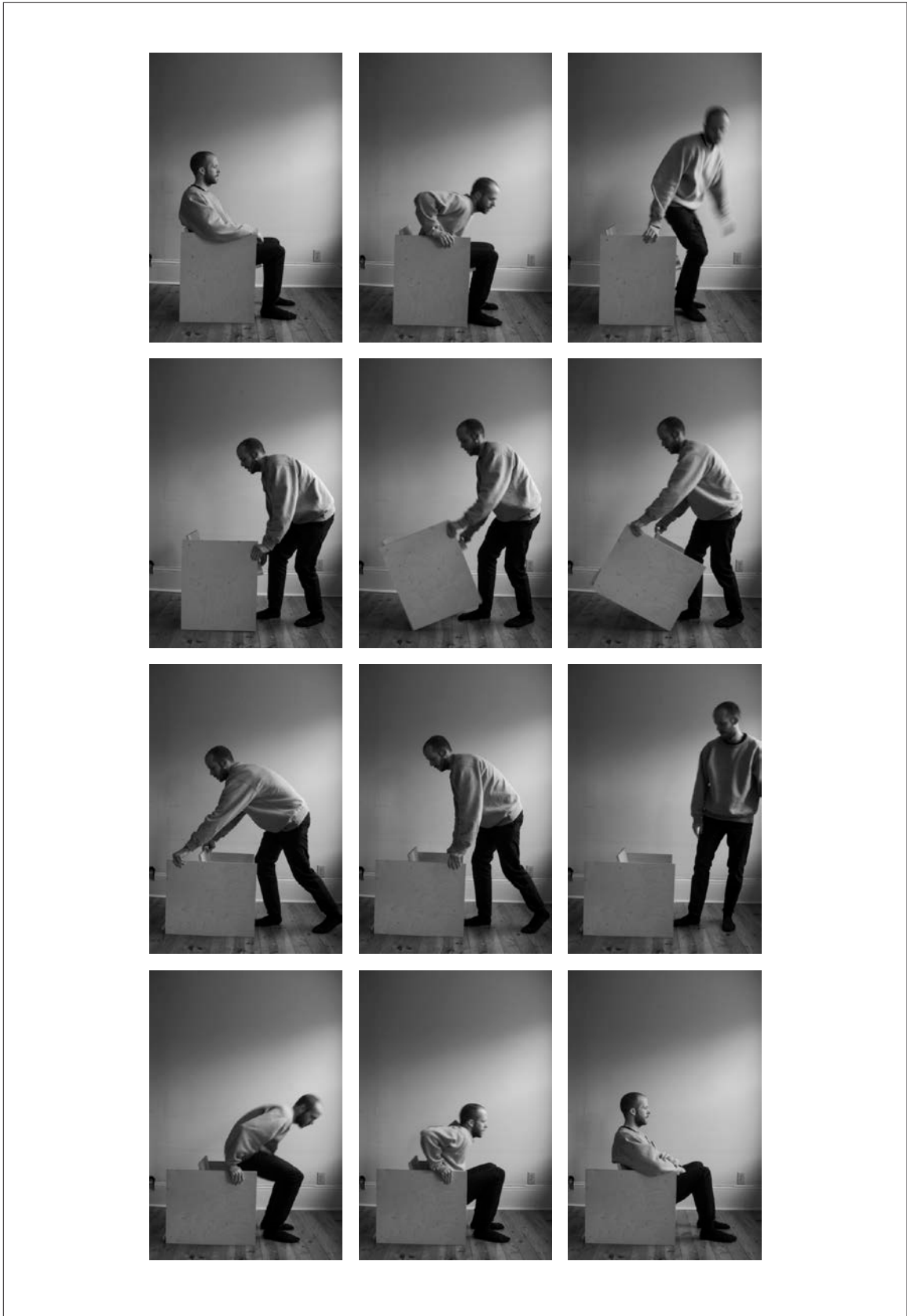
In using chair two (mother), the cut away armrest on one side encourages the body to pivot when faced with the need to re-orient oneself. The turn of the body alters the composition of the chair. Backrest and armrest switch places, while the seat takes on a new angle in relation to the body.

The Accidental Flip

In flipping chair two (mother) over, one notices another seat within the chair. Using my body, I modulate the chair to create a new possibility of chair. In turn, the chair positions the body in a new position in relation to space.



“The Unconscious Turn”



“The Accidental Flip”

Chapter 5: The House

A Comparative Analysis

The question of how space moves the body and how the body moves in space has been widely dealt with – whether consciously or not – throughout the history of ‘architectural’ action. In order to experience space, I must move through and in it, (see Chapter 7: Spatial Phenomena, ‘Moving In, Of, Through Space’) meaning that the act of composing space invariably involves the act of composing the movement of the body in space. By analyzing movement through and in ‘architectural’ spaces over the course of time, various patterns and attributes of movement are drawn out.

In the House

In fact, they know the universe before they know the house, the far horizon before the resting place; whereas the real beginnings of images, if we study them phenomenologically, will give concrete evidence of the values of inhabited space, of the non-I that protects the I. (Bachelard and Jolas 2014, 29)

The choice of analyzing the space of the ‘house’ for this analysis is based in the elemental nature of dwelling there. The house is the experiential basis of human life. One knows the house before one knows the universe... the house may become a universe of its’ own. The house is concentrated space – a microcosm of the universe and it may be that it is within what is most intimate that we find what is immense. The house is the archetypical modified space; the personal shell that is the initial act of modifying space. The house is common, everyday – it is common sense that the house is the primary space people experience – it is that which I come back to everyday. The house is where I rest my eyes, wake each morning, gather with friends, dream alone. The house

is the prime act of architecture – a consistent architectural ‘programme’ across time and space.

Moving is Dwelling

Within the house one is moving... in this sense moving is dwelling. All of the activities of moving in space, or through space make up the actions of dwelling – even in sleeping my body is still moving. One may move from room to room, one may move within a room, one may move through a room only to get to another room. One may move from exterior to interior, one may move from light to dark, from hot to cold, from wet to dry...

Within movement, the body is articulated in various postures depending on the kinaesthetic force of the space being moved within. Some movements are within space, others are through space. Spaces may be dedicated for that act of movement through or may synthesize the act of moving through and within. The following represents a historical analysis of the architecture of ‘house’. The analysis reveals certain patterns in the composition of movement in and through space.

House: Spatial Analysis

Palazzo Antonini, Andrea Palladio [together, through]

The house combines through and within space into a synthetic whole. Space is moved through and within simultaneously. Each room leads into the next room. Moving through space may occur in both the linear and lateral directions. Each room is contained by walls and is let through by a door. The doorway is the moment of hypotenuse. The wall and door explicitly state the change from one space to another, marking a clear pivot from one space to the

	RENAISSANCE	ENLIGHTENMENT	MODERN	POST MODERN	ELEMENTAL	NOE-MODERN	PERFORMATISM
PLAN							
SECTION							
MOVEMENT							
HYPOTENUSE							
POSTURE							
WORD	TOGETHER	SEPARATED	ONE	SEPARATED AGAIN	SYNTHETIC	WITHIN	CONTINUOUS
SYMBOL							

Matrix: spatial analysis of house

next. The composition makes use of an enfilade pattern of movement through, resulting in increased contact, incidental communication, and body to body interaction.

Enlightenment

The Red House, Philip Webb [separated, dedicated]

The dedicated passageway. The dedication of space for passage and space for dwelling. The composition makes use of a dedicated through space. The movement through space is unified and distinct from the rooms for moving within. Rooms for moving within adjoin the dedicated passageway along its path – one moves laterally from path into room. The mark between the dedicated passage and the room is the wall and the door (hypotenuse). One must deliberately pass through a doorway to enter a room. Two types of staircases used. One is slow, grand, solemn, the other is fast, narrow, and economical. One is used by the inhabitants, the others by the ‘servants’ of the inhabitants.

Modernism

Villa Savoye, Le Corbusier [one]

The wall is eliminated as the mediator between spaces. One moves through the floor plane to move from ‘room’ to ‘room’. The floor plane becomes the moment of hypotenuse, endowed with the qualities that marks shift from one experience to the next. Movement through (from space to space) is dedicated to the stair and the ramp. I move within the stair and the ramp to move from space to space. The stair and ramp are dedicated spaces for through movement, yet they are imbedded with the space dedicated for moving within – physical separation is put in tension with visual and auditory connection.

The use of two simultaneous but un-synchronised spaces of moving through (the stair and the ramp) makes use of the spatial tension of fast and slow. The ramp has the affect of slowing down the body and the perception of time. The stair speeds up the movement of the body and the perception of time.

Postmodern

Wall House 1, John Hejduk [separation, vertical]

A wall is isolated as the hypotenuse of space. On one side of the wall exists the spaces for movement through. On the other side of the wall exists the spaces for moving within. One moves through the wall each time one moves between the realms of moving through and moving within. The wall is the physical moment of hypotenuse, that which separates and unites one realm from another.

Elemental

House Without Rooms, Raimund Abraham [synthesis]

A wall is unified as the space of moving within and moving through - the movement within and movement through are the same space throughout the house. The notion of corridor and room is obliterated. The room is the corridor and the corridor is the room. The lines of separation between moving and dwelling are blurred so as not to be recognized.

Neo-Modern

Row House, Tadao Ando [within]

Hypotenuse of space as the exterior courtyard. Two parallel walls, three 'rooms' in row between them. I move through each room to get to the next. The center room is open to the air but contained horizontally by walls. The courtyard is

the hypotenuse of space, that which is between one realm and the next. It is the through space of the composition. I move through the center courtyard to get from room to another room. The movement from interior room to exterior courtyard marks, elongates, and heightens the perceptible pivot from one space to the next.

The courtyard room is dedicated for movement, yet it is embedded within the space dedicated for moving within – a haptic separation is achieved through glass windows, but visual connection is maintained. The center room, that which contains movement ‘through’, also contains movement within, in that it may contain activities and postures that are associated with moving within (one does not feel forced to move through the courtyard space, one may dwell within it).

Performatism

Slow House, Diller and Scofidio (overlay, continuous)

The hypotenuse as the exterior view, withheld and drawn out. Two unparallel walls. Two options presented: on or above. The “on space” (ground floor) is a dedicated corridor space, the body moves horizontally in the long direction with lateral movements into dedicated rooms. The movement above (second floor) involves first a slow ascension, then a continuous through room, moving horizontally in the long direction. The room contains various actions within itself through the mediation of objects dedicated to particular postures. The movement towards a hypotenuse is continually withheld in the ‘above’ section of the house. The change between moving through space and moving within space is extended, slowed down, reaching its culmination only at the end of the house, whereby the ‘change in’ is a

visual apprehension of the distant ocean (which is further augmented through the use of t.v. film technology).

The house makes use of the fast stair and slow stair. They do not exist in parallel (as those of Villa Savoye); the second staircase is found after one has moved three quarters of the way through the house. It is a 'pivot', a space dedicated for through movement – between two otherwise separated realms.

The movement through space follows rhythm of perpetual shifting of space as one moves frontally in the horizontal direction. Space is kinaesthetically moving the body through the house – drawing one forward in a continual drift towards the hypotenuse – the static ocean – which becomes a means of re-orientating oneself in space.

Patterns and Attributes

What emerges from this historical analysis are two particular patterns: (1) The Movement in Space, and (2) The Hypotenuse of Space.

Movement in Space

Movement in Space describes the composition of through space and within space. "Through movement" is the act of moving from one space to another. "Within movement" is the movement of activity within a space (i.e., cooking). The archetypical spatial compositions of movement are the through space (enfilade) and the dedicated space (corridor) (Evans 1997,88). All of the compositions of "movement in space" seem to stem from these two initial typologies.

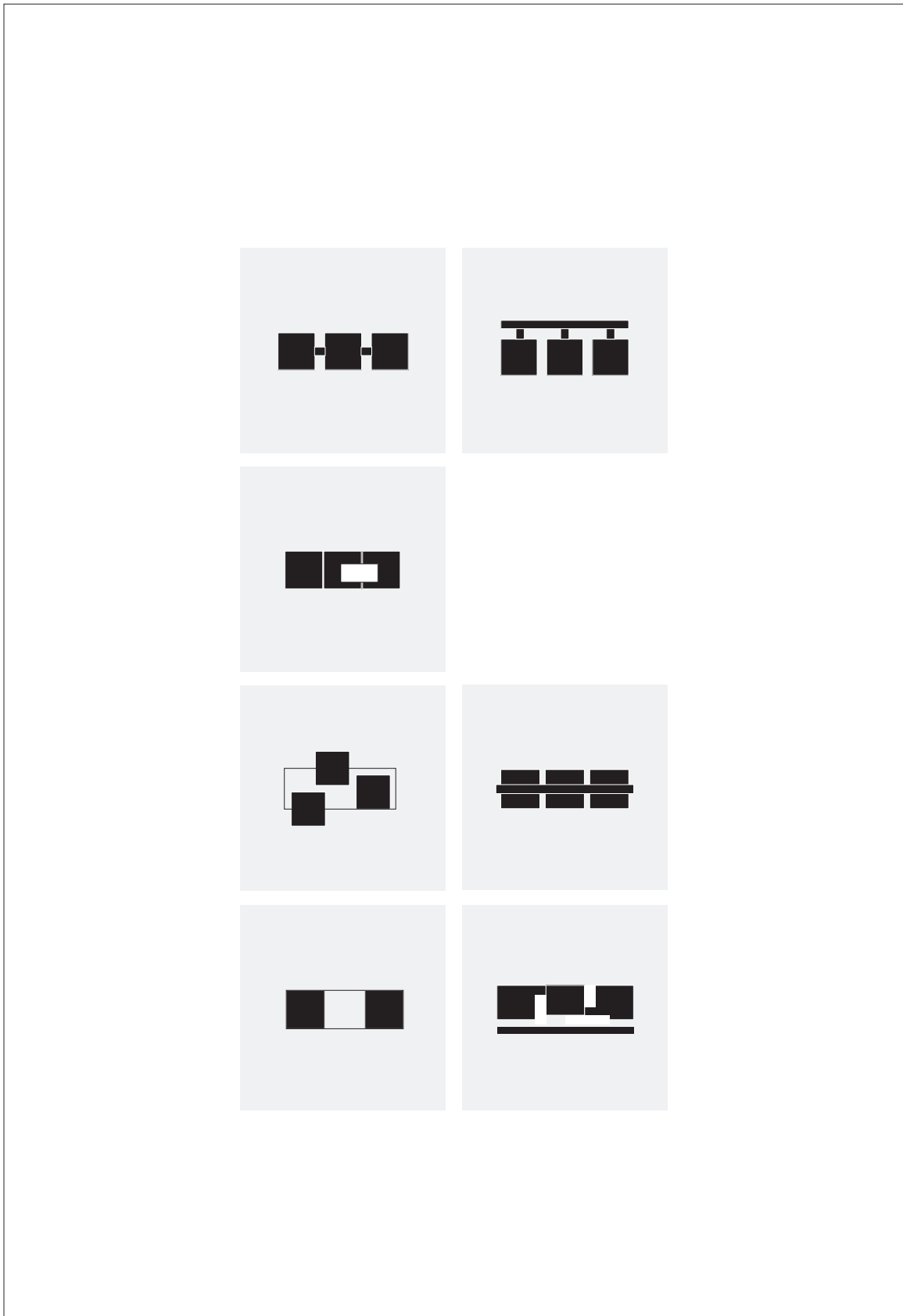


Diagram - Symbols representing the various typologies of "Movement in Space".

Hypotenuse of Space

The hypotenuse is that which separates and unites ‘through movement’ and ‘within movement’. It marks the perceptible shift between known and unknown, here and there. Each of the houses analyzed makes use a different element that may be defined as the hypotenuse of space.

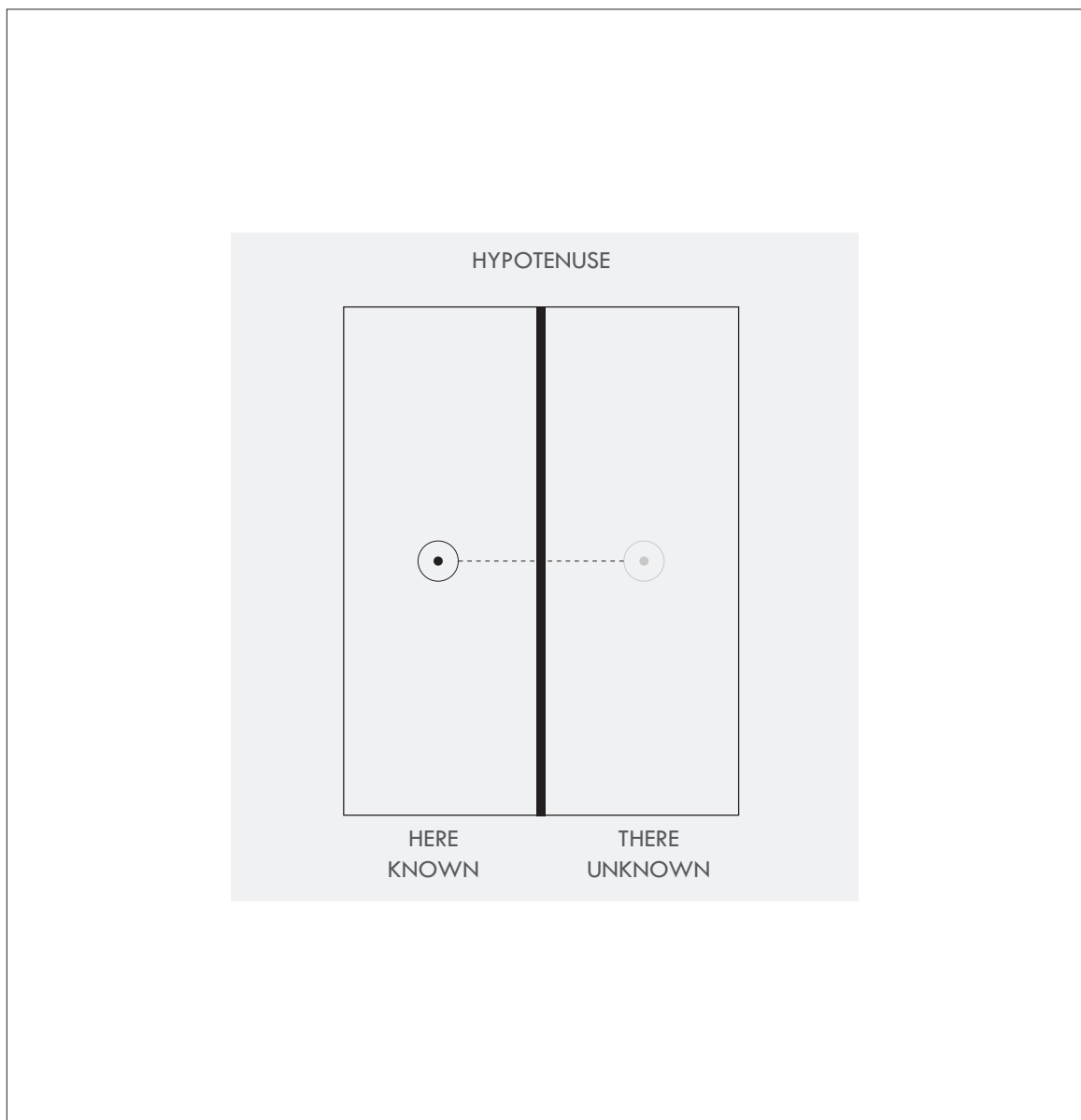


Diagram - Spatial principle of the "Hypotenuse of Space"

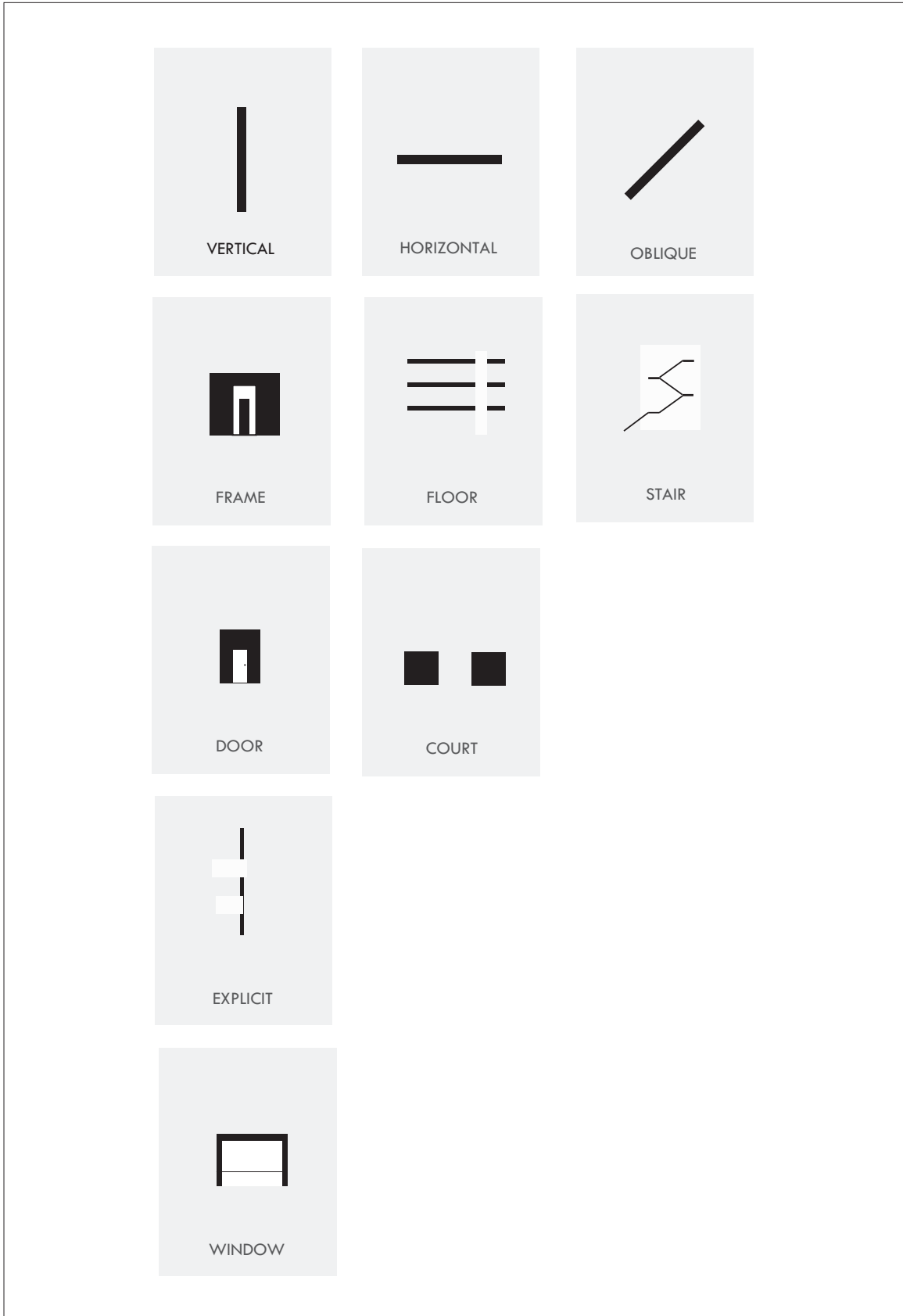


Diagram - "Hypotenuse of Space" typologies

Chapter 6: On Modeling

The senses not only mediate information for the judgement of the intellect; they are also a means of igniting the imagination and of articulating sensory thought. Each form of art elaborates metaphysical and existential through its characteristic medium and sensory engagement. (Pallasmaa 2012, 49)

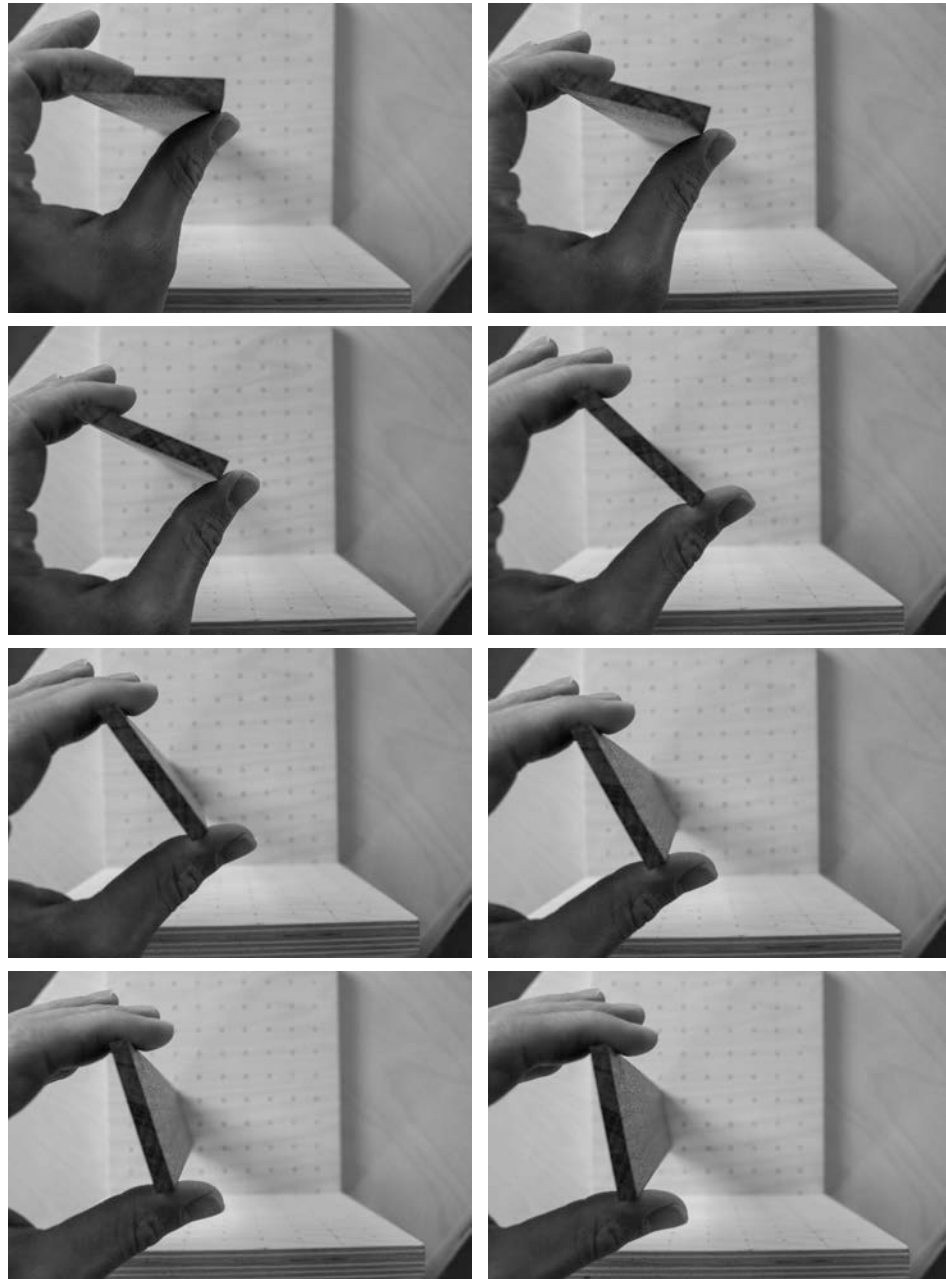
Object

The method of this research is found in the abstract physical model. The model is the means with which to draw out architectural ideas concerning the kinaesthetic forces of space.

The emergent potential of the following abstract physical models is the focus of this research. These 'imaginative instruments' are a means of directly engaging the body in the imagining, making, and description of space. These models are not static finished objects, rather, they are developed with the intention of allowing them to be modulated through use and play. A physical model gives a reality to the work; providing a resistance that the body must "play" through. The physical model, in comparison to the digital, gives making an aspect of risk; unknowns; failures; tensions that I believe are necessary to engage the body (Self) in a more direct way. This method takes the body as the means of directly accessing the unconscious; a will, a desire, an intelligence, the body itself.

