QUESTIONS OF PERCEPTION

PHENOMENOLOGY OF ARCHITECTURE

Steven Holl
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William Stout Publishers, San Francisco

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This new edition of the A+U 1994 special issue *Questions of Perception* brings back one of the most important treatises on architectural theory in recent years. Authored by noted architectural scholars, Steven Holl, Alberto Pérez-Gómez, and Juhani Pallasmaa, the three separate essays are thematically linked: each one tries to explain the role that human perception and phenomenological experience play in architecture. In particular, Holl lucidly explains the importance of intuition in the construction and experience of built space. In a new introduction, Holl reflects upon the resonance of the book, his writings, and work over the years. The authors explain their goal thus: "Unlike the critic and philosopher, the architect must embrace the contradictions between perception and logic, the slippage between architectural intention and realization, and the unpredictability of the future's judgement upon the acting present.... This book represents a humble attempt to articulate words and images with this generative intention in mind."

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PREFACE

Originally published in Japan by A+U in 1994, these texts were written in 1992-93 as arguments for a phenomenological understanding of Architecture. Thirteen years later I feel these arguments are even more pertinent. Recently William Stout, who suggested this new edition, prepared a lecture titled "25 Books and Their Influence on the Modern Movement." *Questions of Perception* was among the list of works which included books by Karl Friedrich Schinkel, Frank Lloyd Wright, Charles Bragdon, Le Corbusier, Richard Neutra and Louis Kahn.

Exactly one year ago, I was invited as the keynote speaker to the 29th annual International Association for Philosophy and Literature Conference in Helsinki, Finland. The conference, titled "Chiasmatic Encounters," was held at the University of Helsinki and at Kiasma (The Museum of Contemporary Art). I attended the conference with uncertainties on my use and misuse of the word "phenomenology" relating to architecture. During the question-and-answer sessions I engaged this issue directly with the philosophers, who are experts in the study of phenomenology. Their confirmation on connecting the word phenomenology to architecture was enthusiastic and emphatic.

My first manifesto *Anchoring* (1989) was an argument for the "universal in the specific," arguing the uniqueness of each site, circumstance, and design. Limited concept, the idea, is the force driving each design. "Architecture does not so much intrude on a landscape as it serves to explain it";"Architecture and site should have an experiential connection, a metaphysical link, a poetic link" and "...if we consider the order (the idea) to be the outer perception and phenomena (the experience) to be the inner perception, then in a physical construction, the outer perception and inner perception are intertwined."

Questions of Perception: A Phenomenology of Architecture takes my thinking into more general terms. Instead of focusing on individual idea-driven projects, *Questions of Perception* presents a general case. This argument is explored in "Phenomenal Zones," which apply to most architecture. For instance the first, "Enmeshed Experience: The Merging of Object and Field," argues how we experience architecture in partial views which are conjoined with foreground, middle ground and distant views. Among the other sections, "Perspectival Space," "Color," and "Light and Shadow" are all general categories which frame the phenomenal experiences of architecture.

We chose an image of the Nelson-Atkins Museum of Art addition in Kansas City as the new cover to this edition. This project, winner of an international competition in 1999, will open to the public in early 2007. The building, with its overlapping perspectives, its fusion of landscape, urbanism and architecture, and its special qualities of light and space, yields a built parallel to the general arguments made in *Questions of Perception*.

Steven Holl

Manchester, WA
6 July 2006

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INTRODUCTION

The endless cultural limitations and contradictions inherent in artistic work, revealed with impeccable clarity and logic by the critics' deconstructive theory, are ultimately of limited use for the *generation* of architecture. The architect must take a position, one that necessarily has ethical consequences, and for which words, i.e., a theoretical discourse, is nevertheless indispensable. The architect's work exists silently, in the public realm, and is therefore, unavoidable, an affirmation. This is perhaps a dilemma, one that makes architectural practice in the late twentieth century difficult, yet fascinating. Unlike the critic and the philosopher, the architect must embrace the contradictions between perception and logic, the slippage between architectural intention and realization, and the unpredictability of the future's judgement upon the acting present, and "resolve" or con-fuse these aporias through his/her personal imagination. This issue of A+U represents a humble attempt to articulate words and images with this generative intention in mind.

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