Use

The engagement of the body in the imagining of space begins in the fabrication of abstract physical models, that intuitively play with the kinaesthetic forces of space. The models accomplish this at two scales of thought. At one scale, they engage the designer's body kinaesthetically



The model as a construct of “The Body Modulates Space”

in the exploration of space. The model is recognized here as a tool or instrument: it is made in such a manner as to be manipulated into various positions. I must make, touch, and manipulate the model through the engagement of my body. At another scale of thought, the models are a means of exploring the kinaesthetic spatial force at work within imagined spaces; they are a means of materializing ideas about the phenomena of space.

The notion of “model as tool” is broken apart into three attributes of physical use that are integral to the development of a link between body and imagination: (1) “Incorporation”, (2) “Intuition/Prehension”, and (3) “Play”. Each of these attributes makes up an understanding of the potential power of using the body in play in the development of architectural space through the architectural model.

Incorporation

Obsession is what it comes down to. It is difficult to think without obsession, and it is impossible to create something without a foundation that is rigorous, incontrovertible, and, in fact, to some degree repetitive. Repetition is the ritual of obsession. Repetition is a way to jump-start the indecision of beginning. To persevere and to begin over and over again is to continue the obsession with work. Work comes out of work. In order to work you must already be working. (Richard Serra, quote from Gagosian, n.d.)

The differentiation between tool and object is critical to this methodology because of the notion of “incorporation”.

As Drew Leder notes in the “*Absent Body*”, an analysis and expansion of Maurice Merleau-Ponty’s theories of perception, the learning of an instrument is accomplished through the notion of “incorporation”. The etymology of this word, from the Latin corpus, means “to bring within the body”. Incorporation is what enables us to acquire new abilities; and as Leder reasons, allows such abilities to become

“invisible” (Leder 1990, 30-32). The notion of incorporated ability is common to us all: the pianist stroking the keys of the piano, the soccer player striking a ball out of midair, a mechanic feeling the tightness of a bolt, or a child running up a flight of stairs 3 at a time. Our bodies are in a constant flux of movements, gestures, and articulations that are largely invisible from us. One does not think of moving through or in space. Daily, routine movement is incorporated, and mostly invisible from us as we go about the world. Movements and actions become enveloped within the body-structure from which I inhabit the world.

The concept of incorporation forms the rationale for understanding the model as tool. By using the model, practicing with it, repeating actions over and over again, a process of incorporation occurs, whereby the model is brought within the body.

Intuition - Prehension

It is by making things, that we understand the possibilities of what things actually are, can be, ought to be.

The model is a means of fleshing out the “intelligent body” – the intelligent body that reacts before “understanding” is formed. As Richard Sennett notes in *The Craftsman*, the technical name for movement in which the body anticipates and acts in advance of sense data is “prehension”. As Sennett further explains, “...you don’t wait to think until all the information is in hand, you anticipate its meaning” (Sennett 2008, 154). The active mode of prehension, or what might be said to be an engagement with the process of “corporeal anticipation”, means to stay ahead of the material you are working with. Prehension is initiated by a change in awareness of the physical body, becoming predominately

engaged with the process at hand. In describing the work done with abstract models, awareness of the model shifts from perceiving the thing as another object external to me, to perceiving the object as potential encompassing space. The model becomes internalized. Awareness of the body and the hands manipulating the model recedes from conscious view; sensation is focused on the space being developed, and the possibility of space yet to be formed. This experience, as referenced by Sennett, is described by Maurice Merleau-Ponty as “being as a thing”. Sennett describes this state of being as “now absorbed in something, no longer self-aware, even of our bodily self. We have become the thing on which we are working.” (Sennett 2008, 174). This notion of the receding body is the same as that of ‘incorporation’, and the invisible “thinking body”. The model becomes a means of exposing this invisible body, that which seems to contain so much latent potential.

Play

“Play” as an attribute of modeling parallels the work of Canadian architect Carmen Corneil in his development of the “direct modeling” studios; where the experience of directly modeling before any notion of “idea” serves as a tool to help head and hand work together in testing the arrangement of form and space. Corneil describes the logic of “direct modeling” as:

The goal of using physical models is to move the designer out of the world of images and into the realm of real parts, to rediscover the tactile roots of architecture, avoiding the pitfalls of translation from other sources. The work of architecture lies precisely in this area of translation. From imagination (abstract ideas) into concrete built form, an enterprise that is fraught with contradiction and decision. (Corneil 1987, 2)

Corneil further elucidates the merit of the “direct modeling” process through psychological notions of play theorized on

by Johan Huizinga in *Homo Ludens: A Study of the Play Element in Culture*. Huizinga's redefines the idea of 'play' in such that 'play' is suggested to be an integral cultural phenomenon. It becomes fixed in memory and is passed on as a tradition.

Play is a physical and psychological activity that is critical for the development of bodily faculties. Play is movement, change, alternation, succession, association, separation. Repetition is an essential quality of play. As Huizinga notes, "in nearly all the higher forms of play the elements of repetition and alternation (as in the refrain), are like the warp and woof of a fabric" (Huizinga 1955, 10). Repetition connects to a sense of time, habit, and ritual; ideas that parallel the act of dwelling.

Play makes use of the limited field; "all play moves and has its being within a playground marked off beforehand either materially or ideally, deliberately or as a matter of course" (Huizinga 1955, 10).

Play creates order which we may tie to the notion that play tends to be beautiful because "it is invested with the noblest qualities we are capable of perceiving in things, rhythm and harmony." Play also contains tension; an unknown factor that gives provides room for the game to take its own course. Again, we turn to Huizinga to articulate the feeling of tension within play: "Tension means uncertainty, chanciness, a striving to decide the issue and so end it. The player wants something to "go", to "come off"; he wants to "succeed" by his own exertions" (Huizinga 1955, 10,11).

Supporting this notion of play is demonstrated in the "toy". Aligned with my thinking, Roland Barthes' (*Mythologies*) particular definition of the toy places them into two categories:

(1) toys that represent something already (i.e., a miniature doll) and (2) toys that can be manipulated into “anything” (i.e., a simple set of blocks or ‘a material of invention that offer dynamic forms’) (Barthes and Lavers 1972, 53). In critiquing the first type of French toy, Barthes notes that “the merest set of blocks, provided it is not too refined, implies a very different learning of the world; then, the child does not in any way create meaningful objects, it matters little to him whether they have an adult name; the actions he performs are not those of a user but those of a demiurge” (Barthes and Lavers 1972, 54). These inventive toys are no longer inert; play comes through manipulation, manipulation leads to creation and as Barthes writes, “objects now act by themselves” (Barthes and Lavers 1972, 54). The distinction that Barthes brings forward is that the “toy” may make a user of the child or the toy may make a creator of the child.

In connection to a method of representing architectural ideas, the question is raised: does the typical architectural model, a miniature representation of something, make the player (designer) a consumer or producer? Or, phrased differently, how can an architectural model be designed to invite manipulation, play, imagination, and creation?

Based on these notions of modeling, play, and toys, a series of spatial objects were made which explore the potential phenomena of space, as space to be modulated by the body and as a means of representing the body modulated by space.

Chapter 7: Spatial Phenomena

Body Modulated by Space

Architecture as experienced.

Through a Synthetic Body

A phenomenology of space.

A body – experiencing space. A phenomenal relationship exists between the synthetic body and the experience of ‘architectural’ space

Architecture is a unique form of ‘art’ in that it may immerse and modulate the body that acts within it. Space has the potential to kinaesthetically modulate the body into various postures, which may lead to particular behaviors and actions. To develop an architectural stance that ‘deals’ with the posture of the body in space, first, a basic understanding of how one perceives, conceives, or experiences space as a generality must be established.

Experience requires movement (body in action). Movement requires change (memory and contradiction). Change requires difference (path taken). Difference becomes the means with which we derive meaning within this world (a horizon). This definition of space is made possible by the moving body, the phenomenal body.

The spatial framework of this thesis is constructed from a series of ideas concerning the phenomenology of space. Here, each idea is a component within a structure that makes up an “understanding” of the phenomenal body experiencing space. Each idea is materialized within an image and a written statement. Each idea may stand on its

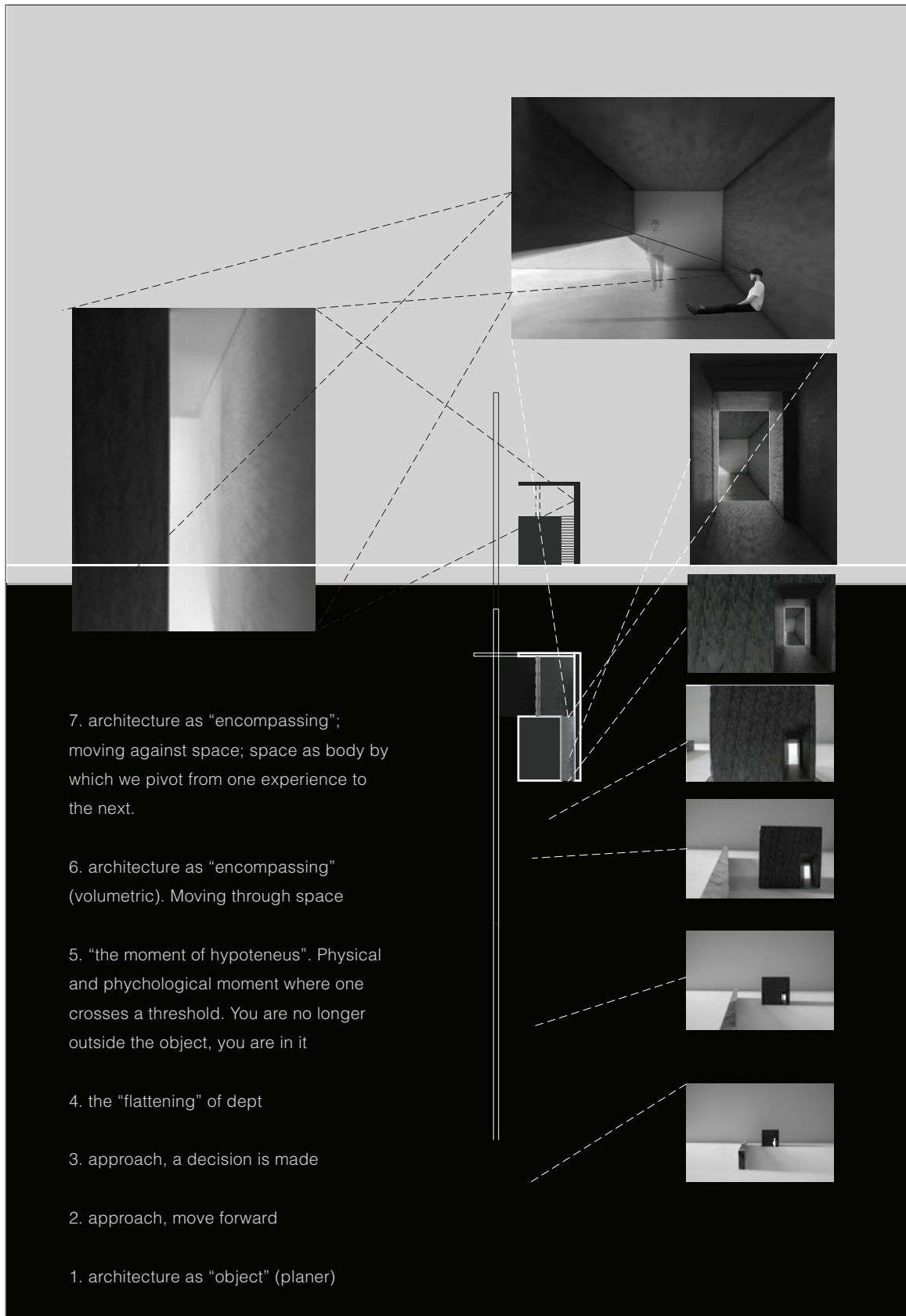
own as a particular axiom of sorts, but each is intended to shift and fit together in various ways to create more complex structures of thought. It is by synthesizing various 'ideas' together that a novel understanding of phenomenal space may occur.

Moving In, Of, Through Space

The concrete distance separating one from the other, the same from the different is not to be identified with metrical abstraction of geographical space but with the carnal dimension of embodiment. (Hejduk and Shkapich 1985, 20)

The late architect, John Hejduk, developed the notion that architecture is unique because it is capable of a metamorphosis from acting as "object" to acting as "encompassing". Hejduk coined the term "hypotenuse" to describe the exact moment architecture shifted from acting as object to acting as an encompassing volume. The hypotenuse is a physical and psychological interchange where one crosses a threshold; you are no longer outside the object; you are now in it. This change between two states is made possible by the moving body.

In drawing out this concept, the change from architecture acting as object to acting as encompassing, the initial hypotenuse (the one marking the shift between object and encompassing) is not the only hypotenuse within the experience of architectural space. For example, when I move through a room into another room, does the change between the two become its' own hypotenuse of space? When I move from light to dark does the perceptible shift between the two mark a hypotenuse of space? These are examples that expand the notion of hypotenuse to include all those tensions that define our sense of space. The shift between one experience and the next is not restricted to the



"Moving In, Of, Through Space"



“Here and There”

point in between “object” and “encompassing”, rather it may be conceived as continually occurring throughout space – recognized as the difference between this experience and the other. The moment where one pivots between experiences—you are in this space, now another, and another and so on—is the reoccurring hypotenuse of space. The difference between one state and another (e.g., object and encompassing) is recognizable by the differences between the two, in relationship with the synthetic body.

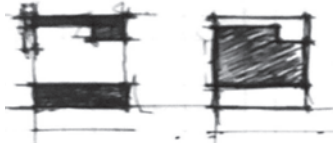
Here and There

I experience the transition and the metamorphosis of the one experience into the other, and it is only as though the hinge between them, solid, unshakable, remained irreconcilably hidden from me...it is the zero pressure between two solids that makes them adhere to one another. My flesh and that of the world therefore involve clear zones, clearings, about which pivot their opaque zones, and the primary visibility, that of the quale and of things does not come without a second visibility, that of the lines of force and dimensions. (Merleau-Ponty and Lefort 1992, 148)

The moving body projected in space. Apprehension of space is a result of a multiplicity of directions of apprehension from a multiplicity of viewpoints made possible by the movement of the synthetic body. This multiplicity of ‘views’ overlap and intertwine within one another. The body as here and now in synthesis with the body there and then. In this multiplicity, the body recognizes differences between the two – giving definition and meaning to the spaces we exist in. For example, I know that if I could sit in the sun over there I will warm up. It is this multiplicity of action and potential action that makes up the ‘forces’ of space. It is that which is in-between self and other, here and there, now and then.

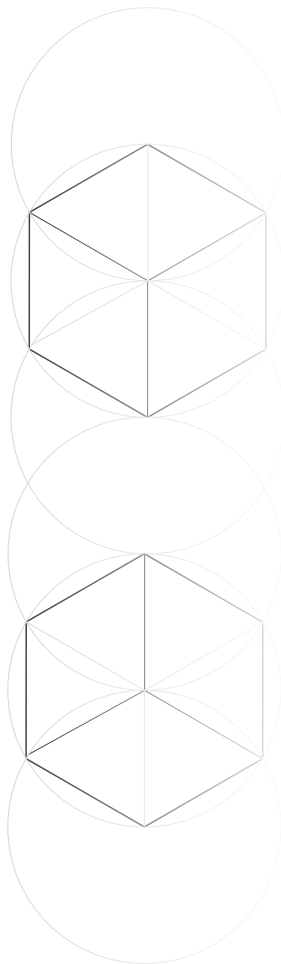
Space as Material

The atmosphere we are immersed in is a substance. Yet, I forget that I am immersed in this substance as much as a fish forgets it is immersed in water. It is not until the fish is taken from water, or man finds himself in water, that we understand what “immersed” really means. Would the architect treat space differently if it were perceived it as having material consequences vis a vis the body?



“Traditional model” vs.
“Space as material”

In the seminal work *Experiencing Architecture*, Steen Eiler Rasmussen notes how the typical architect understands the art of architecture as giving form to the materials they work with. Building material/construction/architectonics becomes the medium of Architecture. Rasmussen offers an alternative conception of the medium of architecture: “Instead of letting his imagination work with structural forms, with the solids of the building, the architect can work with the empty space – the cavity – between the solids, and consider the forming of that space as the real meaning of architecture” (Rasmussen 1964, 46). How does conceiving of ‘space’ as a material lead to novel perceptions of it?



Basic Gestalt Exercise

The notion may be best explained through Gestalt Theory, making use of the image of a cube that may be understood from “above” or “below” depending on the way you look at it. What Gestalt theory implies is that the same material thing may be perceived in various ways. If one were to shift in the conception of something, it may bring with its alternate perceptions about the nature of its meaning. Space, when conceived as substance, has the potential for various perceptions of what it is, what it is capable of, what it is doing, and how it is invisibly acting on the body that moves within

it. It may be that if we conceive of space as a substance, we will learn to sense and interpret it differently.

This notion of “space as material” is furthered by the architect Charles Moore, whose discussion about space in his seminal work *The Place of Houses* asserts, “rooms are made of walls, floors, and ceilings, but they may seem to be made of space, a commodity more important than any of its boundaries, through created by them” (Moore, Allen and Lyndon 1974, 82).

With this perception in mind, how does an architect go about manipulating this commodity to serve the body dwelling in space?

Spatial Change

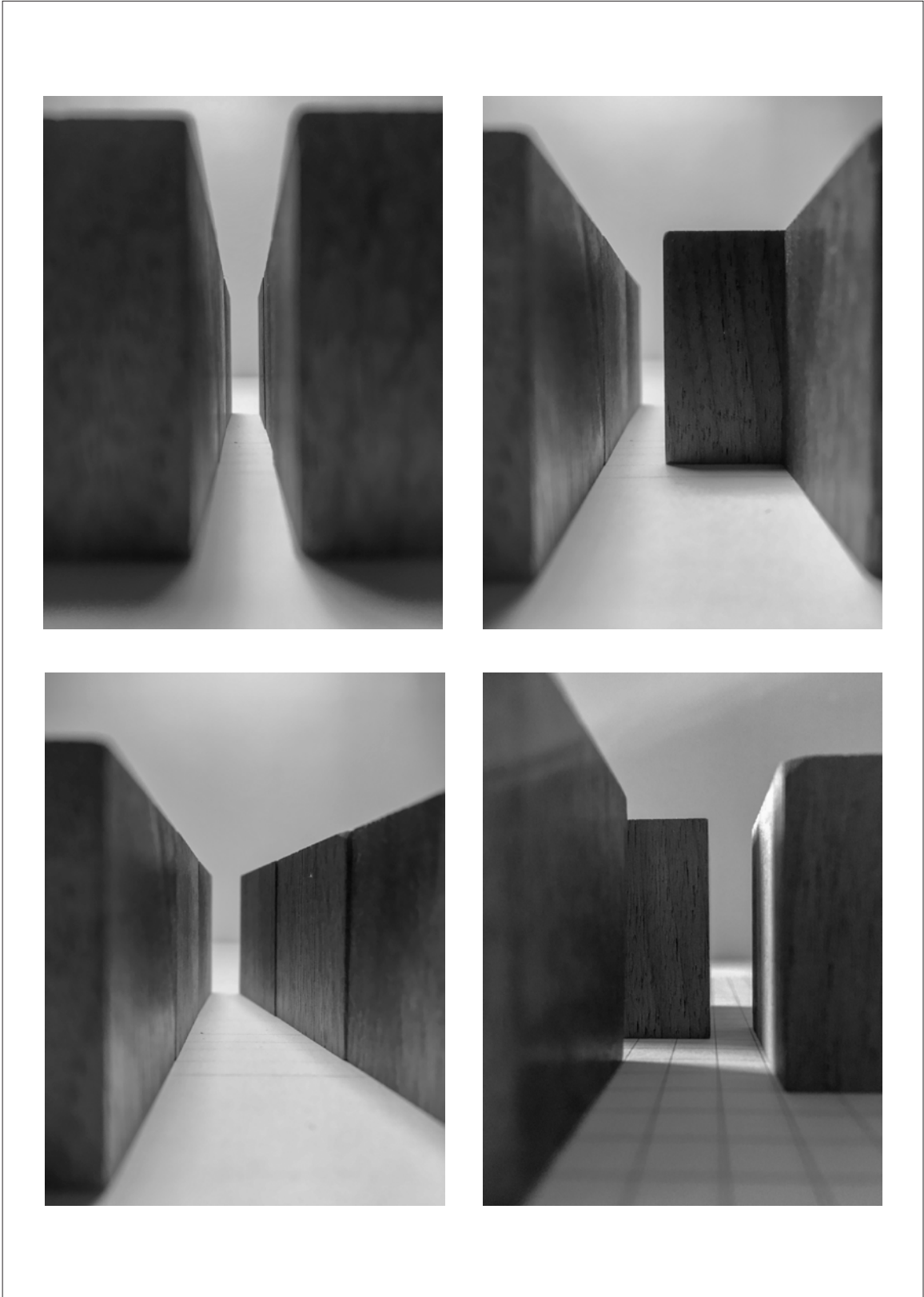
Space is defined to change in four distinct manners: (1) singularity i.e. a tight corridor encourages movement through, invites exploration, (2) singular change, i.e. a shift that compresses space encourages one to prepare for moving. (3) complex change i.e, various shifts in space offering multiple directions of movement, a quality of choice and decision., (4) continuous change i.e. the continuous compression of space slows down the moving body. One is compelled through space.

The shifting of space may take place in both the horizontal and vertical dimensions.

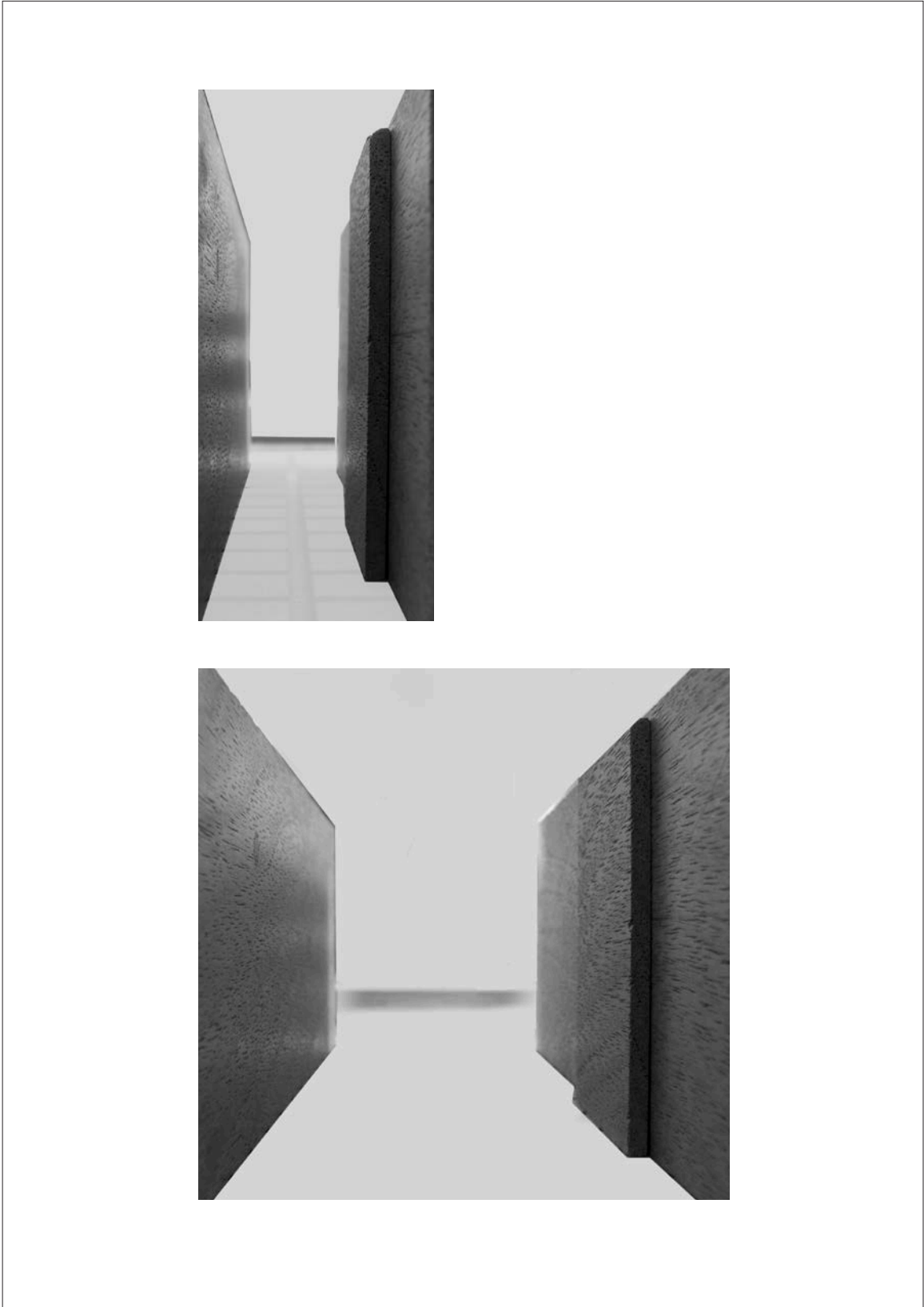
Magnitude

The more concentrated the repose..., the more the being that emerges from it is a being of elsewhere, the greater is his expansion. (Bachelard and Jolas 2014, 86)

The kinaesthetic forces of space are not isotropic. They do not have the same value when measured in different directions.



"4 types of spatial change" - Clockwise: (1) singularity, (2) singular change, (3) complex change, (4) continuous change



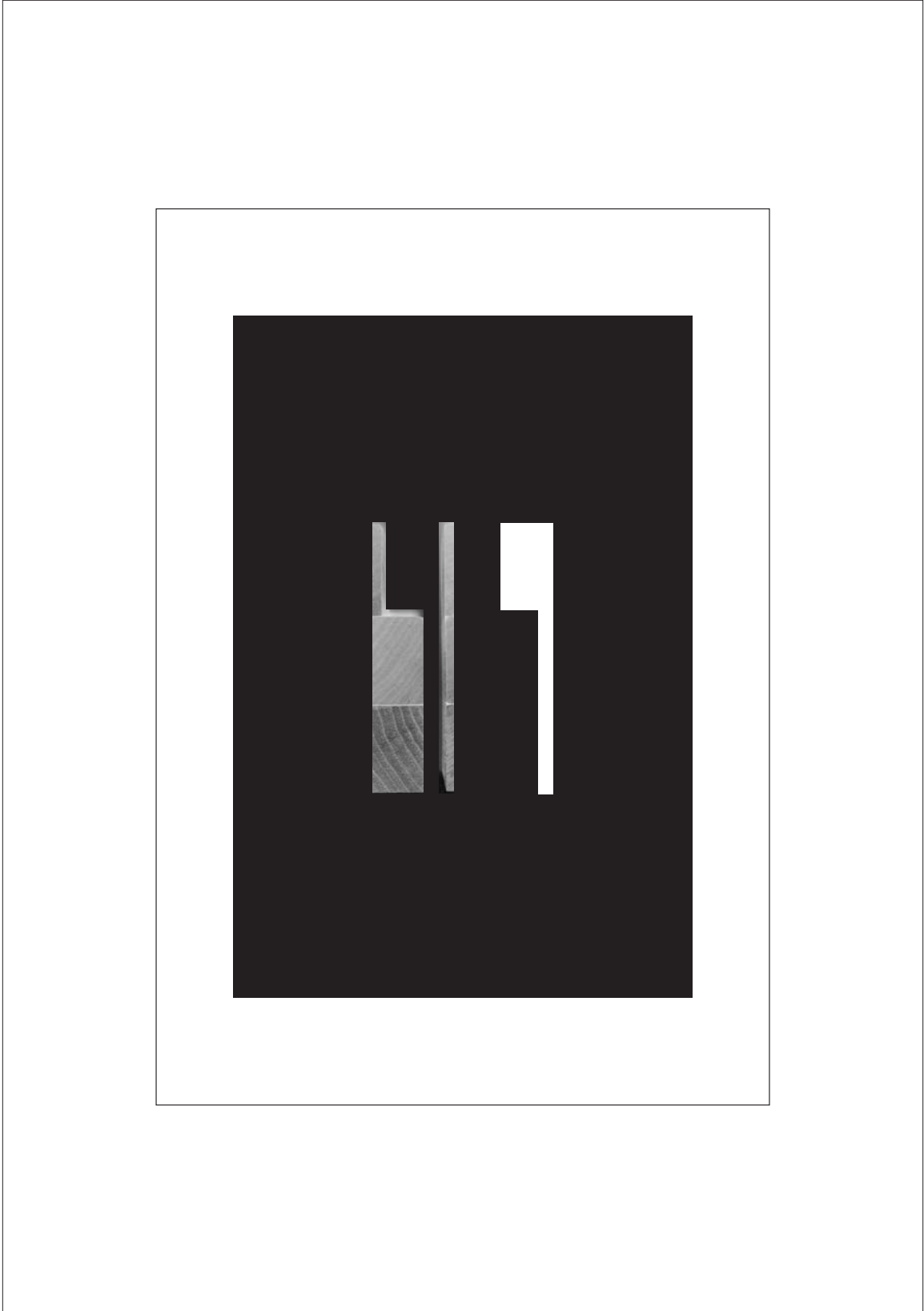
“The Magnitude of Space” - From top to bottom: (1) a 6” change in a 4’ space (2) a 6” change in a 12’ space.

They vary in magnitude according to their relative position in space. For example, as space becomes tighter, forces within that space become concentrated, and therefore felt more intensely. (i.e., a 6" change in the horizontal direction is felt more within a 4' wide space than an 8' wide space.

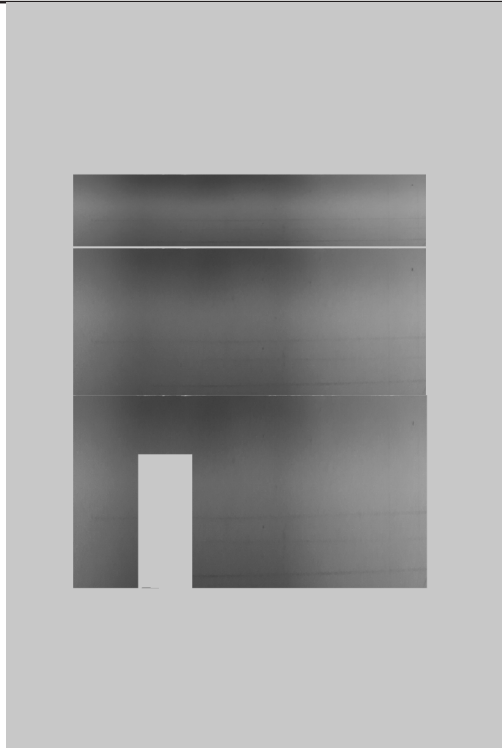
Dialectic of Space

At times we think we know ourselves in time, when all we know is a sequence of fixations in the space of the being's stability -- a being who does not want to melt away, and who, over the past, when he sets out in search of things past, wants time to "suspend" its flight. In its countless alveoli space contains compressed time. That is what space is for. (Bachelard and Jolas 2014, 30)

The use of dialectic oppositions is a means of describing the forces of space. Spatial recognition is a result of differences, or the change in something in space. I recognize the body as warm and soft when touching steel that is cold and hard. Recognition of space is found in oppositional forces meeting one another. The limit, or transition from space to space is recognizable because of these differences. The 'force', or phenomena of space is understood here to exist at the point in-between one experience and another. The dialectic, i.e. cold and warm, provides one means by which to recognize and isolate these spatial forces. There is a kinaesthetic relationship exists between the body and space. Space can slow down the body, or perhaps even speed up time. Feelings of compression and expansion can be achieved through the transition from one space to another. Different connotations occur whether one ascends or descends through space. Sequence of space can orient or disorient the body...a catalogue of spatial phenomena becomes a means of describing how space kinaesthetically modulates the body.

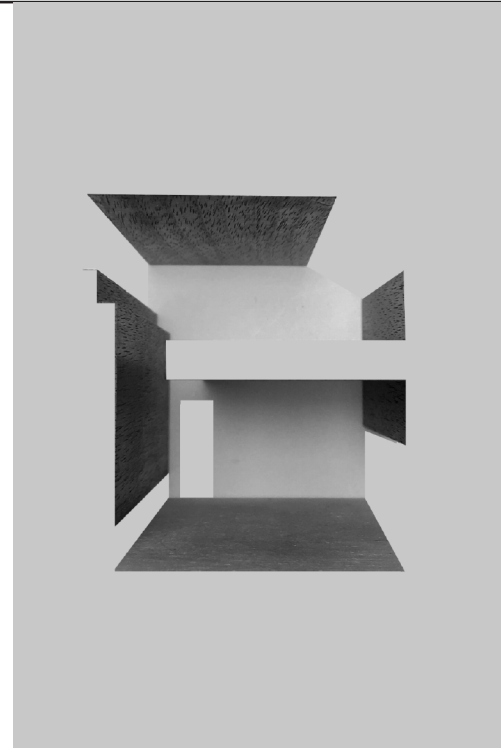


Principle of 'Dialectic Space' - The act of being squeezed and released by space. I recognize this space as expansive because I came into it through a contracted corridor.



OBJECT

The object of space represented
through 'elevation'



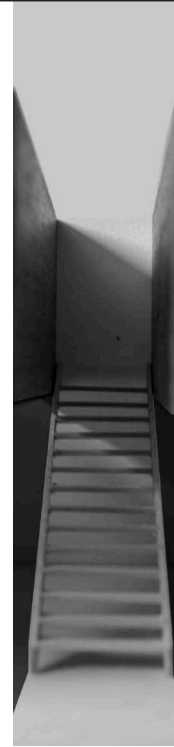
ENCOMPASSING

The subject of space represented
through 'section'



OUTSIDE

exposed,



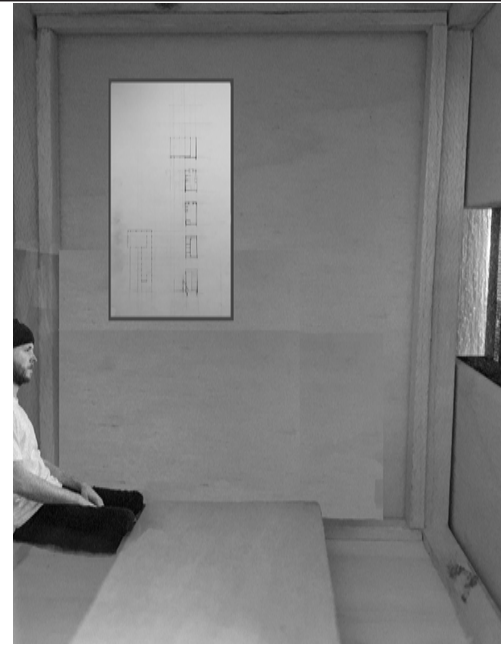
INSIDE

protected,

“Dialectic Oppositions”: Inside - Outside



movement



rest

MOTION - STASIS

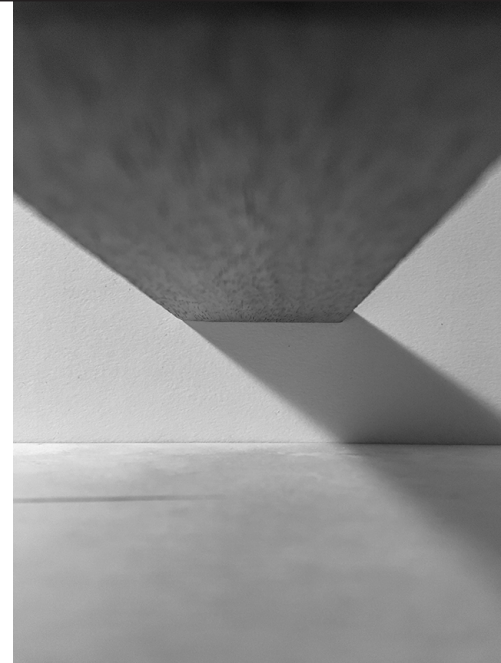
Spaces can encourage movement or encourage rest. A long tight space that presents sharp edges (exposed structure) manipulates the body into a posture of moving through. A

square space, with a view outward, and soft edges encourages a posture of stasis. One becomes silent and inward focused.



VERTICAL

wall, beam, column, symbolic

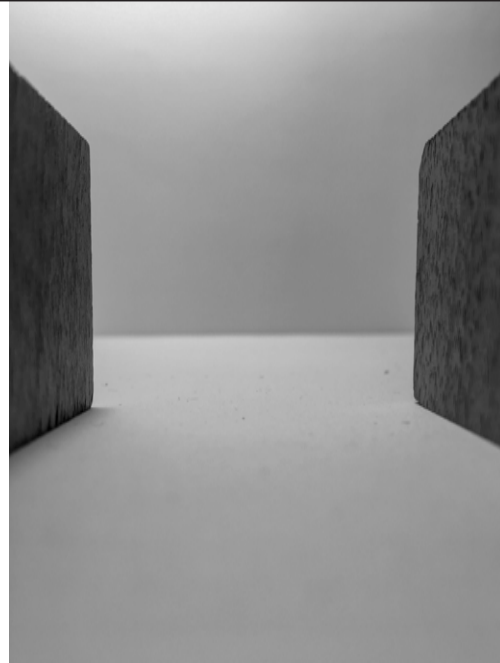


HORIZONTAL

floor, ceiling, horizon. earthly stages
of the life cycle, the horizontal plane
is the zone of communication and
social interaction.



horizontal compression



horizontal expansion

HORIZONTAL CHANGE

Movement of the horizontal planes of space. Change in the floor, ceiling planes. Change in the horizon. Metaphorically associated with

the earthly stages of the life cycle, The horizontal plane becomes the zone of communication and social interaction.



ceiling

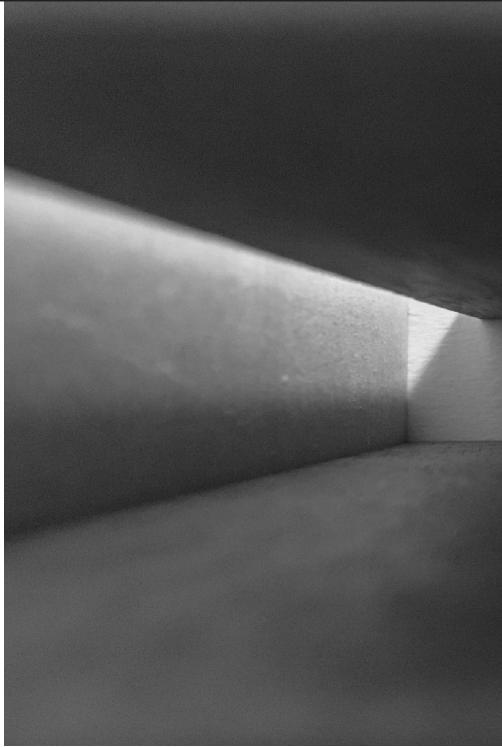


floor

VERTICAL CHANGE

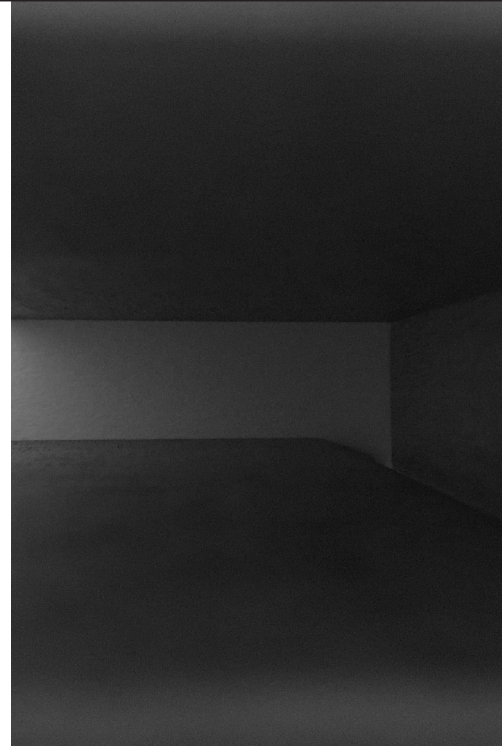
Movement of the vertical planes of space. There are two ways in which this can occur: (1) the change in the ceiling level and (2) the change in the floor level. A change in the ceiling height produces a spatial force of

compression; enacting two zones within one room. A change in the floor plane enacts a similar force, but the body now must overcome a means of resistance in order to move between the two.



LIGHT

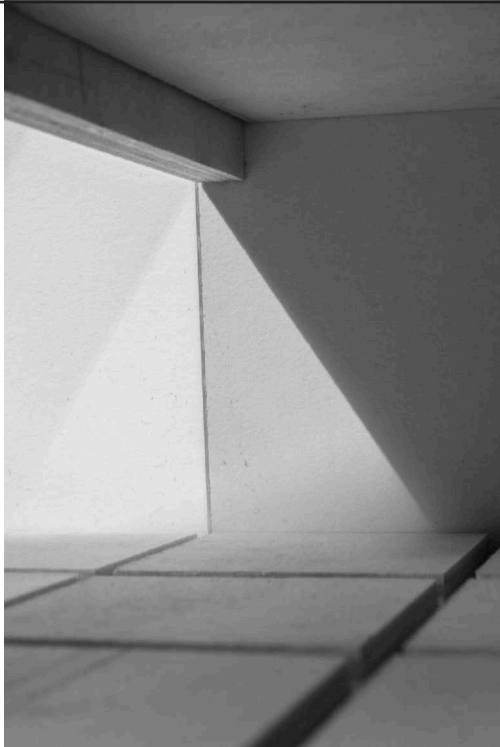
warm, awake, movement, defined



DARK

cold, asleep, stasis, obscure

“Dialectic Oppositions”: Light - Dark



TRANSPARENT

through, hard, clear, movement,
outward, contrast



OPAQUE

closed, soft, fuzzy, stasis, inward,
blur

“Dialectic Oppositions”: Transparent - Opaque



NAKED

exposed, hard, repulsion, movement



EXPOSED

covering, soft, attraction, stasis



DECENSION

Movement downward as one of absorption, submersion, and compression.



ASCENSION

Movement upward associated with feelings of growth, longing, and reaching.



slow

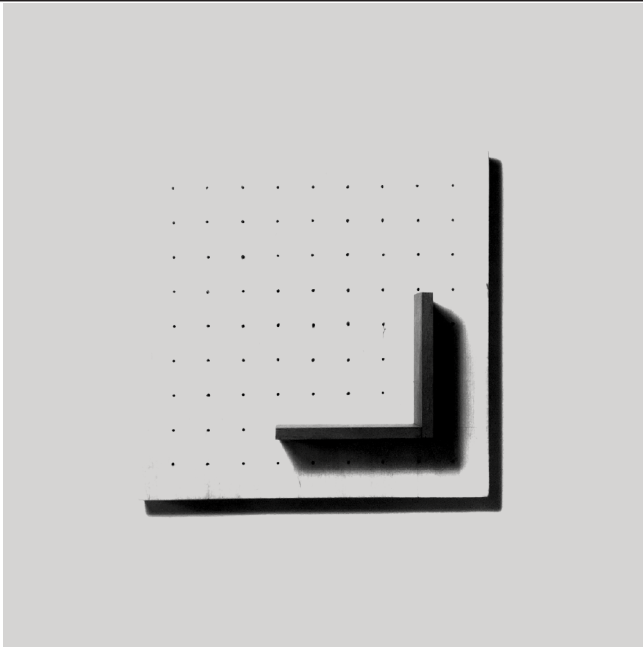


fast

SLOW - FAST (STAIR)

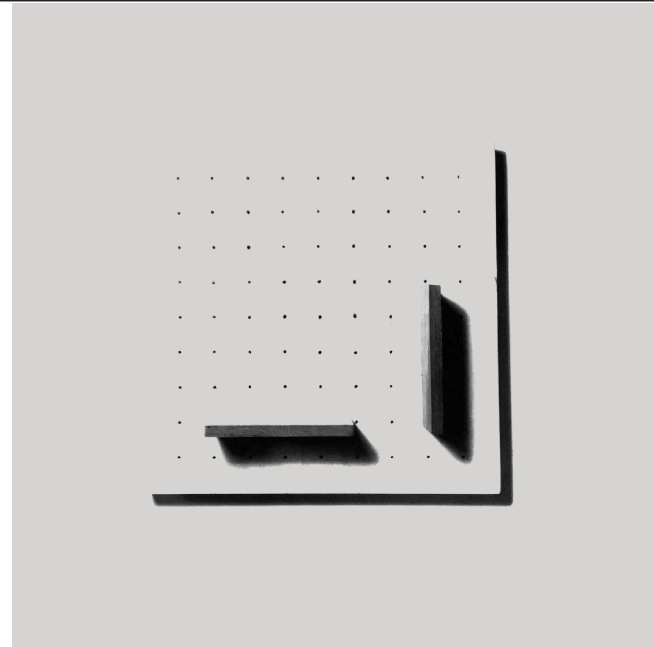
The perception of time as a relationship between the tread length and riser height of a stair. As the tread length gets larger and riser

height becomes smaller, time slows down. As the slope increases, the perception of time speeds up.



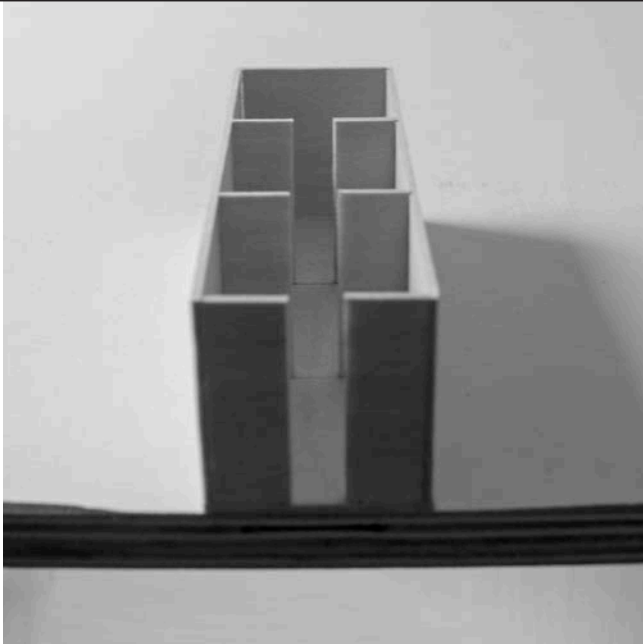
CLOSED

The corner. The germ of a house. A half box, half wall half door. Secluded, Silence.



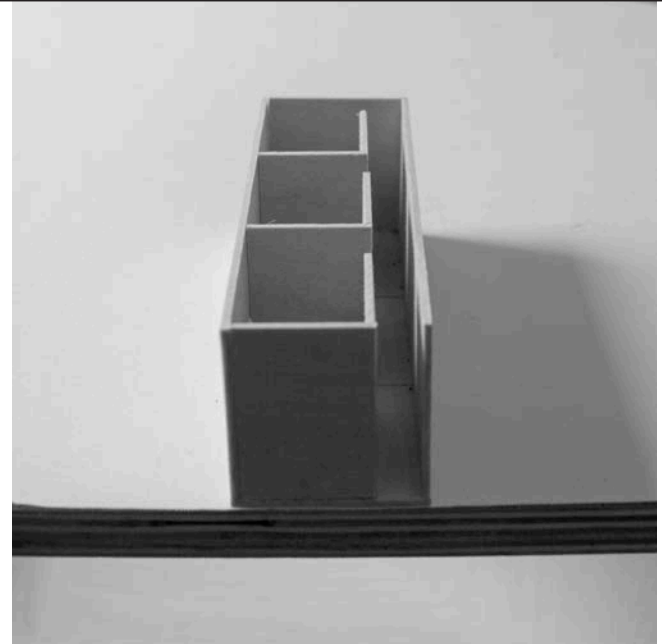
OPEN

The open corner. Leading, Exposed, Release, Intersection. Communication, Noise



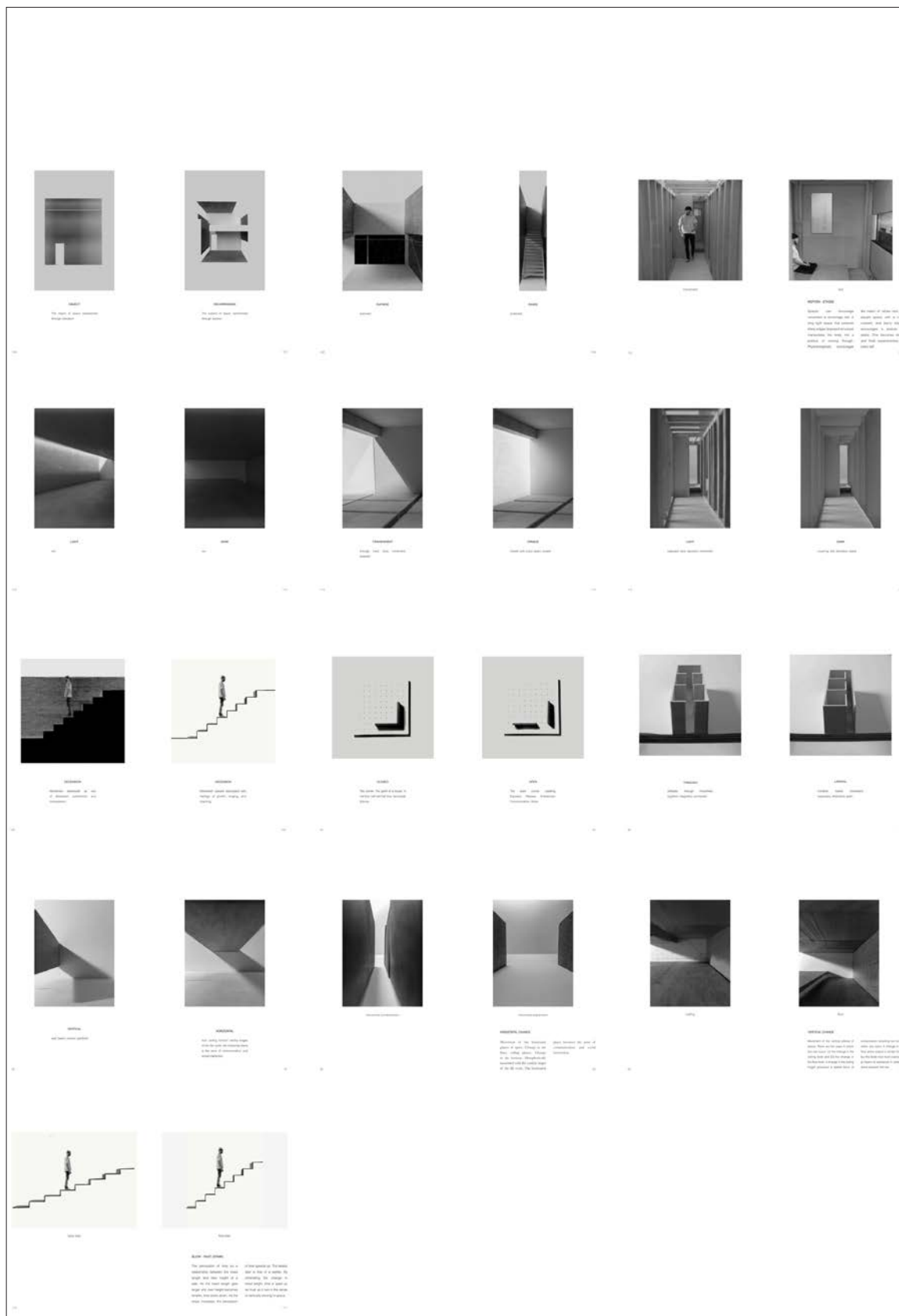
THROUGH

enfilade, through movement,
together, integrated, connected



LATERAL

corridor, lateral movement,
separated, dedicated, apart



“Dialectic Oppositions” - Overall matrix of dialectic oppositions

Chapter 8: The Kinetic Model

Modeling begins with simple tectonic elements. We re-imagine these elements. We practice using them as modifiers of space. We use them to capture the forces that the body is immersed in and apart of. A series of fabrications; exercises used as a method practice. The practice of intuitively building spaces, rooms, structures, places. These fabrication exercises use the basic elements of architecture, while serving the purpose of experiencing before theorizing. Theory is the reflection of what is learned through action.

Object - Play - Idea

From these abstract spatial models, a series of images were produced. From the model and the associated images, 'ideas' for 'architectural' projects emerge. Ideas, images, and models are re-fabricated into architectural 'projects' that explore particular phenomenon of space.

The purpose of this approach is to momentarily subvert the conscious mind through the engagement of the body in making. The kinaesthetic model is used to release the imagination by making a direct link between thinking and acting body.

Block Model

Start with a cubic block measuring 3" x 3" x 3". Compose a series of these blocks into a composition. Repeat. What emerges from the study are basic forms of space.

Plane Model

Take three self-similar planes. Compose them into various positions within a grid. Repetition in simplicity creates complexity.

How can the composition of space affect the human body moving within in? What is the difference in moving within parallel walls compared to adjacent walls? The open corner or the closed corner? Contracted or expansive?

Block + Plane Model

A study in spatial movement. Using cubic blocks and planes, space is modulated into a variety of encompassing volumes. The result is a continuous metamorphosis of space. As one moves through, the space moves too - from light to dark, open to closed, outside to inside,... what are the acts of dwelling that fit into each particular space?

Void Model

A study in casting 'space' as material.

Slide Model

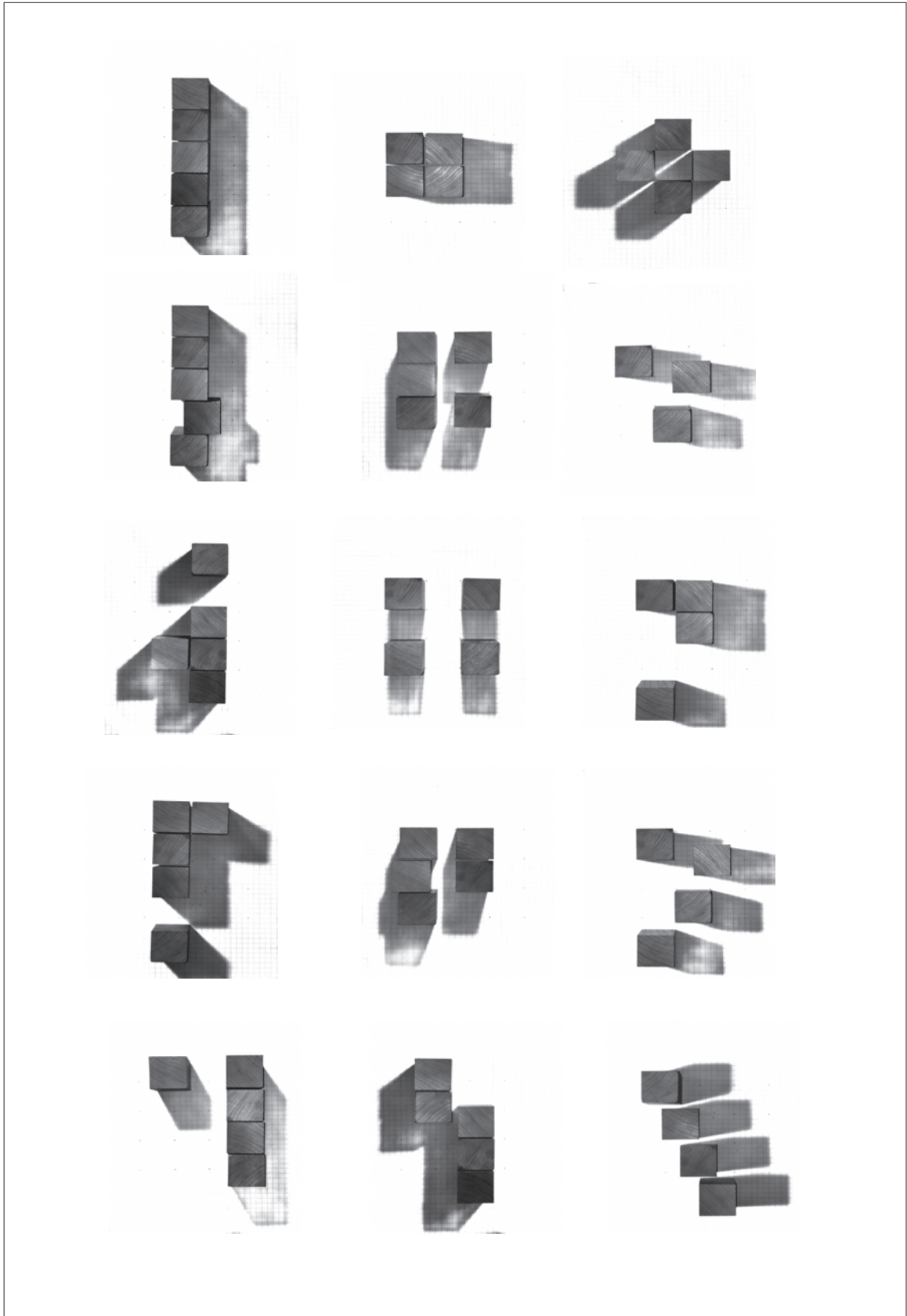
Create an object that is capable of incrementally changing itself and the space it encompasses.

Wall and Plane Model

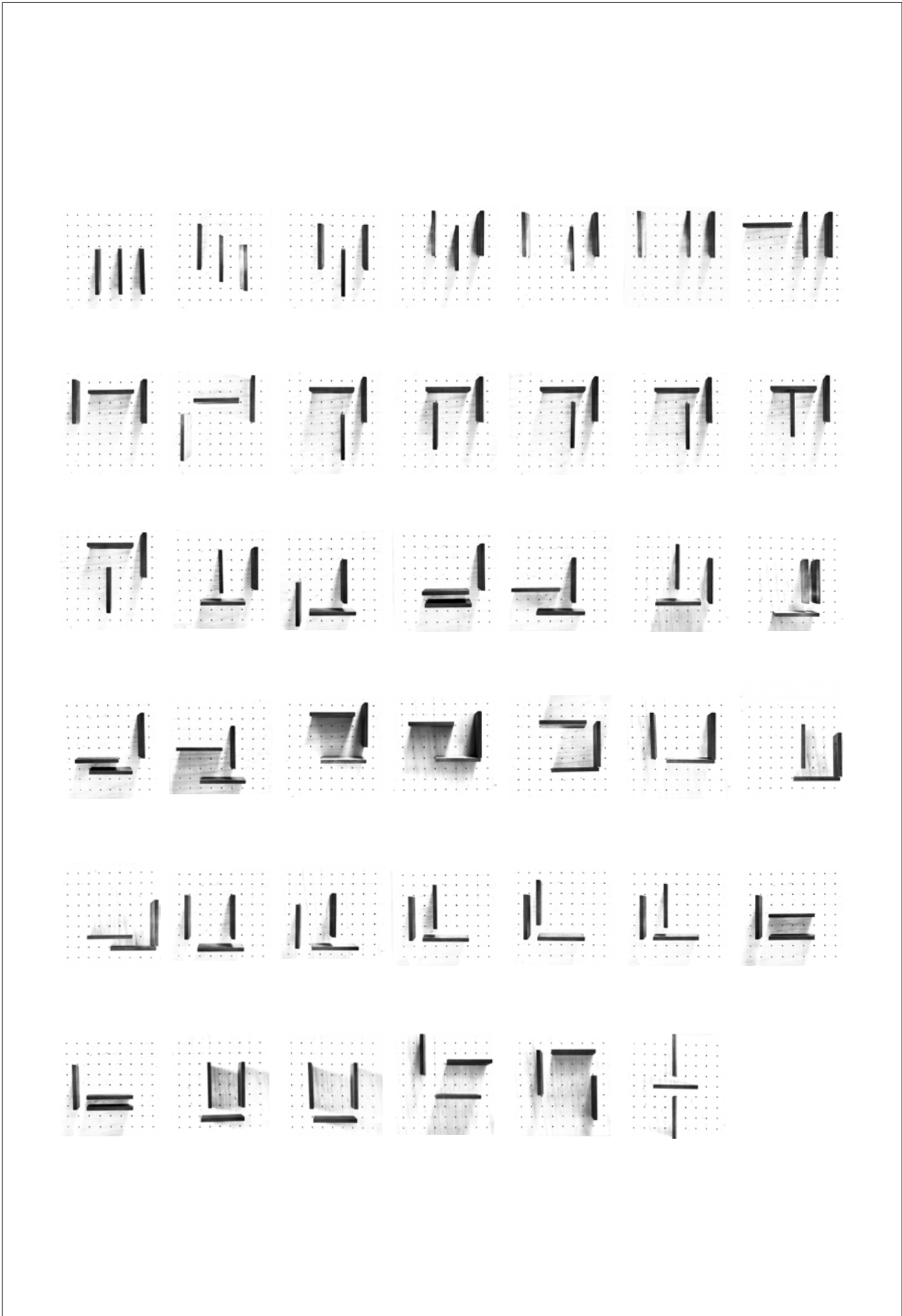
Create an apparatus that makes use of the wall and plane to make a composition of space.

Wall and Plane Model II

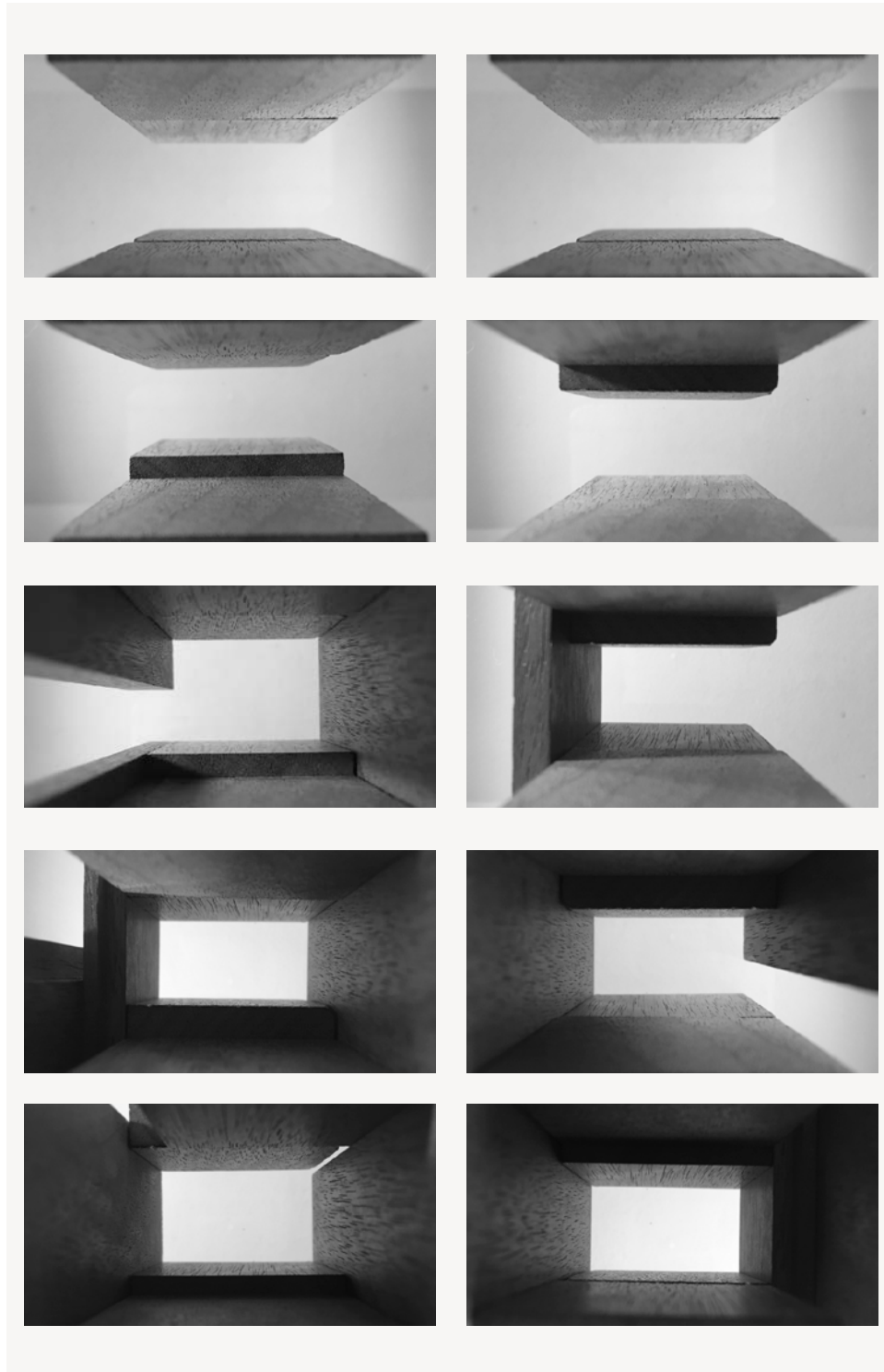
A study in vertical section. Using vertical and horizontal planes, manipulate space into a 'room'. The model maintains a consistent floor plane. Manipulations of space take place in the wall and ceiling planes. Movement through space is not defined by the step; changes in horizon take place through the relationship between the "window" and the "seat".



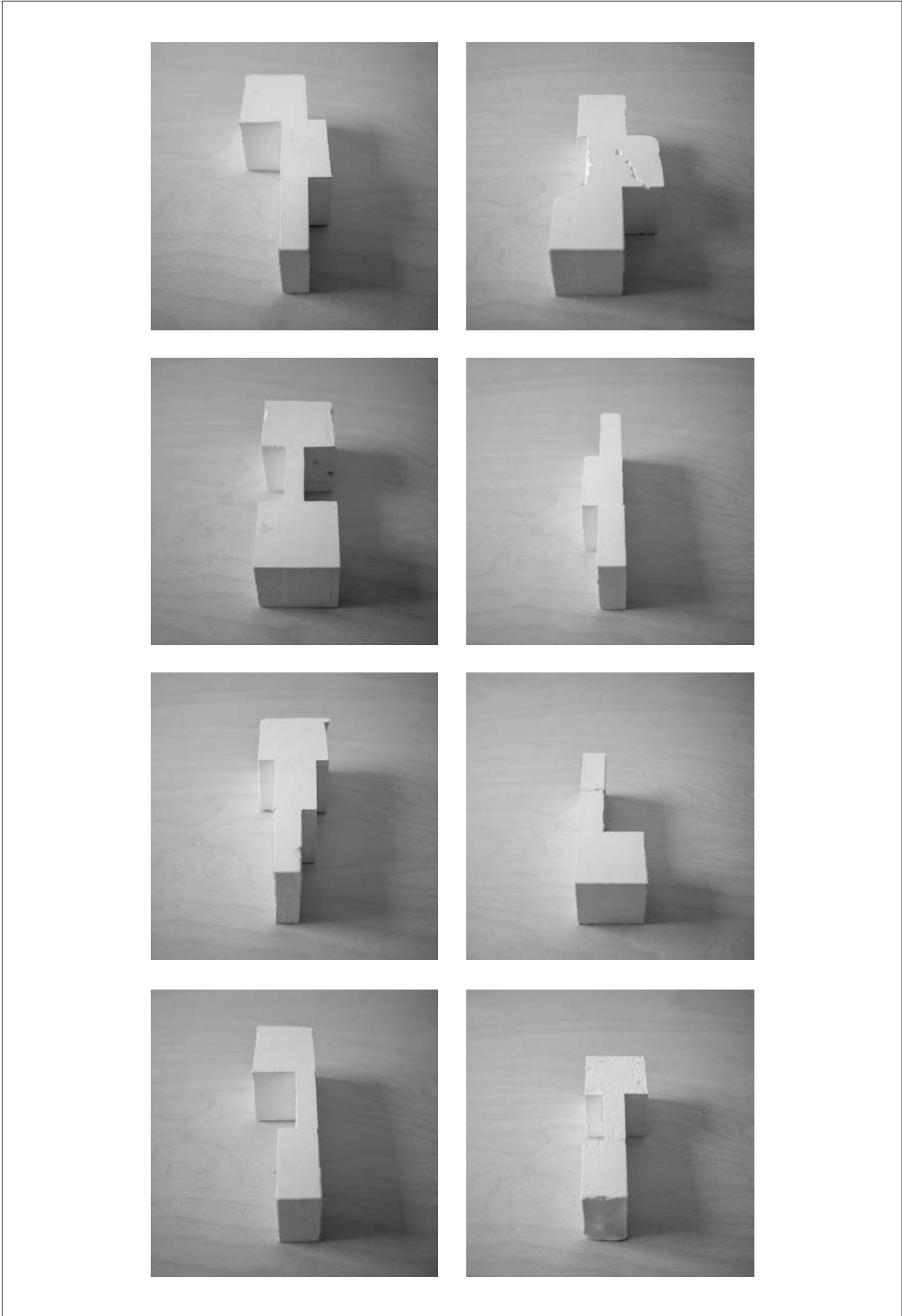
“Block Model” - Iterations (play)



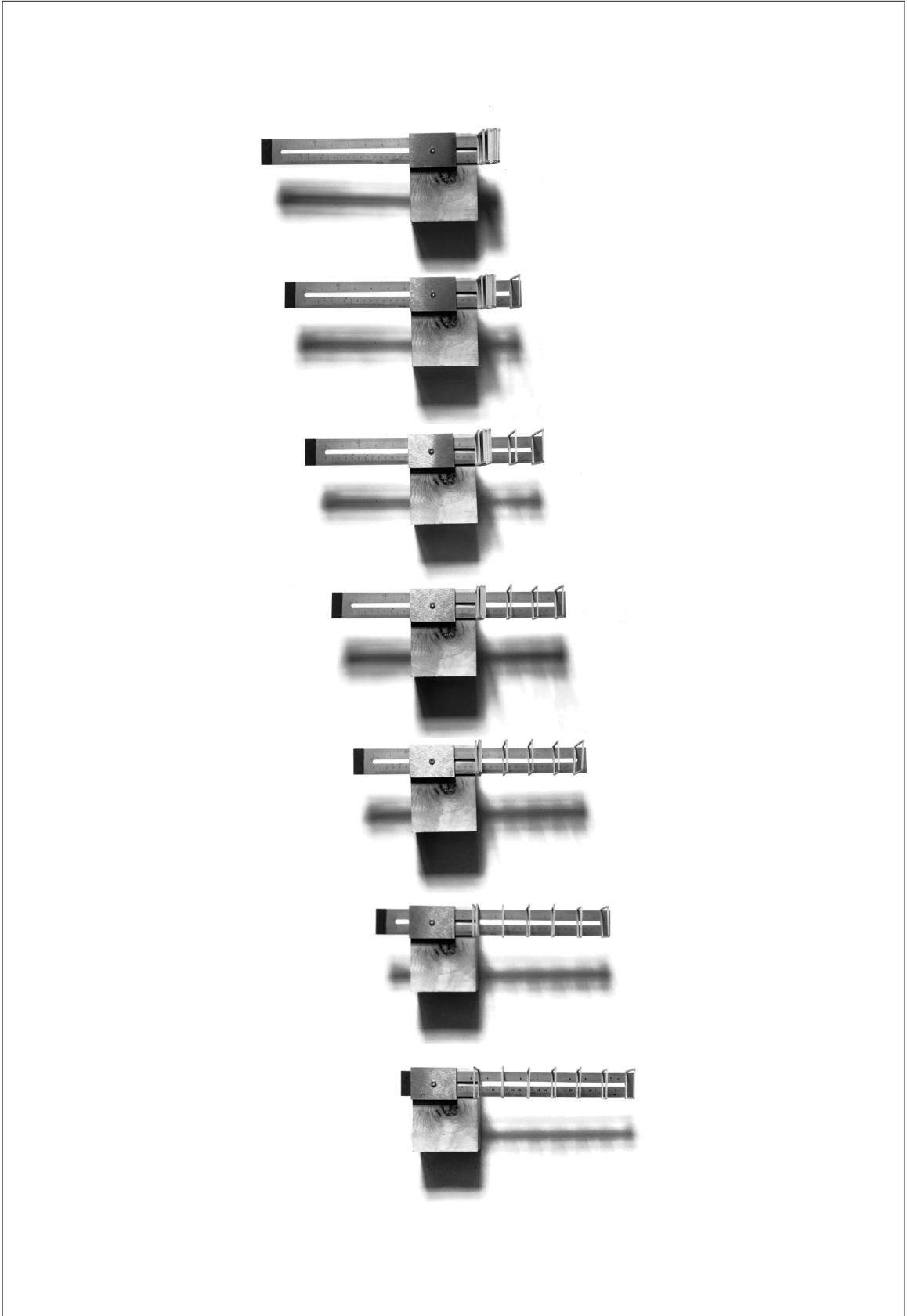
“Plane Model” - Iterations (play)



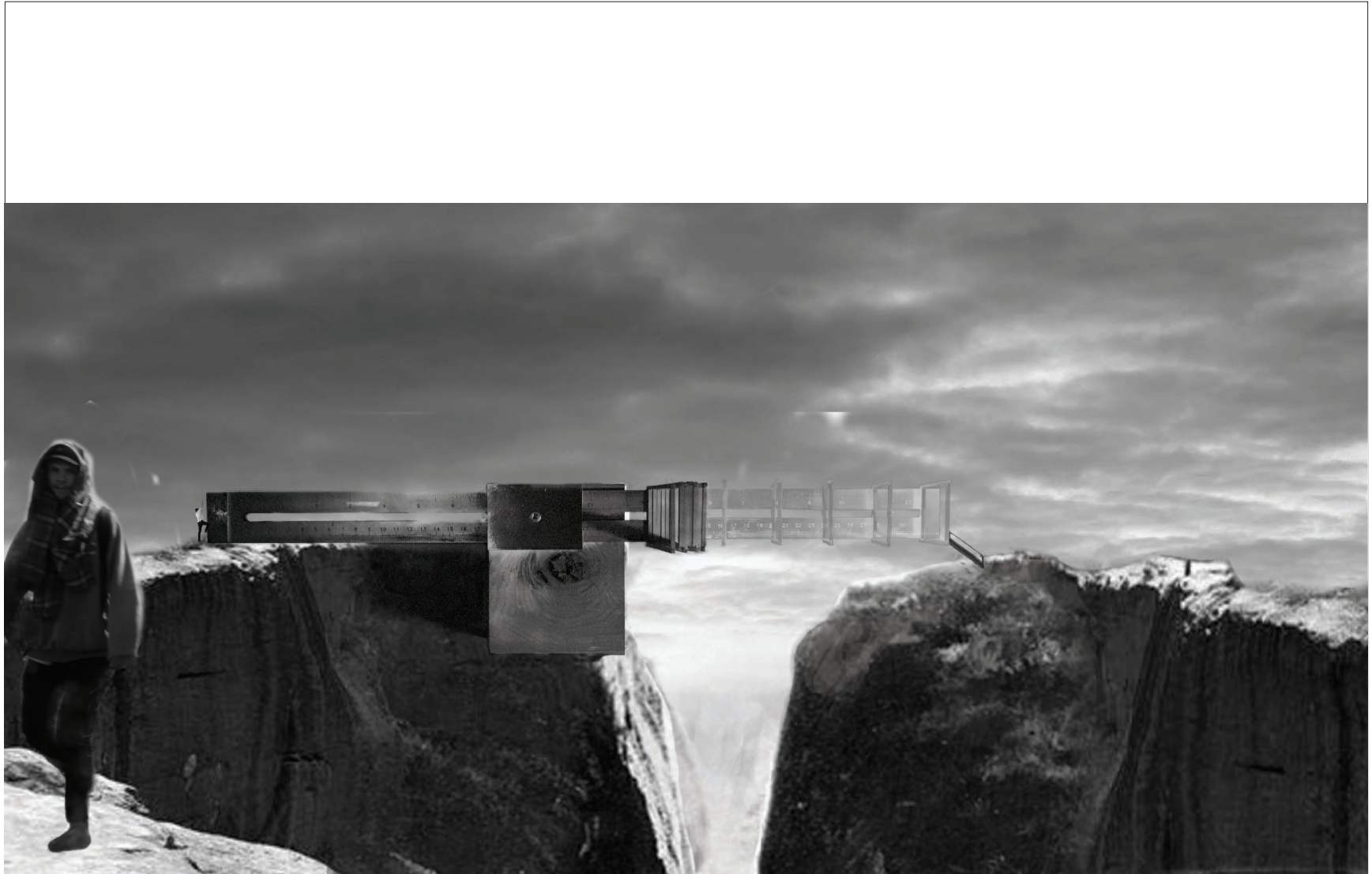
“Block + Plane Model” - Iterations placed in sequence (play)



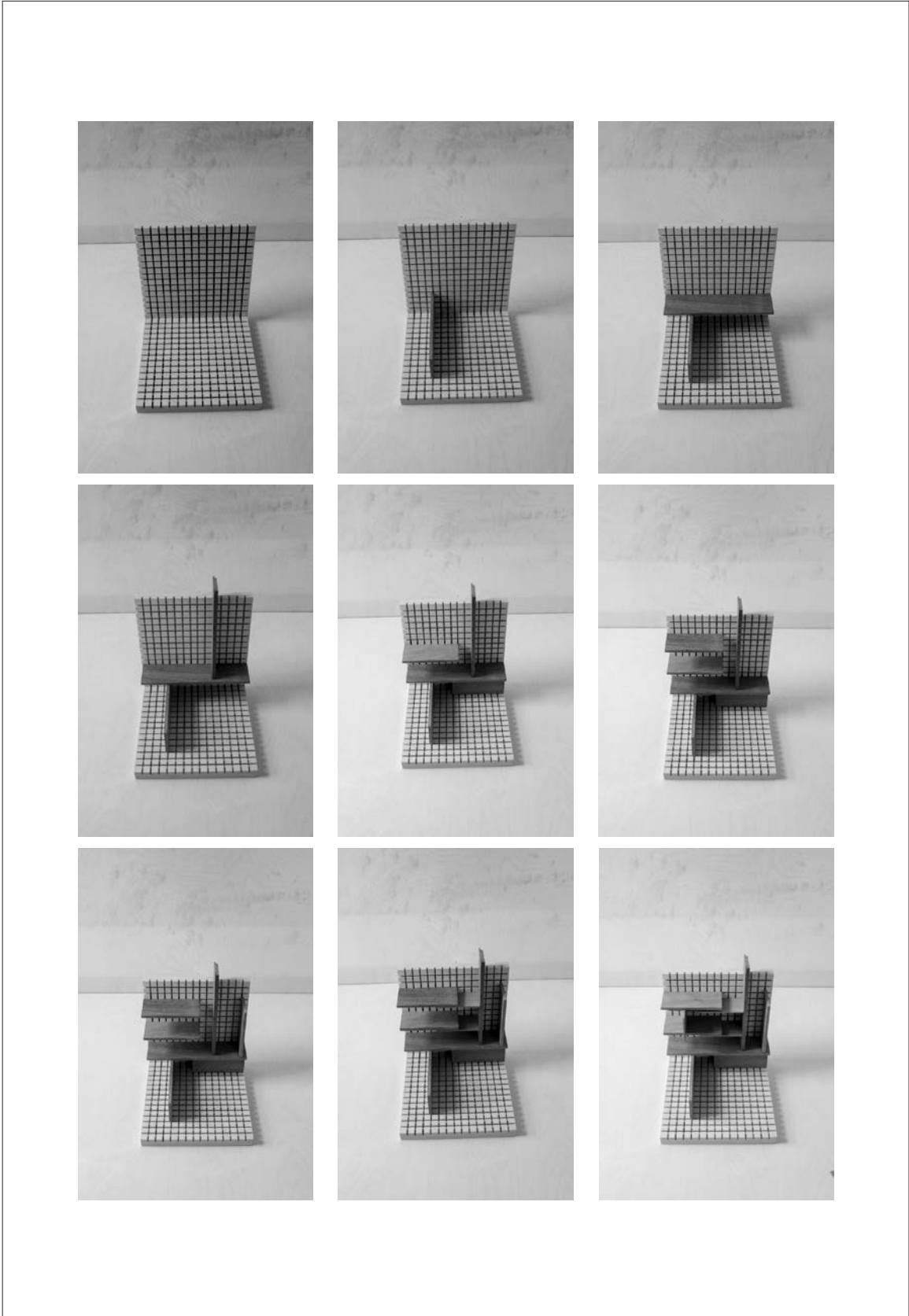
“Void Model” - Iterations (play)



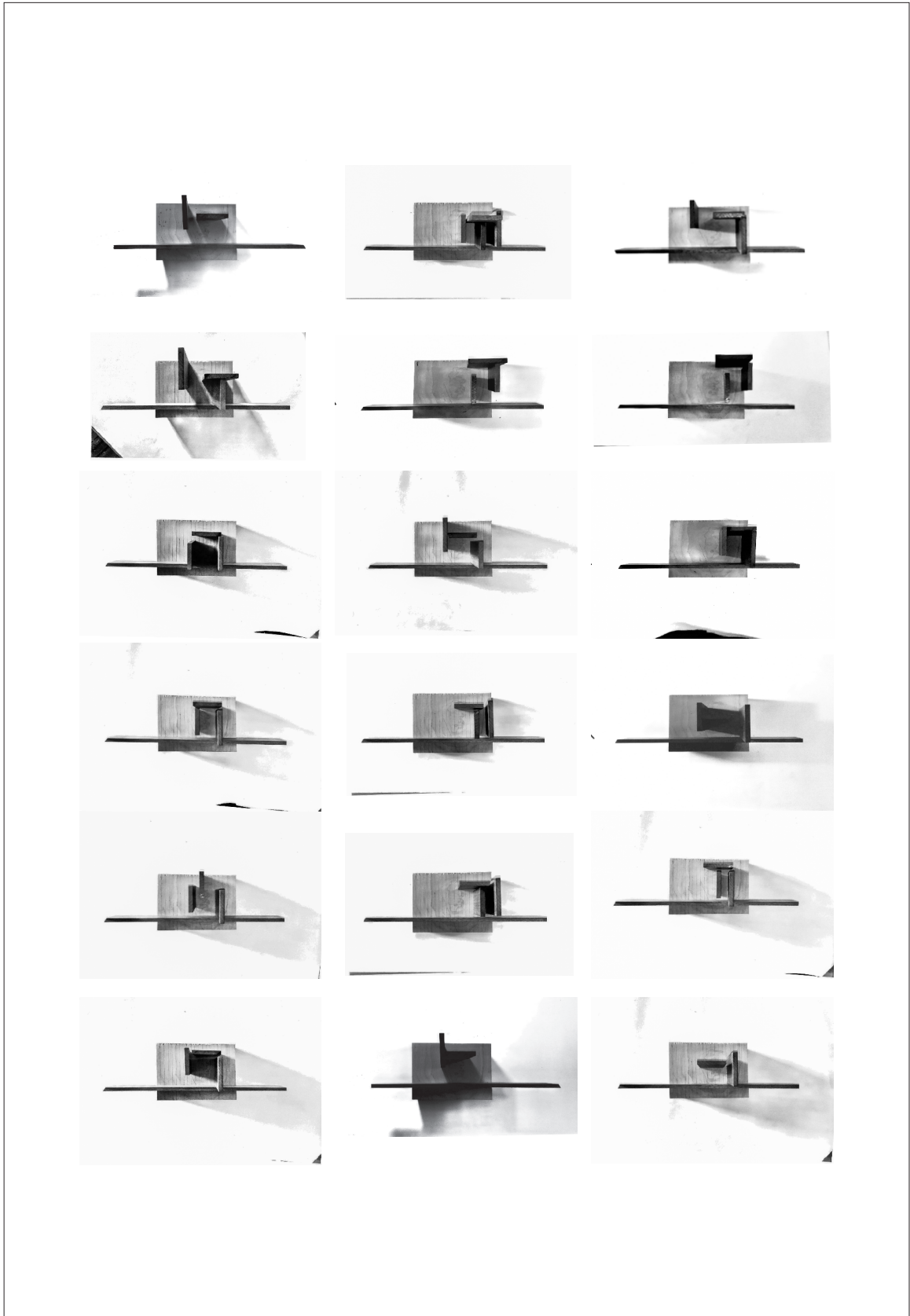
“Slide Model” - Sequence of movement (play)



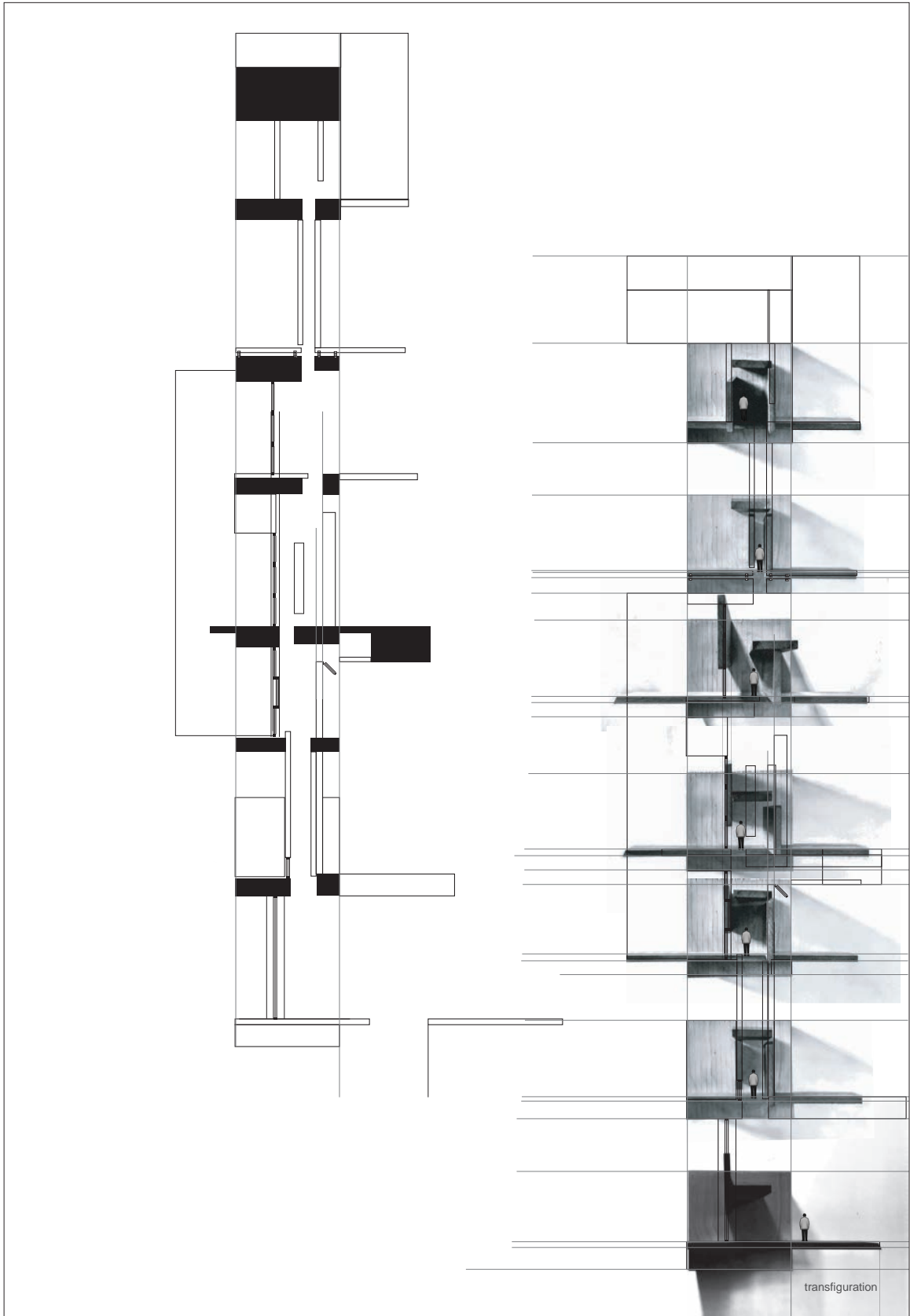
“Slide Model” - Rendered landscape (idea)



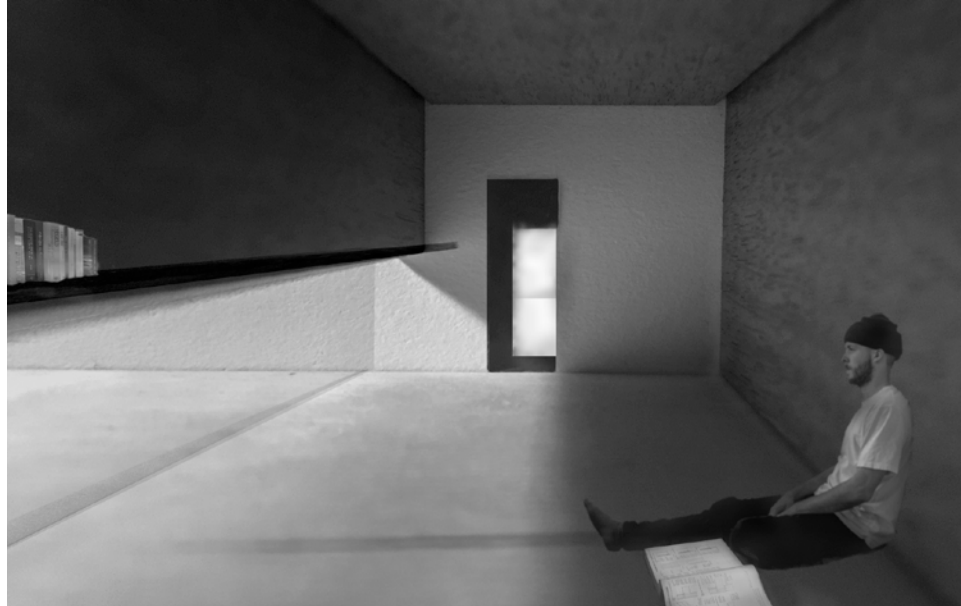
“Wall and Plane Model I” - Iterations of the model in different compositions (play)



"Wall + Plane Model II" - Iterations of the model in different compositions of itself (play)



“Wall + Plane House” - Section images and plan (emergent idea)



“Wall + Plane House” - Rendered model images (experience)

Emergence

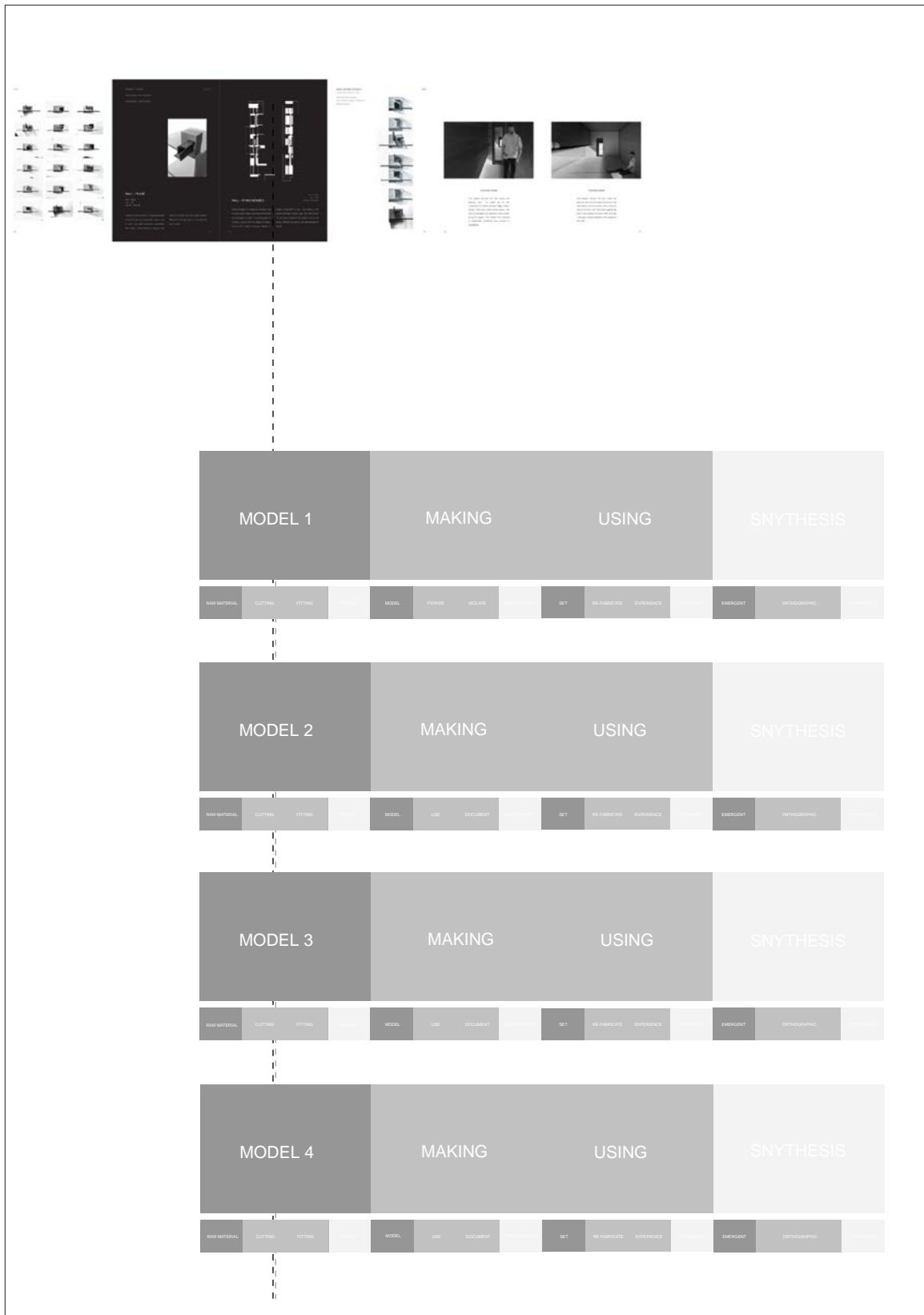
The series of kinetic models are made and played. A series of images are produced as iterations of the same object in different compositions of itself. It is through this process of making and using that a potential architectural idea emerges.

This process is recursive, the making and use of each model feeds into the conception of the next (this is the same framework as the chair). It is at the point of the Wall and Plane Model II that a 'coming off' occurs, a sort of aesthetic moment. In playing with the composition of the iterations of this model, an idea of a composite whole emerges based on the sequence of seven particular images. The architectural whole is drawn out directly through the composition of these images. From the idea of the "Wall + Plane House 1", images of the experience of space emerge through further play with the model. What is significant is that the object superseded any notion of what was to come. The idea for a composite architectural space emerges through the act of play. This is an inductive means of generating a novel spatial outcome, it is based entirely within itself.

It is from this model that a series of subsequent models and architectural projects emerge.



"Emergence" - Rendered model process (synthesis)



“Wall + Plane Model Series” - Graphic table of process: the idea generated in the ‘Wall + Plane House’ leads to four subsequent models and projects.

Chapter 9: Wall + Plane House Series

Placing fragments together.

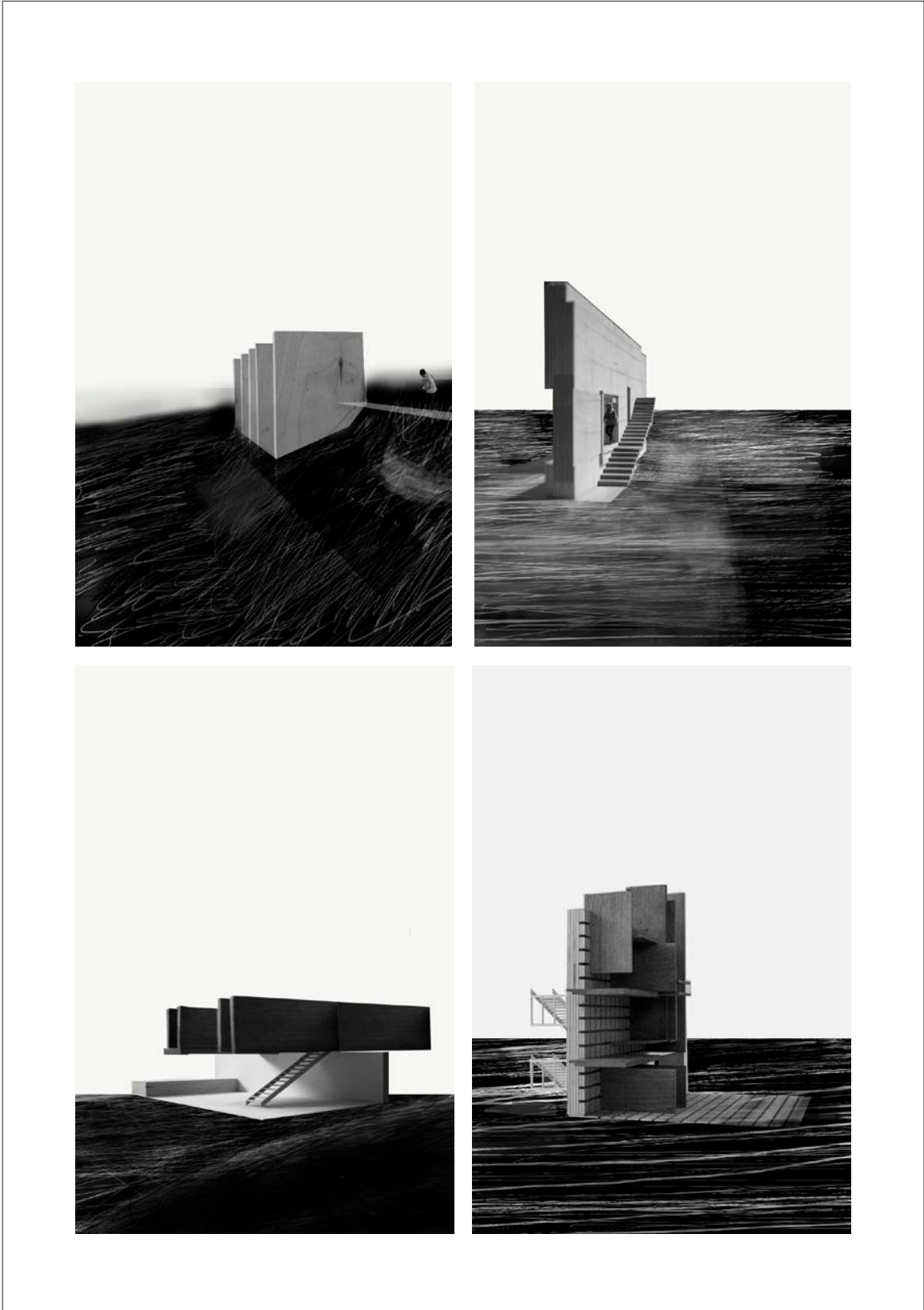
Introduction

A spatial outcome is gathered through the making, deconstruction, and re-fabrication of the model. This is the idea emerging through the “Wall + Plane Model II”. From this idea, a series of four houses based on the “Wall + Plane” comes forward. Four models based on these architectonic components are produced. Each model is a generation of the same idea. The models are played, leading to an architectural composition of house. It is significant that the spatial object supersedes the architectural idea; it is by exercising my own body with the physical model that an imagined space comes forward. In this way, the nature of the model leads to the nature of architectural composition. Each house is the manifestation of playing with the movement ‘through’ and ‘within’ space as mediated by the hypotenuse of space. What emerges is a series four ‘dwellings’ based in the synthesis of spatial phenomena.

The real plight of dwelling is indeed older than the world wars with their destruction, older also than the increase of the earth’s population and the condition of the industrial workers. The real dwelling plight lies in this, that mortal’s ever search anew for the nature of dwelling, that they must ever learn to dwell. (Heidegger 2001, 159)

Process

The process by which these projects are generated works within the reoccurring framework of “object - play - idea” as described in the preceding chapters.



“Wall + Plane House Series” - Four ideas of “house”, stemming from the “Wall + Plane” model series.

Model (object)

Each model, and the subsequent projects, are based on the same architectonic components: the wall and the plane.

The wall acts as the mediator between spatial realms, the moment of change between one experience and the next. One must pass through the wall each time one wishes to 'change' space. Everything scaffolds from the wall, structurally, programmatic-ally, and practically. The wall carries the 'loads' of the associated spaces. Everything balances from the wall, compositionally, structurally, and metaphorically.

The plane is composed on the wall. The plane is that which makes a room of space. Planes are composed to engage the body in the various activities of dwelling.

Isolation (Play)

Each model is used to produce a series of images of rooms of space. The manner in which space is isolated is dependent on the nature of each particular model and the manner in which the body would move through its' space. Isolation occurs in a sequential, parallel, overlapping, and/or consecutive manner.

Synthesis (idea)

From these views a composite whole is realized; an idea is generated. The final model is placed within an imagined landscape; grounding the proposed dwelling through the juxtaposition of model and horizon. Lastly, orthographic drawings are produced. The orthographic cut is a means of capturing the emergent qualities of space. The cut freezes the object for a moment in time. It is the closing act within each project.

A note on “Programme”

The notion of programme is obsolete. Spatial articulations that engage the body in certain postures are produced first. Certain postures lead to certain movements. Ritualized movements become the activities of dwelling: eating, cooking, bathing, expelling, resting, socializing, working, boredom, sex, cleaning, storing, collecting – movements as dwelling. The ‘activity’ of dwelling is found within the order of space rather than be forced upon it abstractly through the notion of ‘programme’.

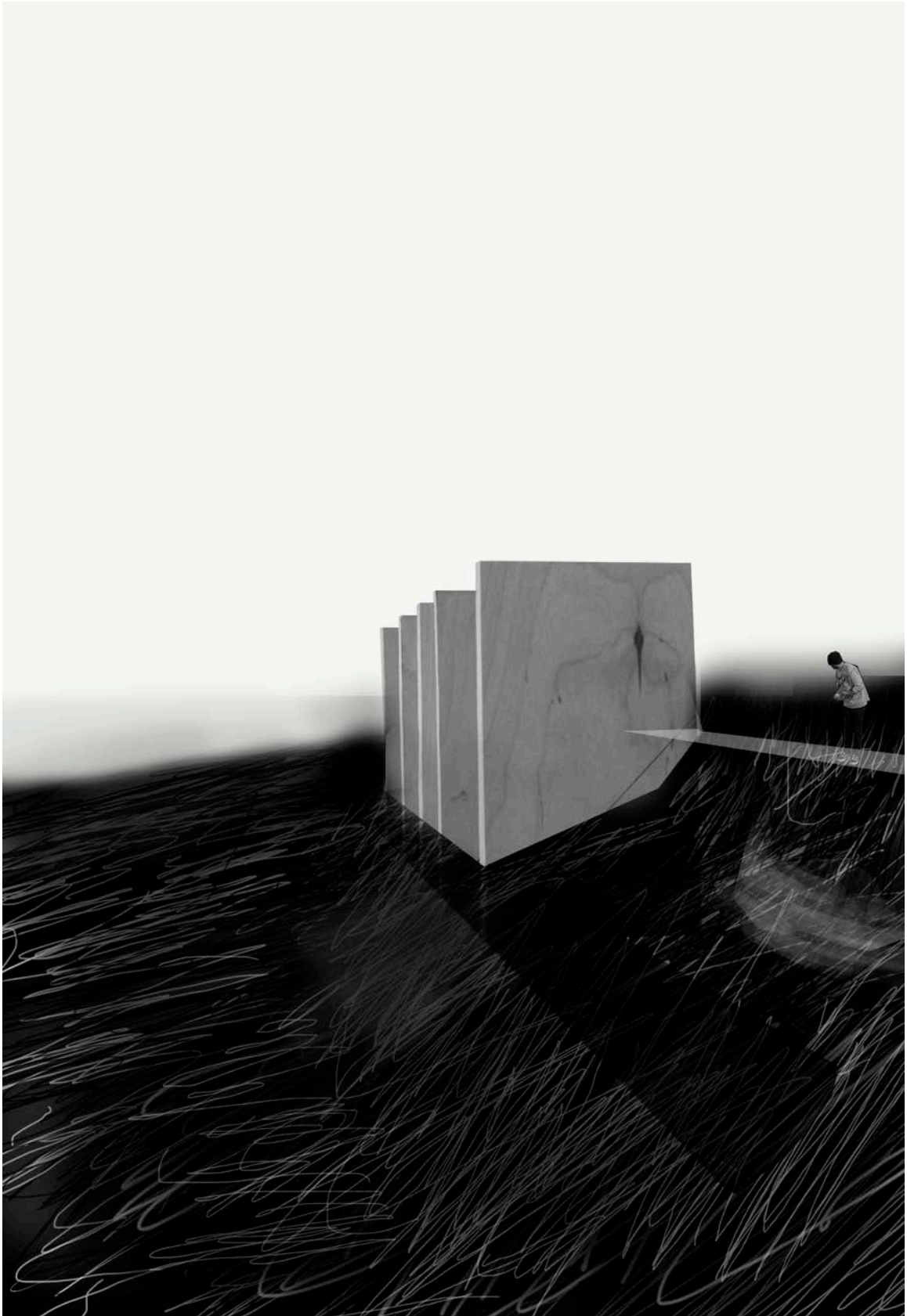
A Series of Houses

Wall + Plane House 1 (Through House)

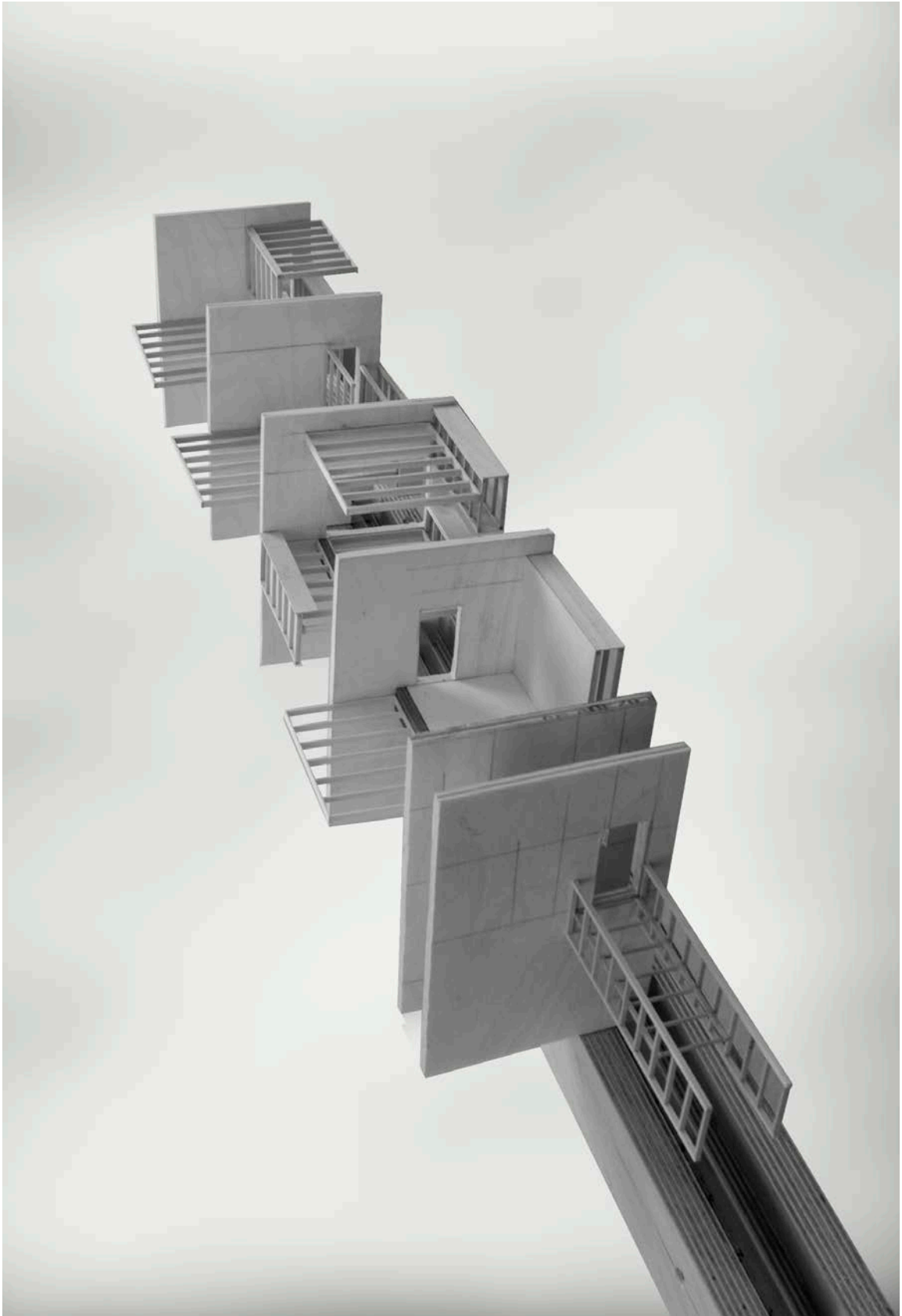
A series of walls in the landscape. The house is a play on the spatial organization of enfilade. The act of moving through and moving within are synthesized. I must move through this room to reach the next room, and so on through the entirety of the house. Each wall ‘section’ becomes a novel realm containing an activity of the house.

The movement of the body through and within the house occurs entirely in the horizontal plane – the body is never impeded by a step to reach a certain part of space. Each room provides the same outlook with seven different perceived horizon lines.

Each section of the house is a unique realm, containing the different programmatic movements of “dwelling”. Slight variations in ceiling height, the juxtaposition of exposed structure and dressed structure, varying conditions of light and view, produce subtle variations that manipulate the body as it moves through and within the dwelling.



“Through House” - Exterior perspective, model in rendered landscape (initial idea)

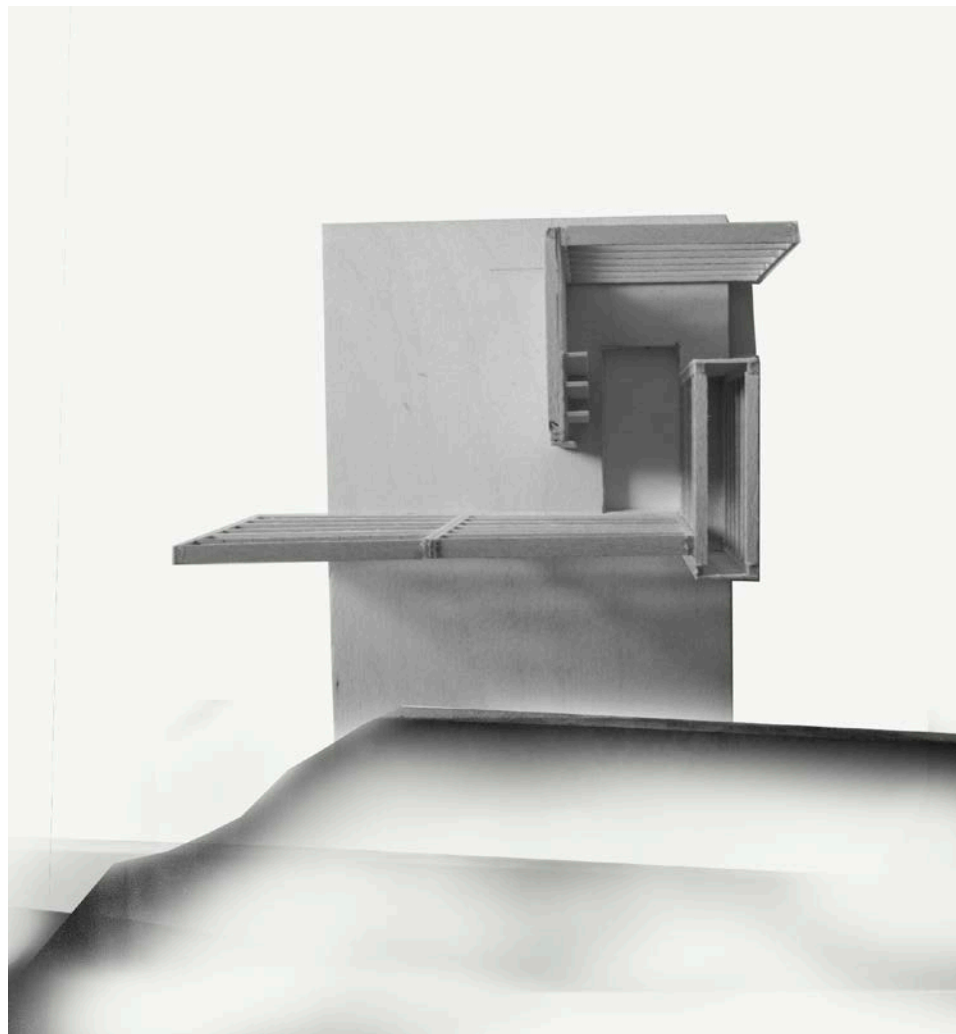


“Through House” - Overall model image (object)



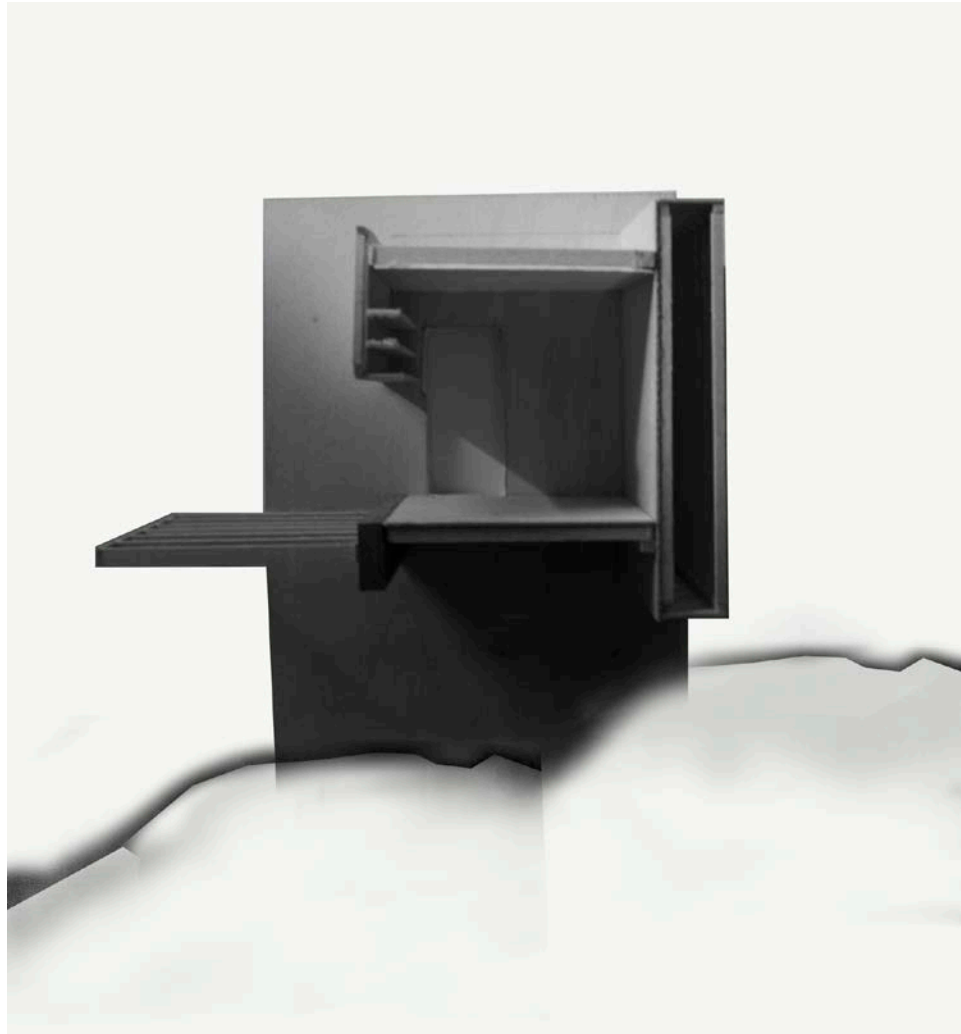
entry bridge

The bridge acts as an element that compresses the body kinestically, while maintaining visual expansiveness in all directions. The bridge draws the inhabitant forward, toward the entry of the dwelling, or inversely back into the landscape.



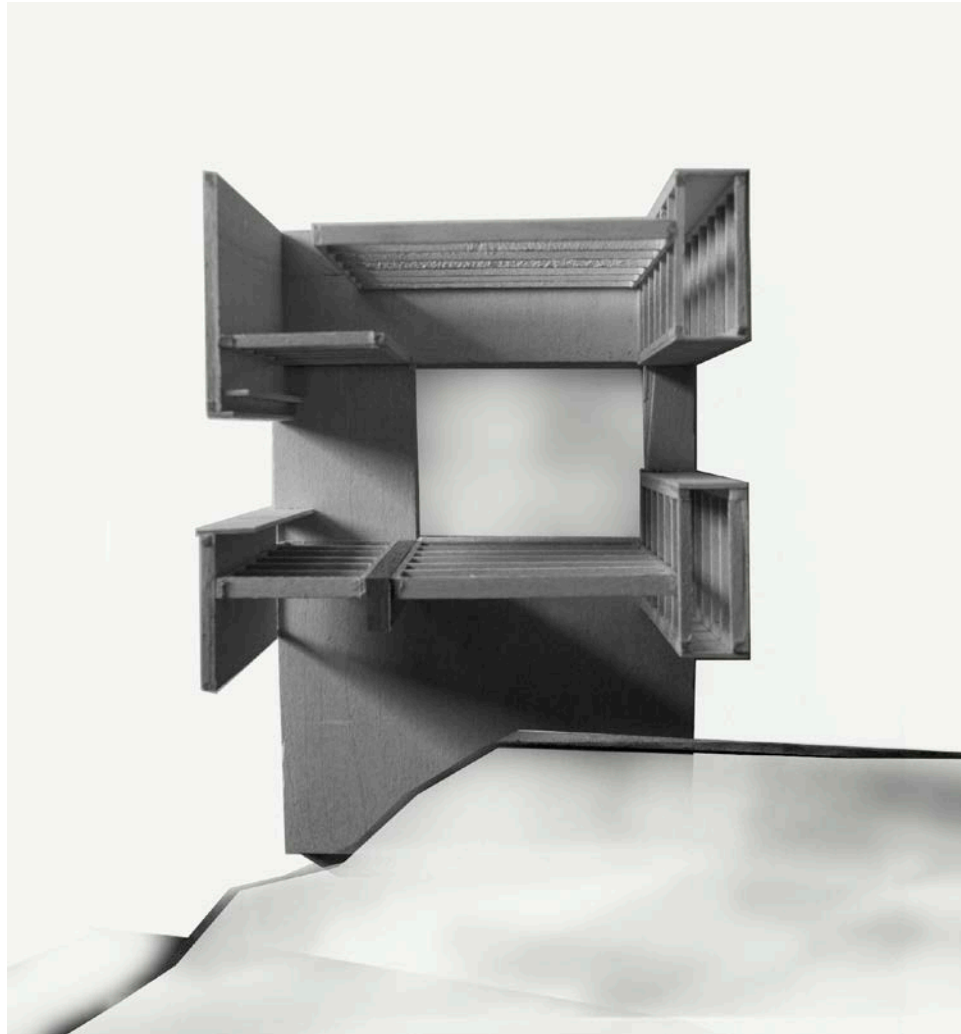
corridor and washroom

One passes through the wall, enters the corridor and adjacent washroom. The corridor encourages moving along, view is provided for the body in a standing posture. The washroom provides spaces of various postures, sitting, standing, and lying. Each posture contains a corresponding view of downward, upward, and horizontal.



reading room

One passes through the wall, enters the reading room. One chooses a book from the shelf above the low window. One intuitively sits on the floor with their back against the wall, in the shadow. Or one sits in the low chair in sunlight. Outlook is given as one changes the posture of one's body.



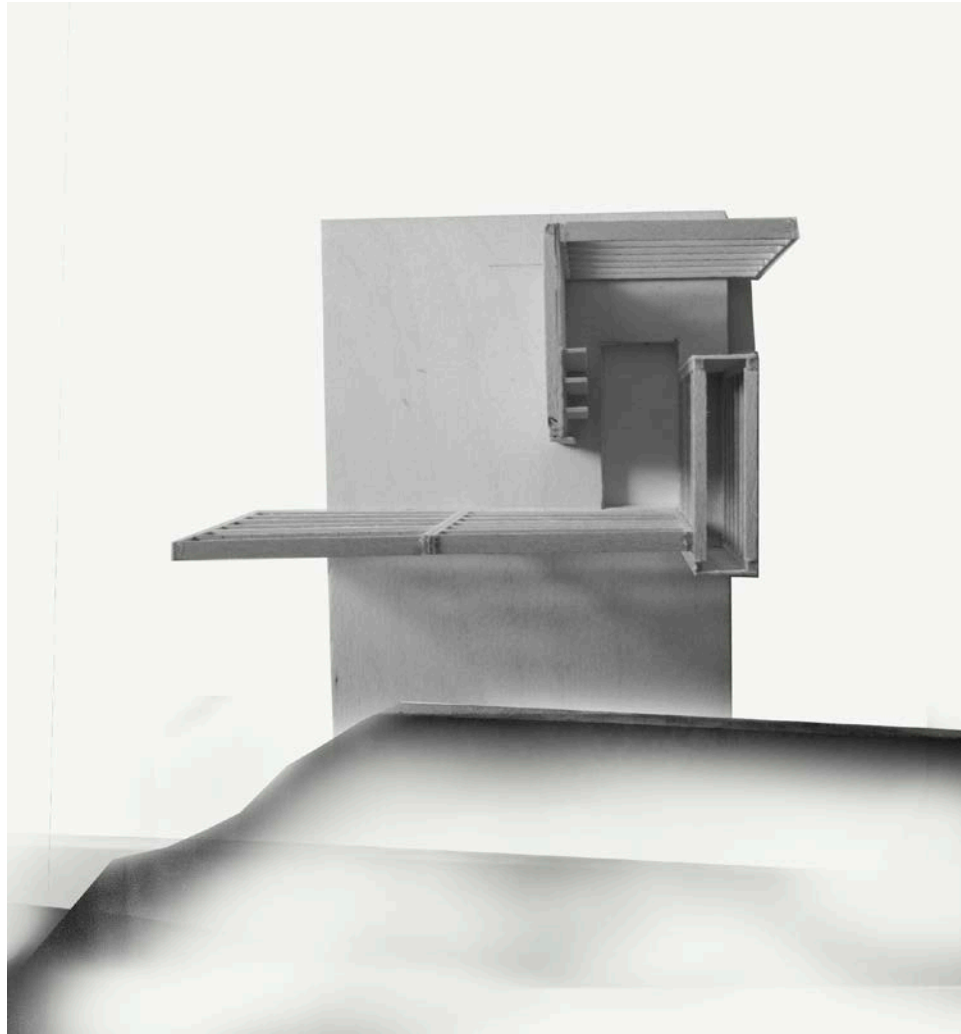
kitchen

One passes through the wall, enters the kitchen. One side of the room is for making, the other side for consuming. High, exposed ceiling structure encloses the side of making (cooking), while the low dressed ceiling covers the consuming side (eating). Outlook south is provided when sitting, outlook north is provided when standing.



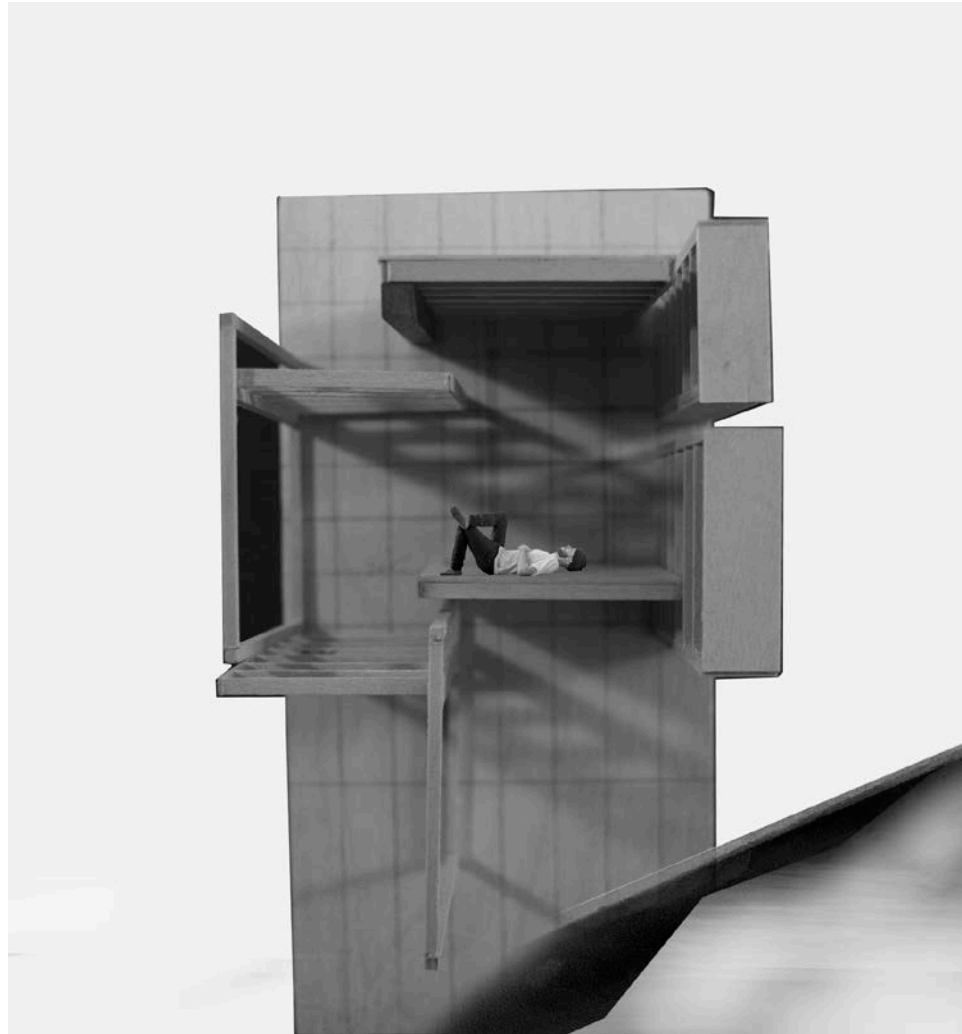
living room

One passes through the wall and enters the living room. Broken apart into two spaces by a half wall; on one side exists an area for sitting. Low ceiling, dressed structure, and a slight step outward provide a space of respite and outlook on the landscape. On the other side, the ceiling rises upward, and exposed structure indicates an area of moving through.



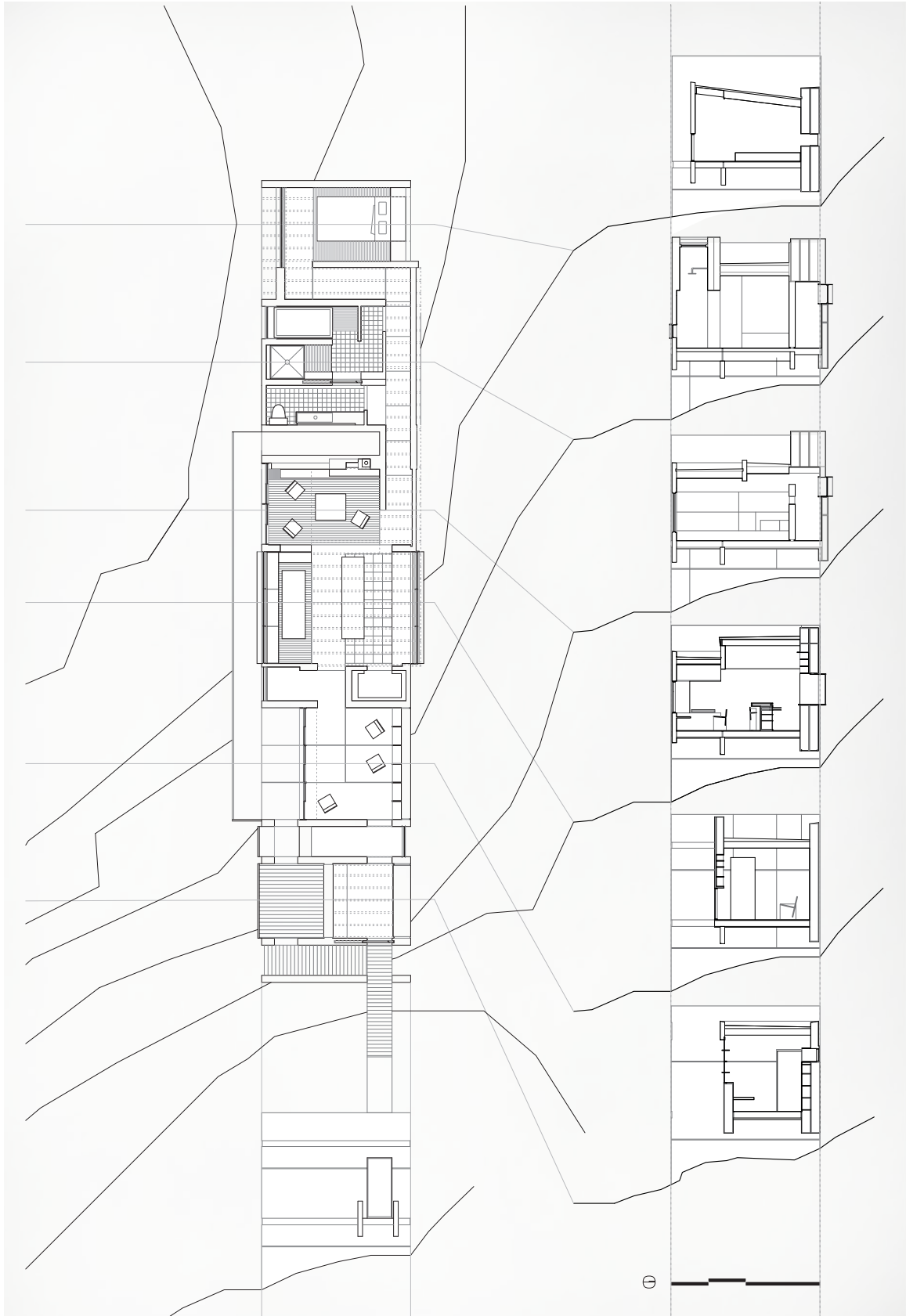
corridor of storage

Surrounded by storage on both sides, the inhabitant is compressed and encouraged to move through space. View south is removed, view north is revealed. Adjacent to the corridor is an outdoor space. While sitting outside, one may view the moving legs of those passing through the adjacent corridor space.

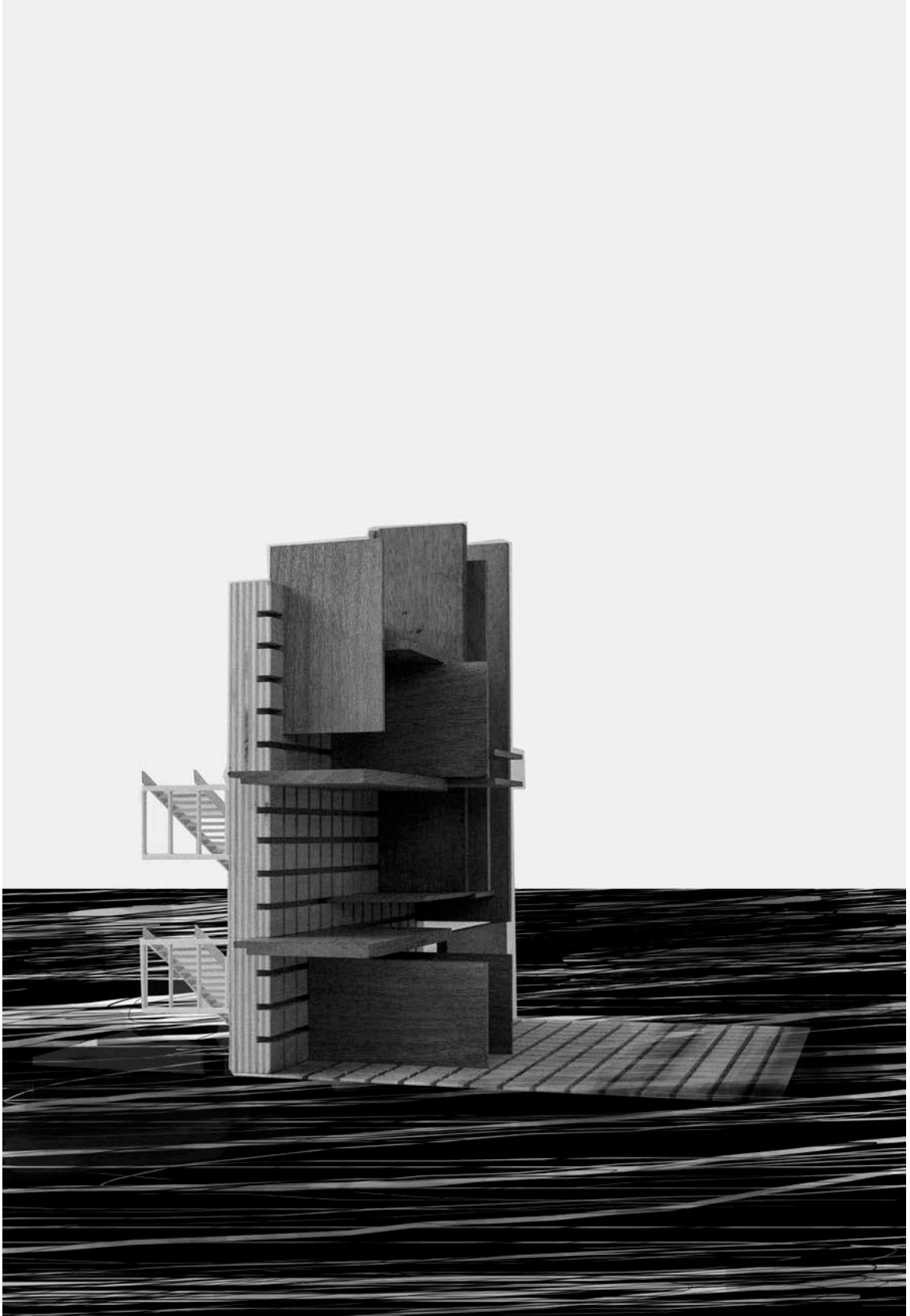


bedroom

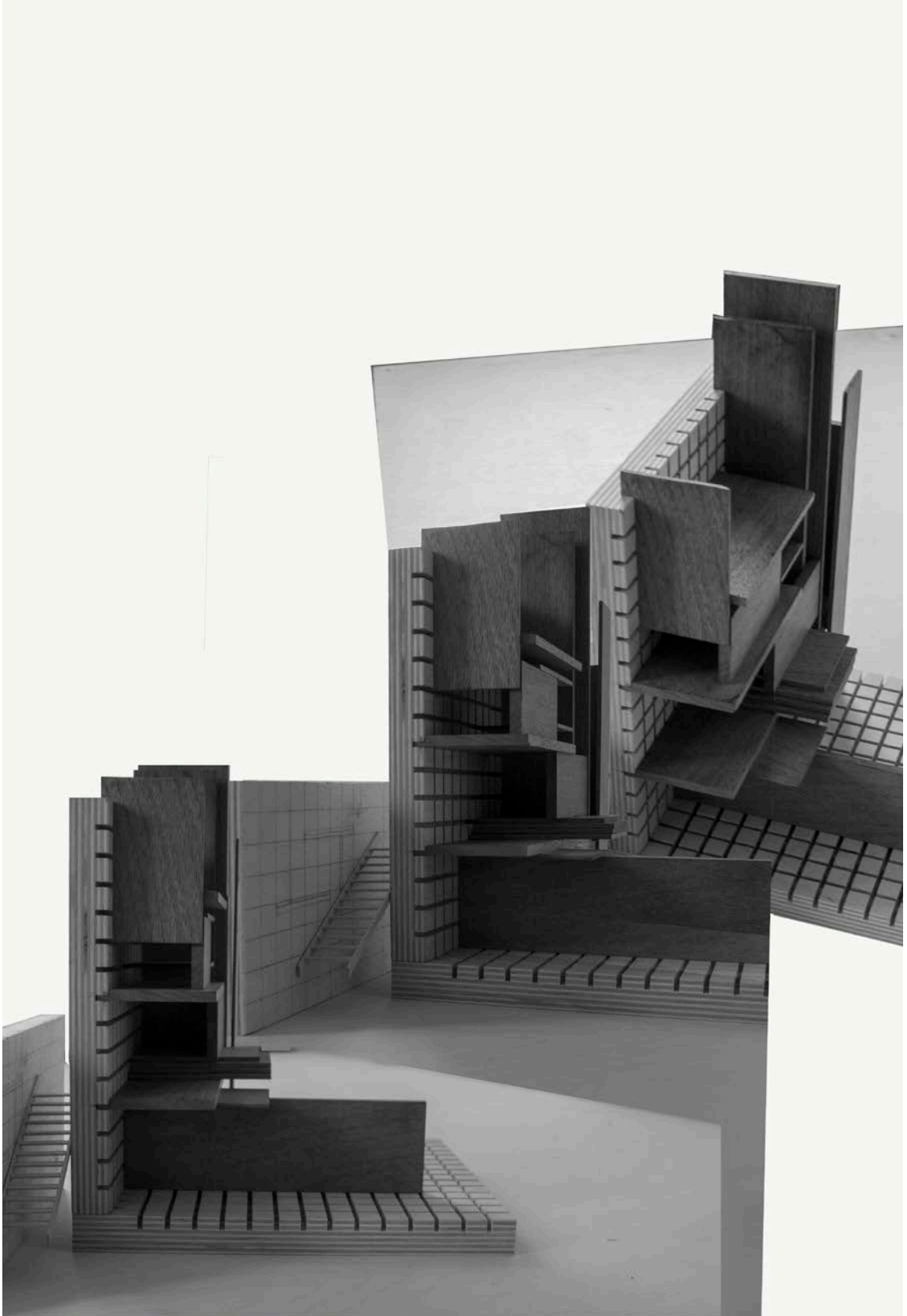
One passes through the wall and enters the bedroom. A step separates the sleeping space from the rest of the room. Outlook south is provided in both the standing and sleeping positions. Outlook north is revealed through a small slit inbetween storage millwork.



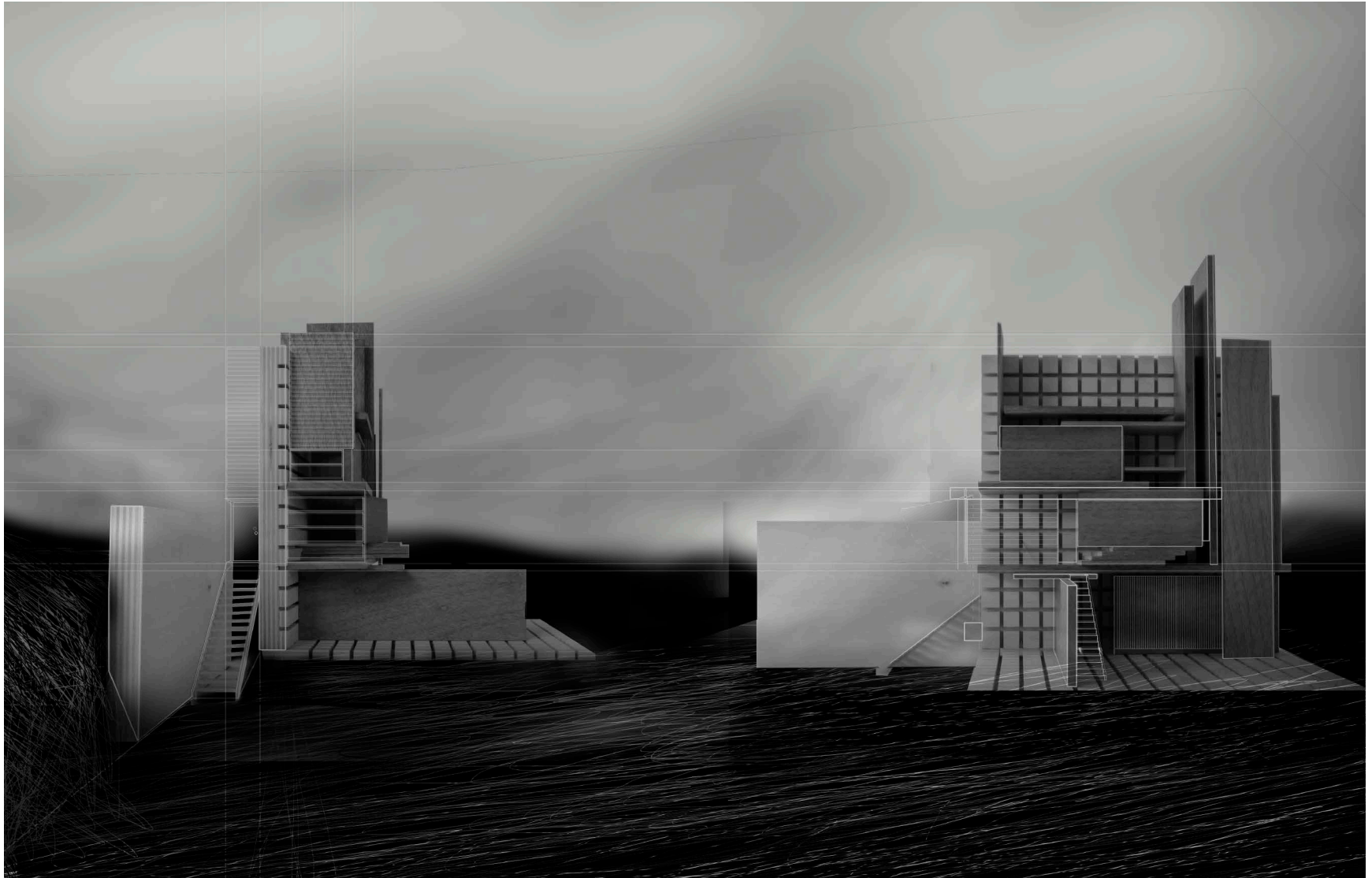
"Through House" - Orthographic drawing (plan and series of sections)



“Between House” - Exterior perspective, rendered landscape (initial idea)



“Between House” - Overall model image (object - play)



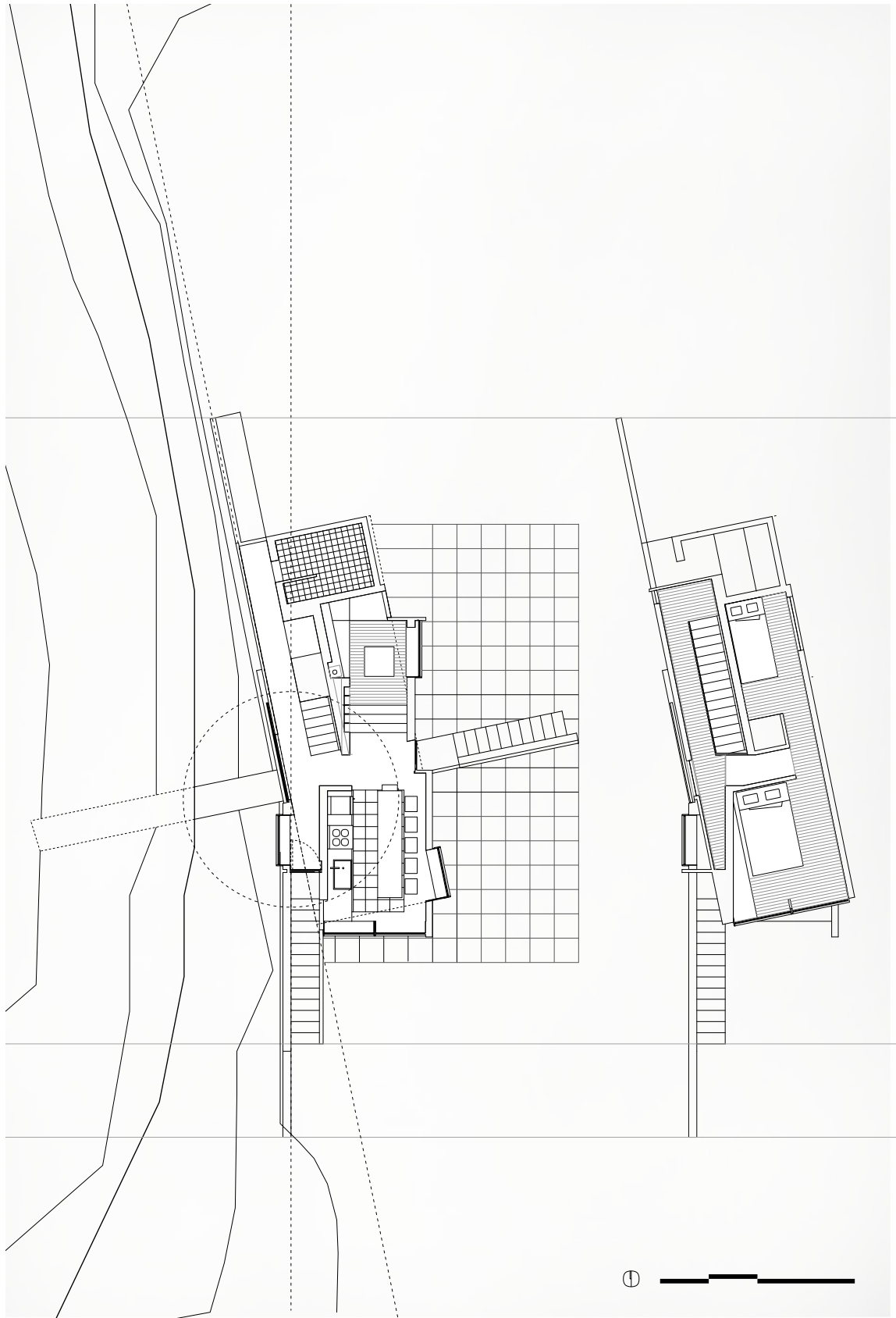
“Between House” - Rendered model elevations



“Between House” - The accidental pivot of the model leads to a novel idea of what the space may become (play)



“Between House” - Exterior perspective, rendered landscape (model + accidental pivot)



“Between House” - Orthographic drawing (plan views)

Wall + Plane House 2 (Between house)

A wall in the landscape. Separating movement and dwelling. The house is a play on the spatial movement of a dedicated corridor. The wall exists as that which separates movement “through” and movement “within”.

On one side of the wall exists the stair. The stair equates with movement through. One must ascend or descend the stair to come to a room. Each room contains the particular movements of dwelling: cooking, eating, living, bathing, and sleeping. The wall is that which is in-between the two. One must pass into the wall to move between the realms of dwelling.

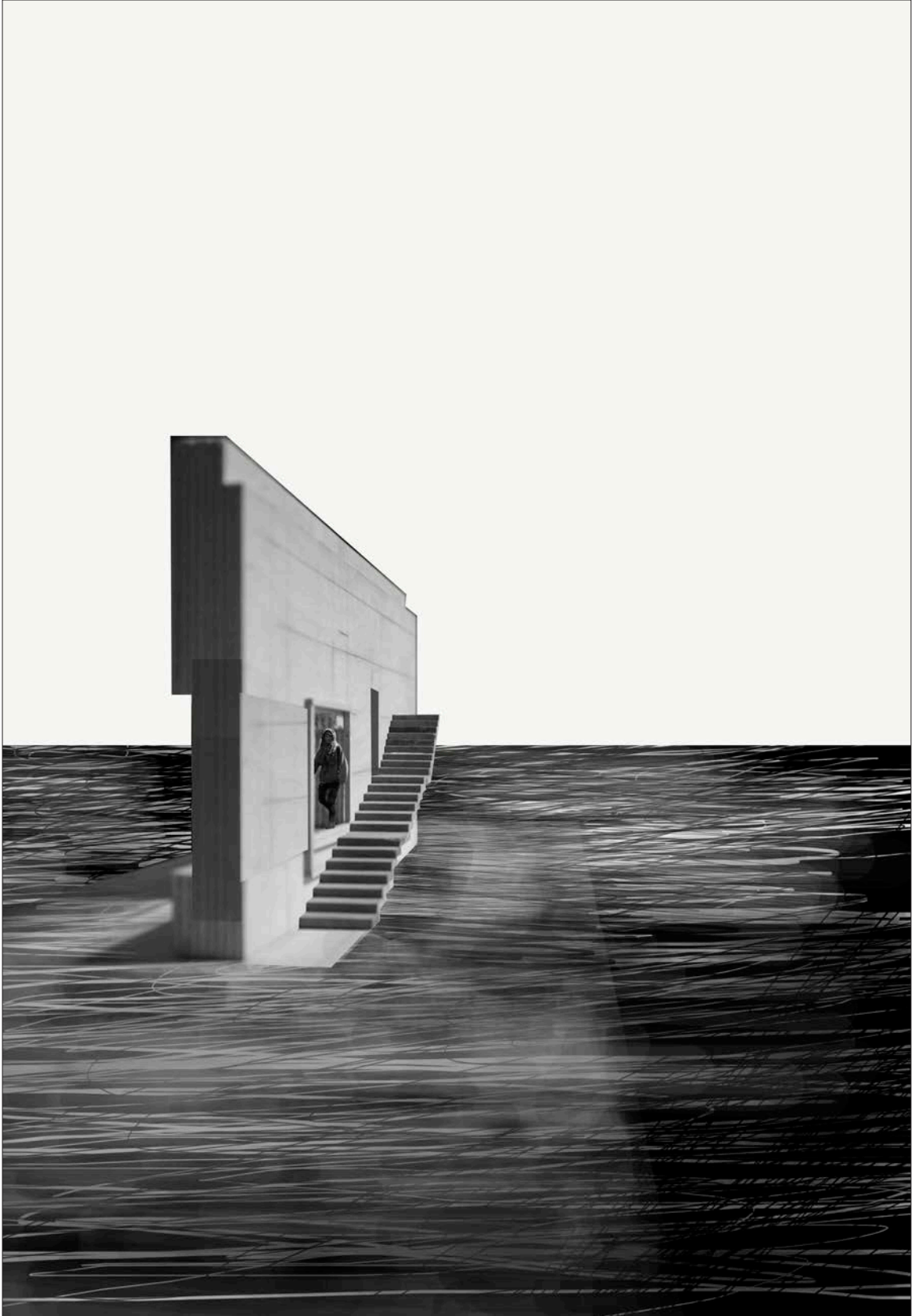
Wall + Plane 3 (Within House)

A wall in the landscape.

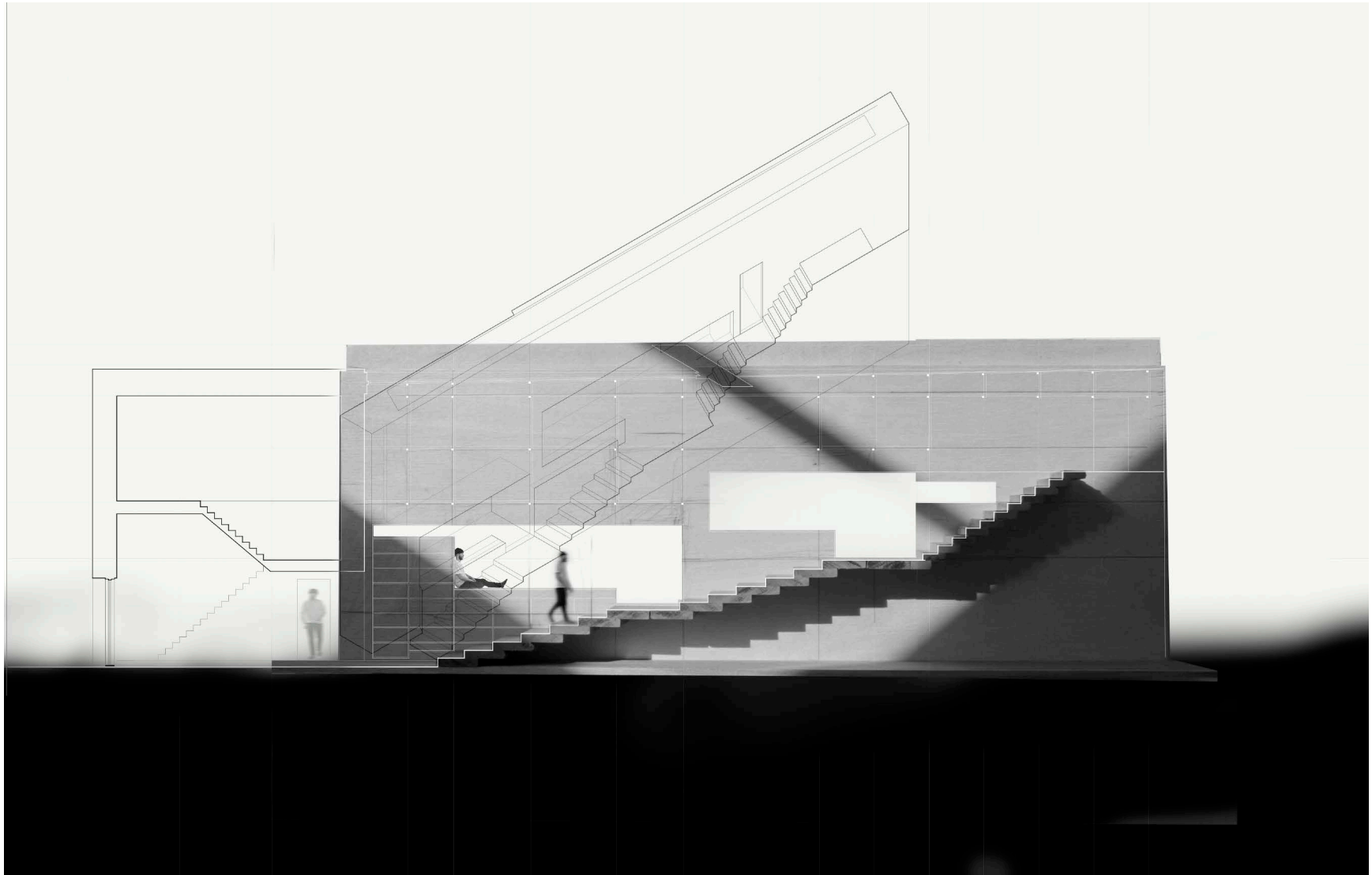
Synthesizing movement and dwelling.

A study in vertical movement through space. The through way of the house takes place on the staircase. One moves along the staircase to get to other rooms of the house. Each landing brings the inhabitant to a different realm within the house. One passes into the wall and is in a space. Each landing contains a unique form of space articulated for a particular activity.

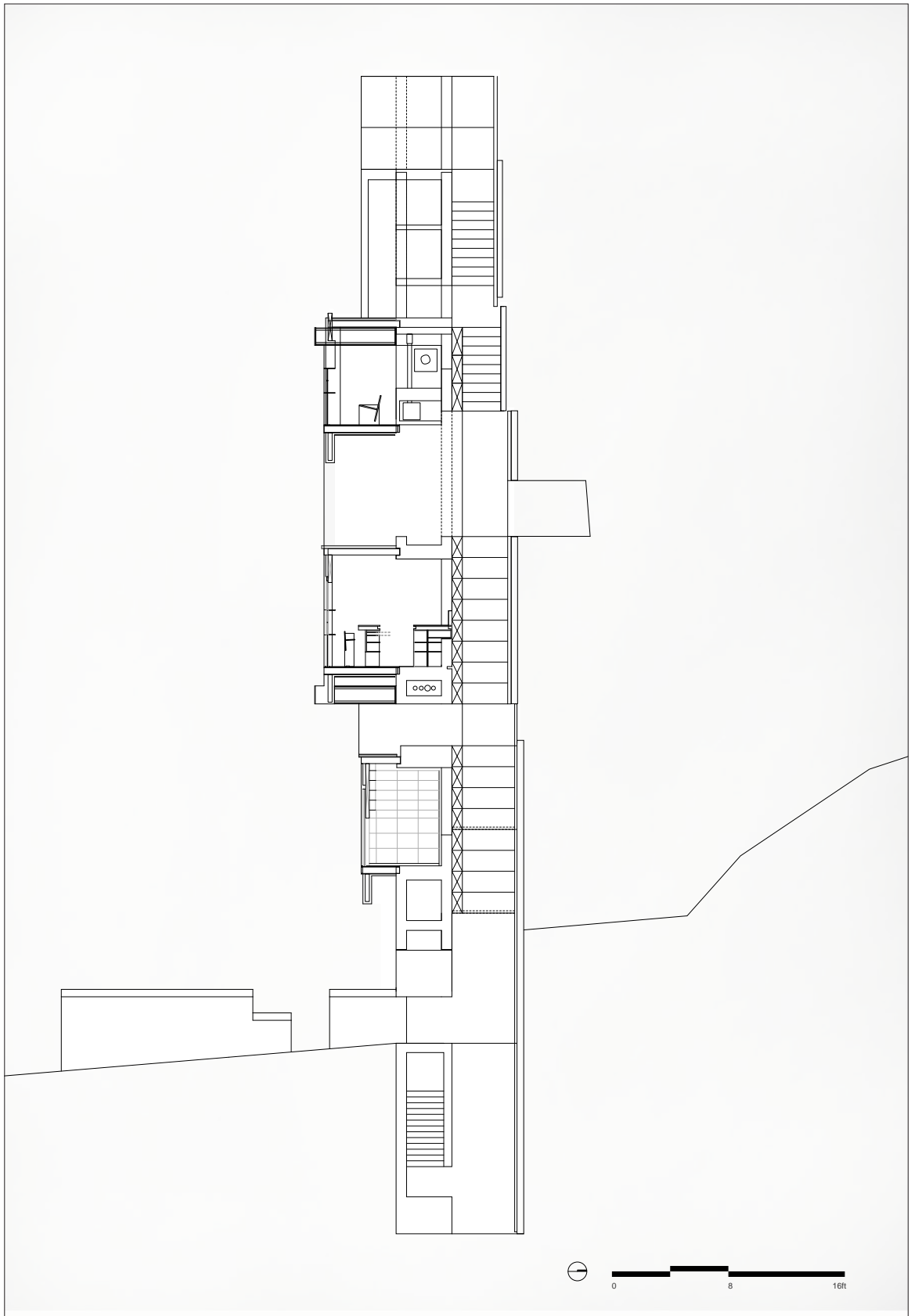
The transition between through space (stair) and within space (room in a wall) is obscured by degrees of openness between room and stair. As one moves deeper into the house, rooms within the wall gradually close themselves off from the stair, indicating the change from public to private space.



“Within House” - Model in rendered landscape (initial idea)



“Within House” - Rendered model process: a study in the inhabited staircase



"Within House" - Orthographic drawing (series of sections and plan hybrid)



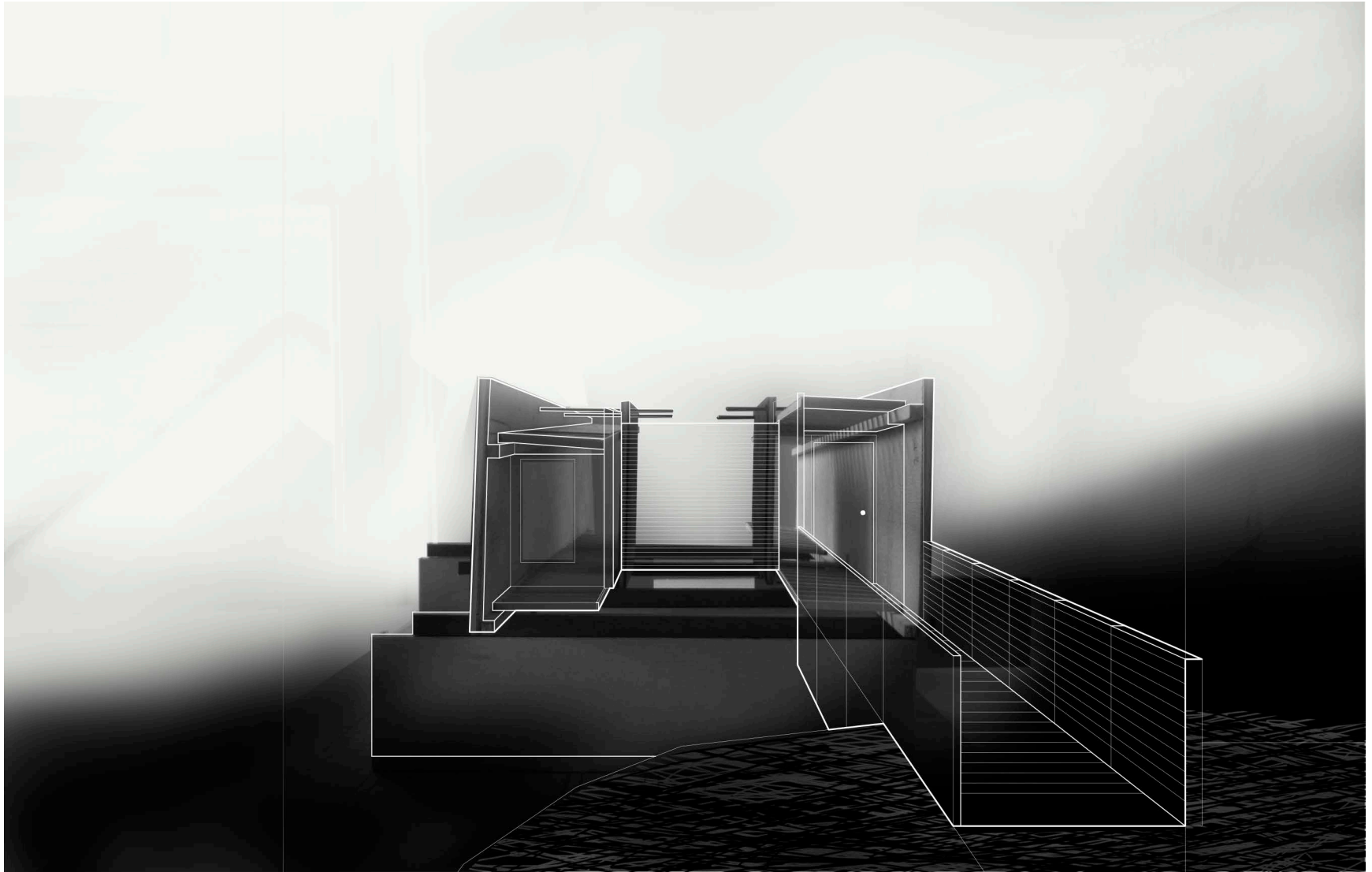
“Turn house” - Model in rendered landscape (initial idea)



“Turn House” - Overall model view (object)



“Turn House” - The deconstruction and re-fabrication of model views (play)



“Turn House” - Exterior perspective: entrance passage



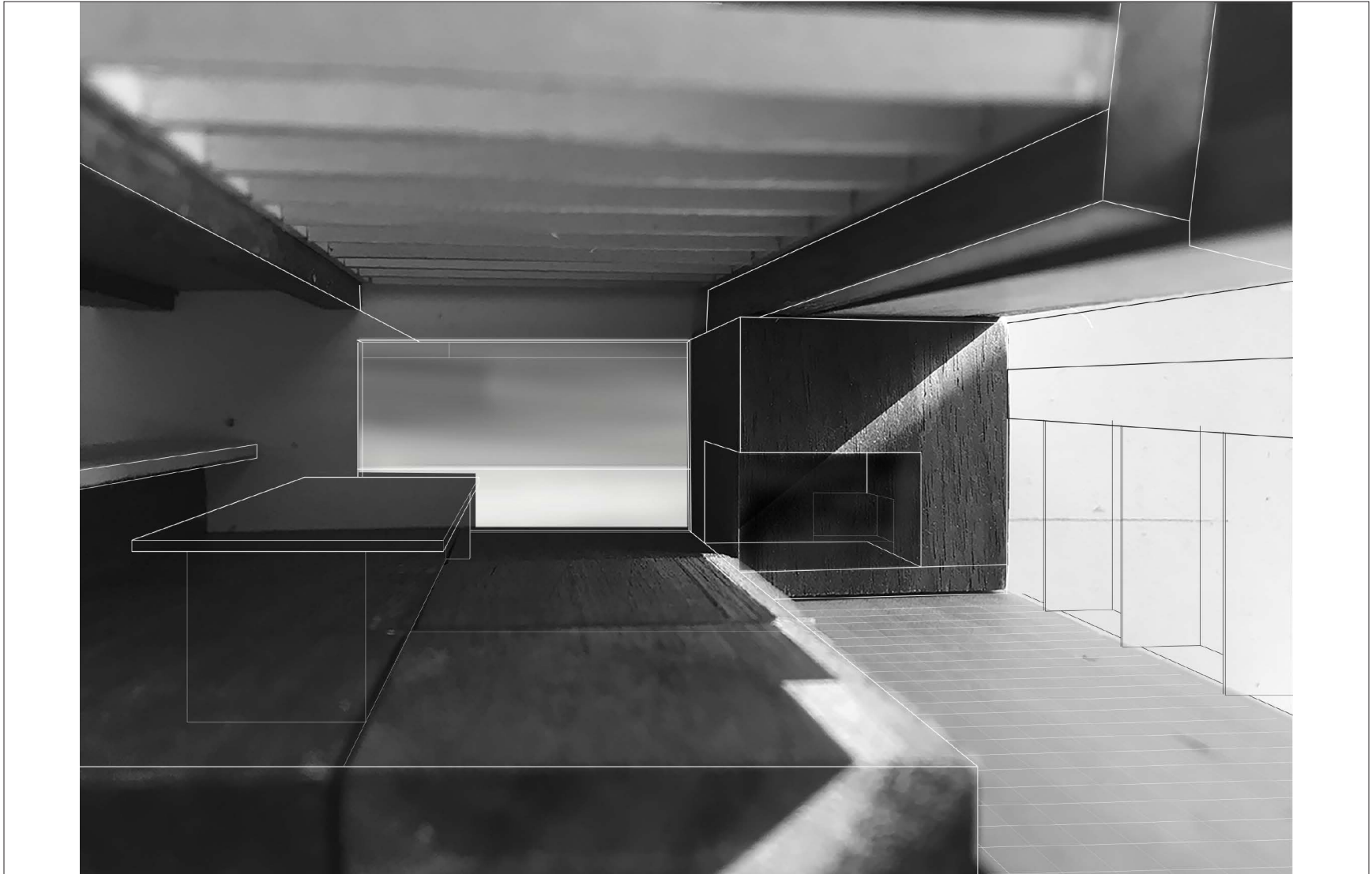
“Turn House” - Rendered model perspective: “Within the Beam”



“Turn House” - Rendered model perspective: “Through the Beam”



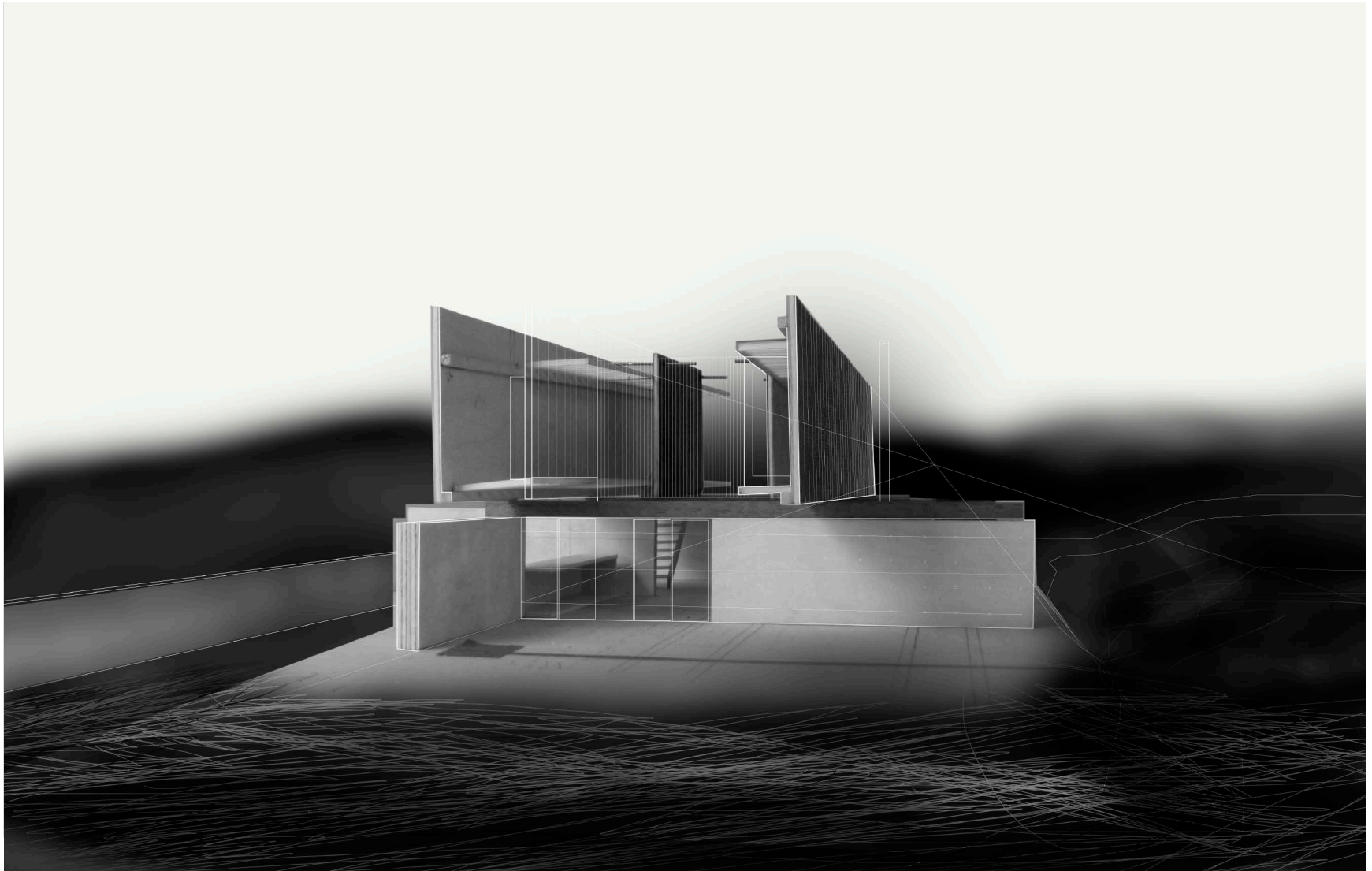
“Turn House” - Rendered model plan and elevation view (play)



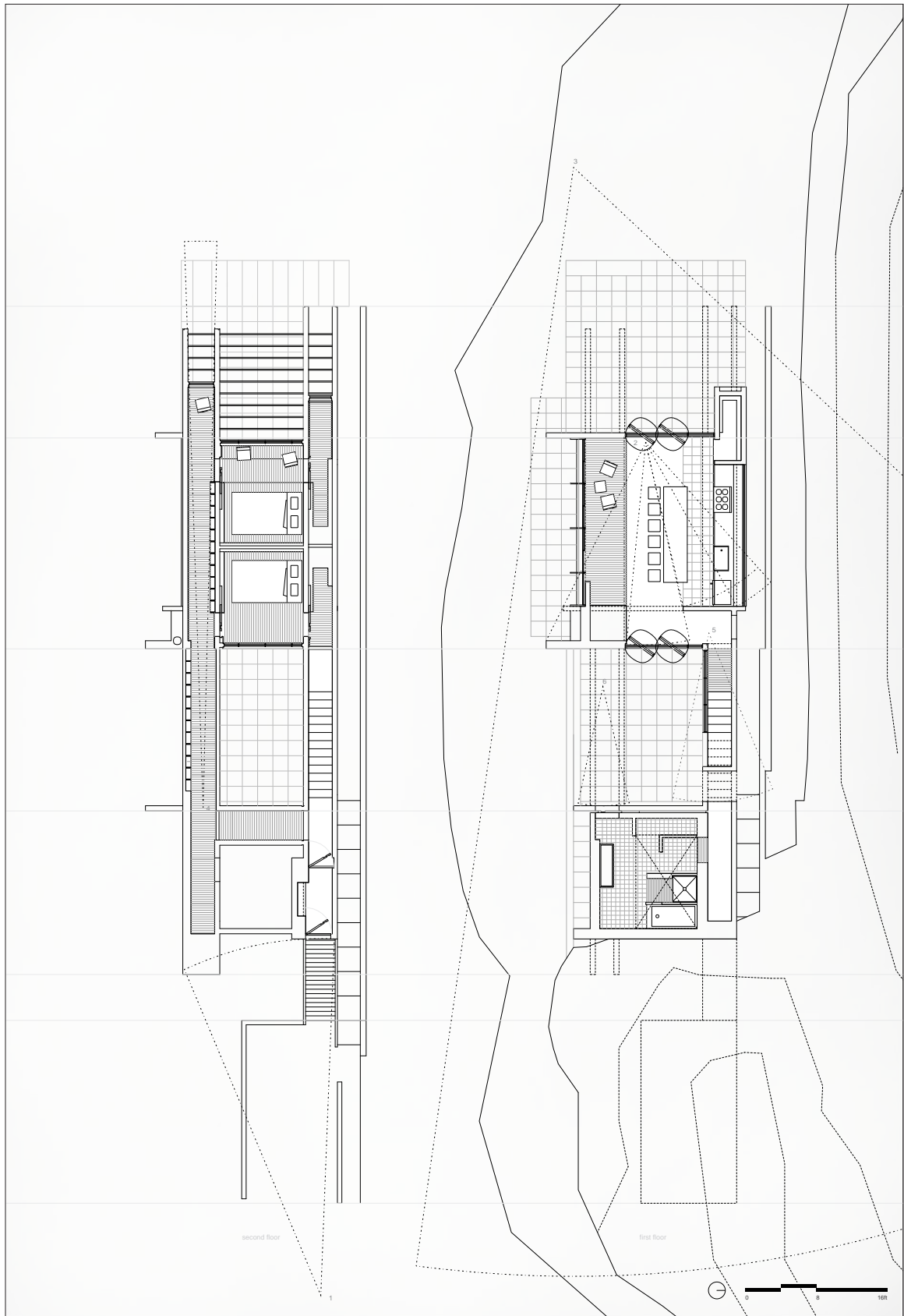
“Turn House” - Interior perspective: living room



“Turn House” - Rendered model perspective: “Under the Beam”



“Turn House” - Exterior perspective: “Turning Back”



“Turn House” - Orthographic drawing (plan views)

The stair is study in the continual change in space. The stair beings as a slow wide space, one that encourages dwelling on as much as moving along. As one moves along the stair, the space continually compresses and accelerates.

Wall + Plane 4 (Beam House)

A beam on a wall. Moving under, around, and through the beam. The house is a study in the composition of space as the simultaneous overlay of through space and within space. The beam acts as hypotenuse between these interlocking realms. One moves under, within, and through the beam to change from realm to realm. The upper floor exists as a dedicated corridor space, containing bedrooms and a library. The lower floor is an enfilade space, with a partially covered courtyard in between the washroom and living space.

The Hypotenuse of Space

What emerges through the work performed is that each house is a play on the moment in-between here and there. A play on the separation and synthesis of “through” space and “within” space. The thesis defines these attributes as the “hypotenuse of space”. The hypotenuse is synonymous with the synthetic body. It is that which simultaneously separates and joins here and there, self and other, known and unknown. The series of house represents the idea of architecture as the hypotenuse of space.

The hypotenuse is not a single attribute or element. It is a way of synthesizing the order of movement in dwelling. The hypotenuse of space exists as a tectonic, spatial, and ontological idea. It may separate or unite, It may exist as a series or as an overlay. It is a way of defining the attributes

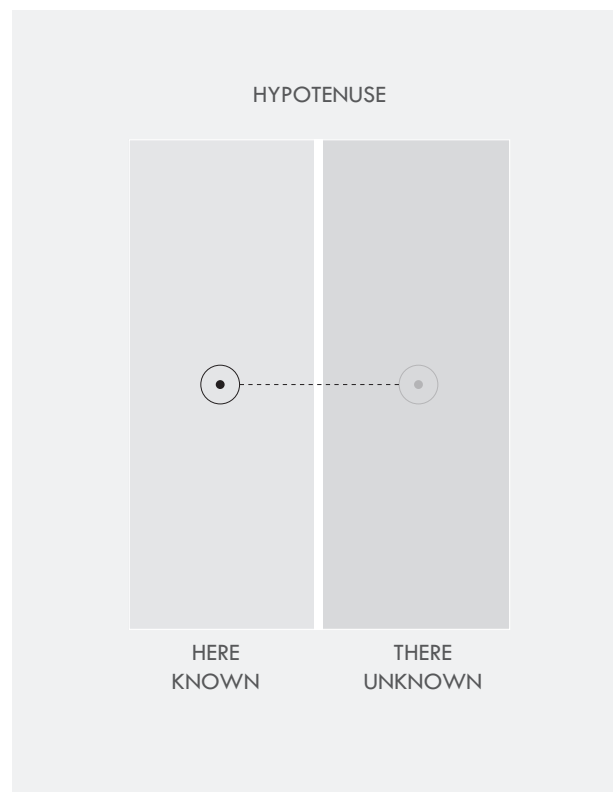


Diagram depicting the spatial principles of the "Hypotenuse of Space"

of movement and space. It is a sort of fulcrum; it is that which everything else balances from.

Each dwelling made within the “Wall and Plane” series emerges as a play on this notion of the “hypotenuse of space”. The characteristics of the “Wall and Plane” houses are drawn out through four attributes: (1) Order, (2) Motion, (3) Movement, and (4) Tectonic Element. It is by drawing out these attributes that the emergent qualities of each dwelling become explicit.

Order

The description of the overall composition of space. The order of space is derived from the nature of the model used to produce the spatial outcomes of each house.

Motion

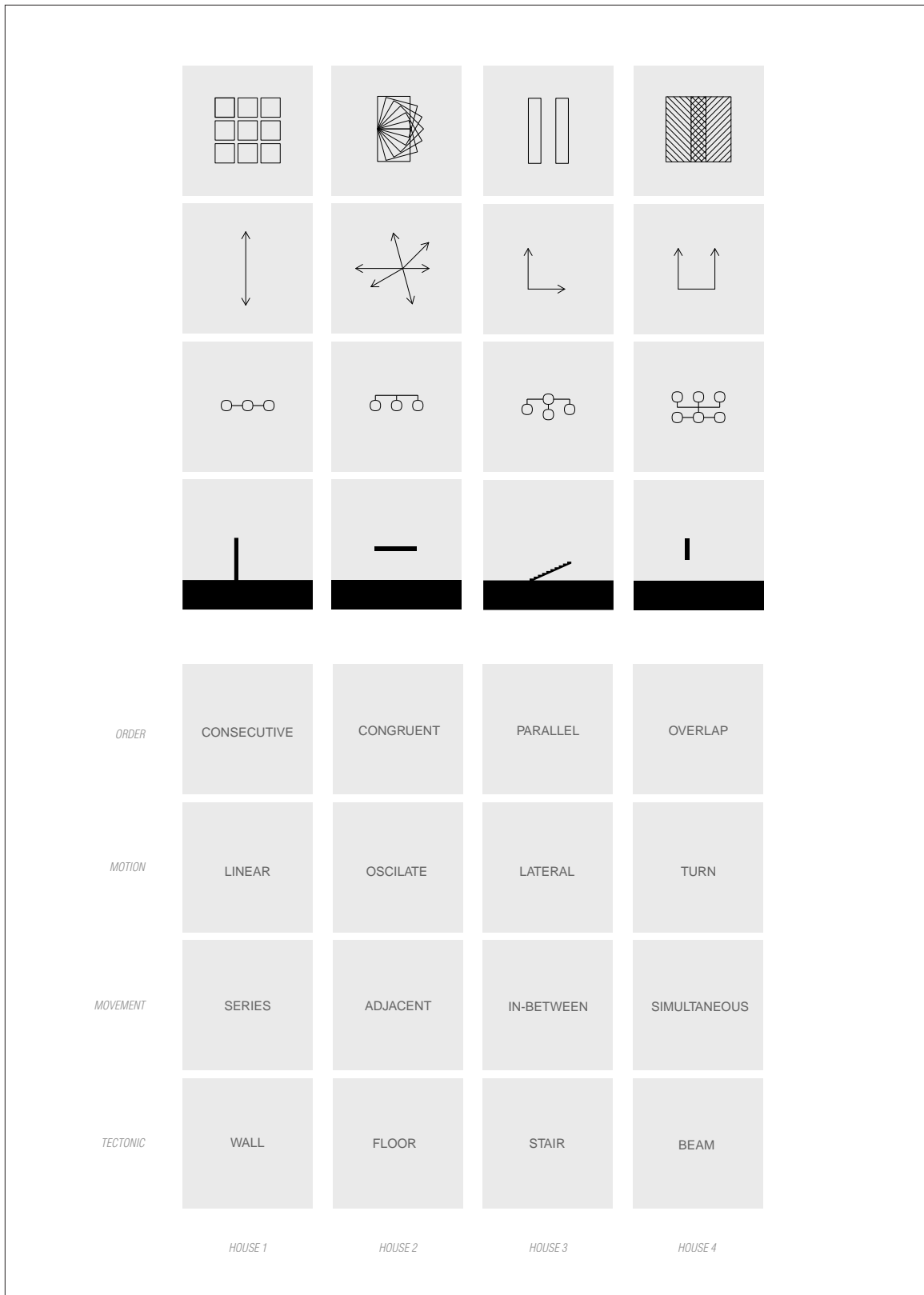
The description of the idea of how one moves through and in space. The moving body (change) is what transforms still tectonic forms into what is phenomenological. With movement comes change. Change requires contradiction. Contradiction orients the body in space.

Movement

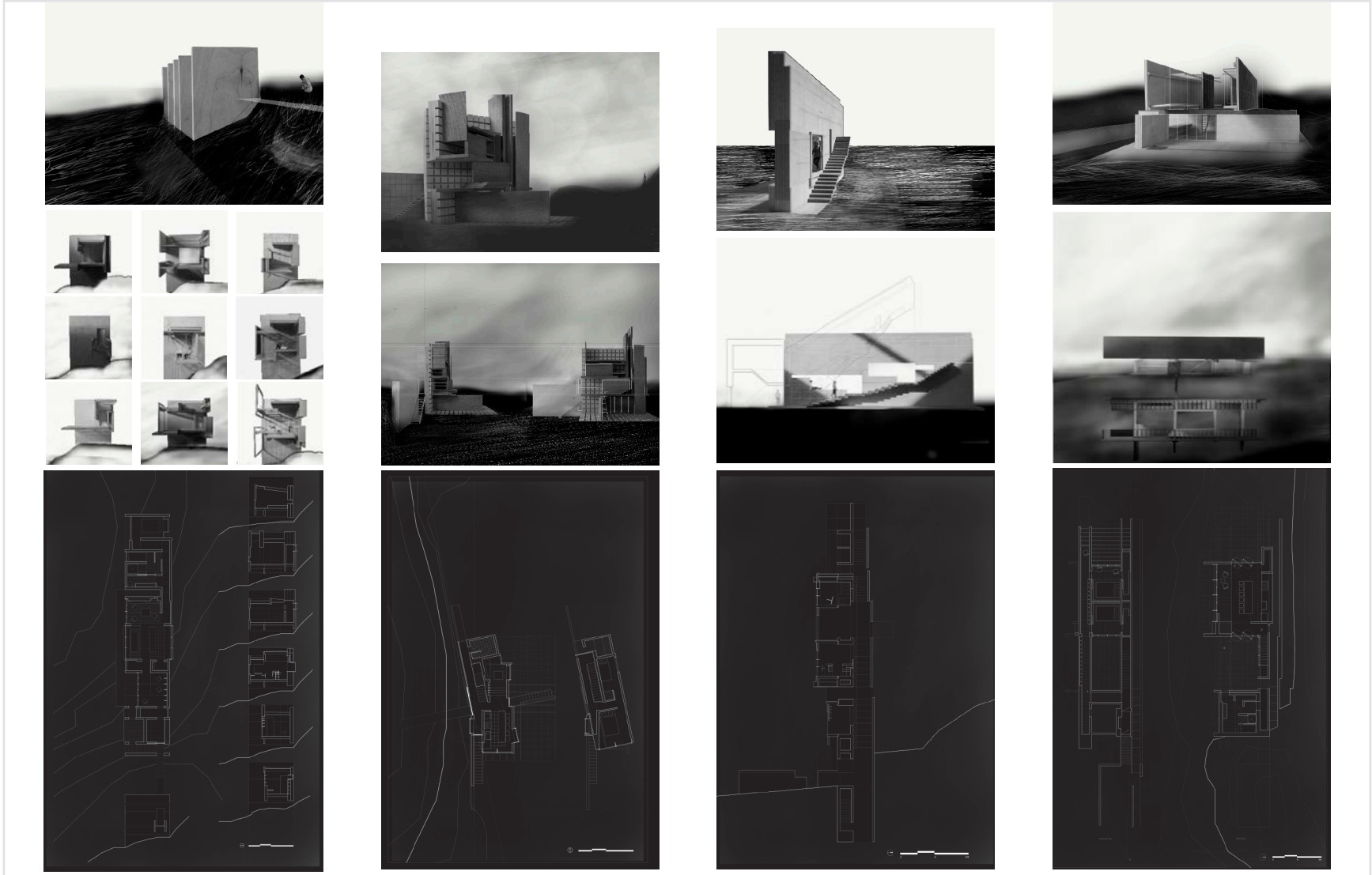
The description of the composition of “through” space and “within” space.

Tectonic Element

The description of the tectonic element that composes the movements of dwelling.



“Wall + Plane House Series” - Four variations on the attributes of the hypotenuse of space as a description of the four “Wall + Plane” dwellings (diagrams above and corresponding words below)



“Wall + Plane House Series” - Four projects

Chapter 10: Conclusion

This thesis re-imagines and re-fabricates the architectural object as a means of drawing out what is unknown.

What emerges is a series four 'dwellings' based in the synthesis of spatial phenomena.

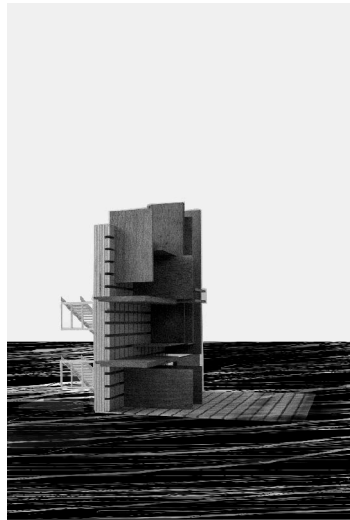
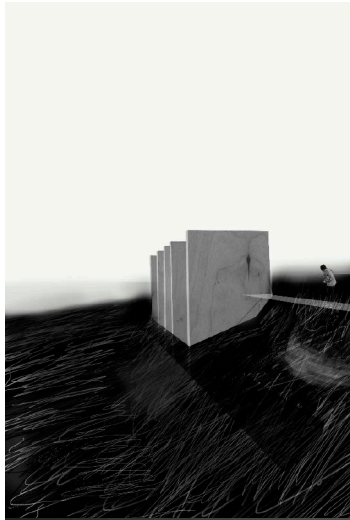
The making of these series of spatial objects follows a process that synthesizes that which is typically separated in the field of architecture; body and mind. Instead, idea, design, thought, action, imagination, realization; the matters in making a thing are understood to occur recursively, in a continual state happening and re-ordering. There is no separation between thought and action; design and making; body and mind in the course of making these spatial objects (models, chairs, spaces)

The objects were iterated and refined within a recursive process: the idea of the 'space'; or the 'order' of space is developed through repetition. It is through the repetition of making that the physical process becomes incorporated. Decisions about how to make the object/space or what the object/space wants to be, fades from the conscious mind, morphing into unconscious action.

Unconscious action is leveraged for the development of a novel architectural language based in the emergent, rather than the explicit. The emergent is unexpected, it is that moment of delight when playing with a model that a new 'view' comes forward, becoming the new point of reference.

The body modulates space

Space modulates the body



Parallel series of objects - "House and Chair"

Parallel Projects

What we are left with is two parallel series of “objects”. A series of chairs and a series of architectural projects.

Both series of work illustrate what this thesis is trying to capture: the working of the synthetic body in the simultaneous action as the body modulating space and of space modulating the body. The pursuit of this thesis, the production of novel spatial outcomes, does occur. Whether the experience that came with conceiving, making, and using these objects is translated for the other (other than myself that is) is up to the reader.

What we may conclude in stating is that the spatial object (the model, the chair, or the house) may be understood as a conduit. When put in play with the synthetic body, these spatial objects are a means of generating emergent architectural spaces. The spatial object is the point of reference. The act of play is the engagement of the body into what is unknown. The point at which something comes off, the exact moment between emergent and explicit, is the idea (synthesis).

In reciprocation, the space that I have just modulated with my body (through the object) modulates the body in the same way. The body begins in what is known - the space I currently reside in (object). I move through and in space to create change (play). The exact moment between this space and the next (between what is known and unknown) is what this thesis defines as the “hypotenuse of space”.

What emerges is that “The Hypotenuse” as a construct of “Space modulates the body” and “The Idea” as a construct

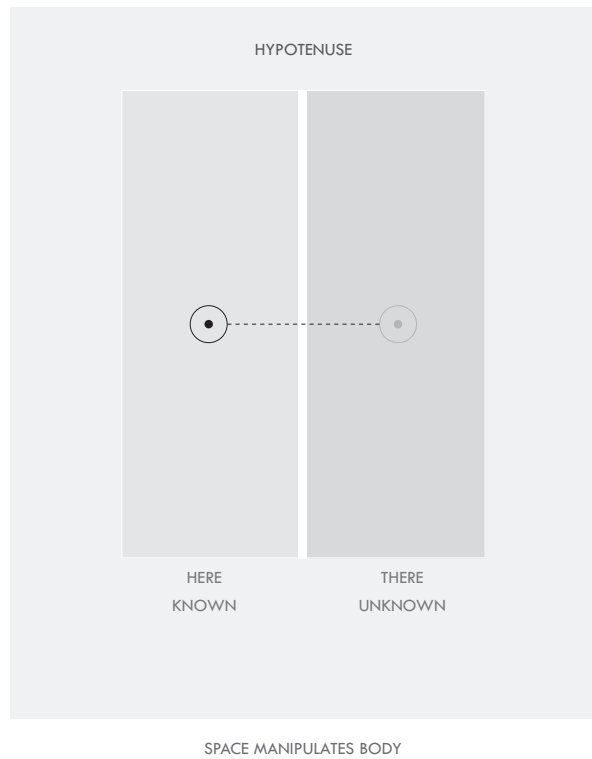
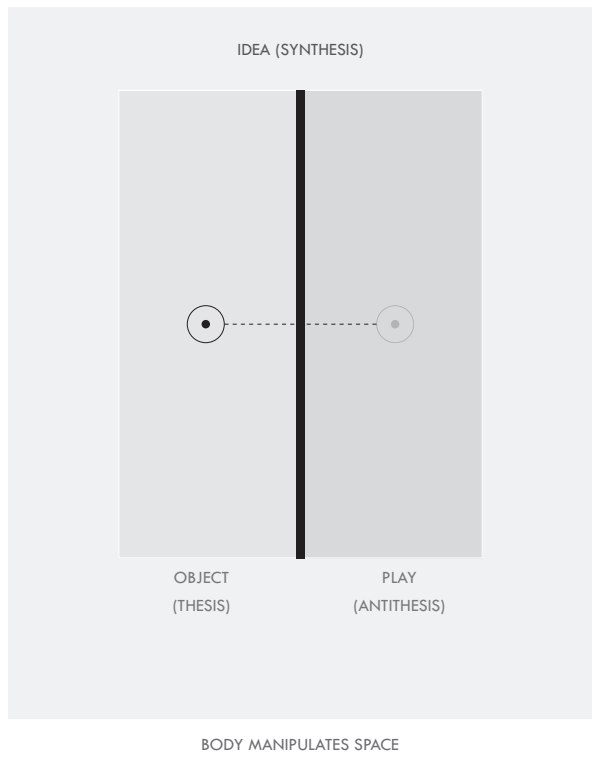


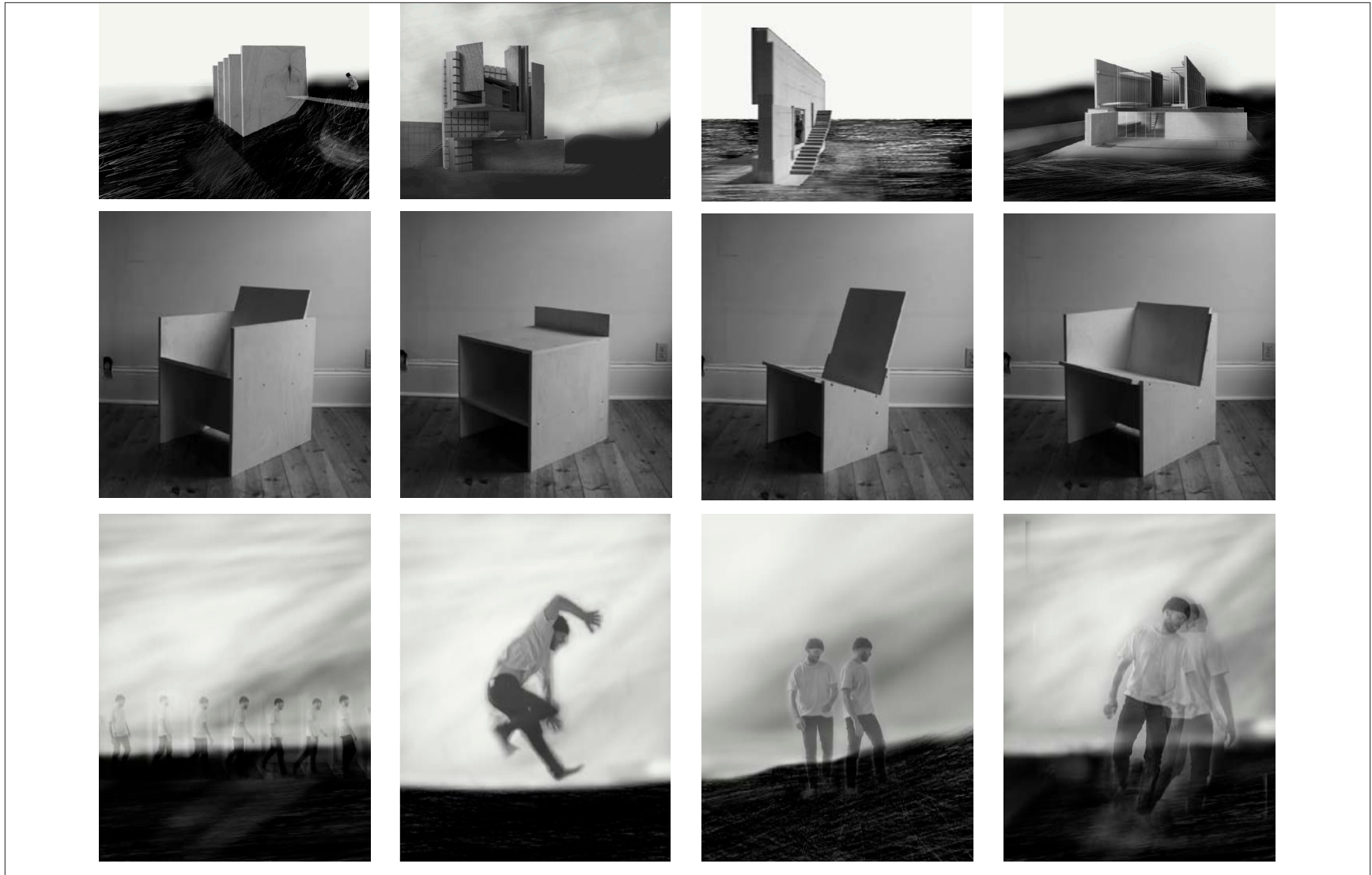
Diagram - Reciprocation between the “body modulates space” and “space modulates the body”

of “The body modulates space” are synonymous with one another.

Synthetic Space

Bringing the process round full circle, the body is re-introduced into the work whereby body, object, and space are placed together. Body, object, and space are simultaneously separated and synthesized into a composite whole that encompasses the results of this thesis.

This result is the potential emergence of a spatial language that synthesizes the reciprocal relationship between the body that modulates space and space that modulates the body.



“Synthetic Space” - Placing together the body, chair, and house

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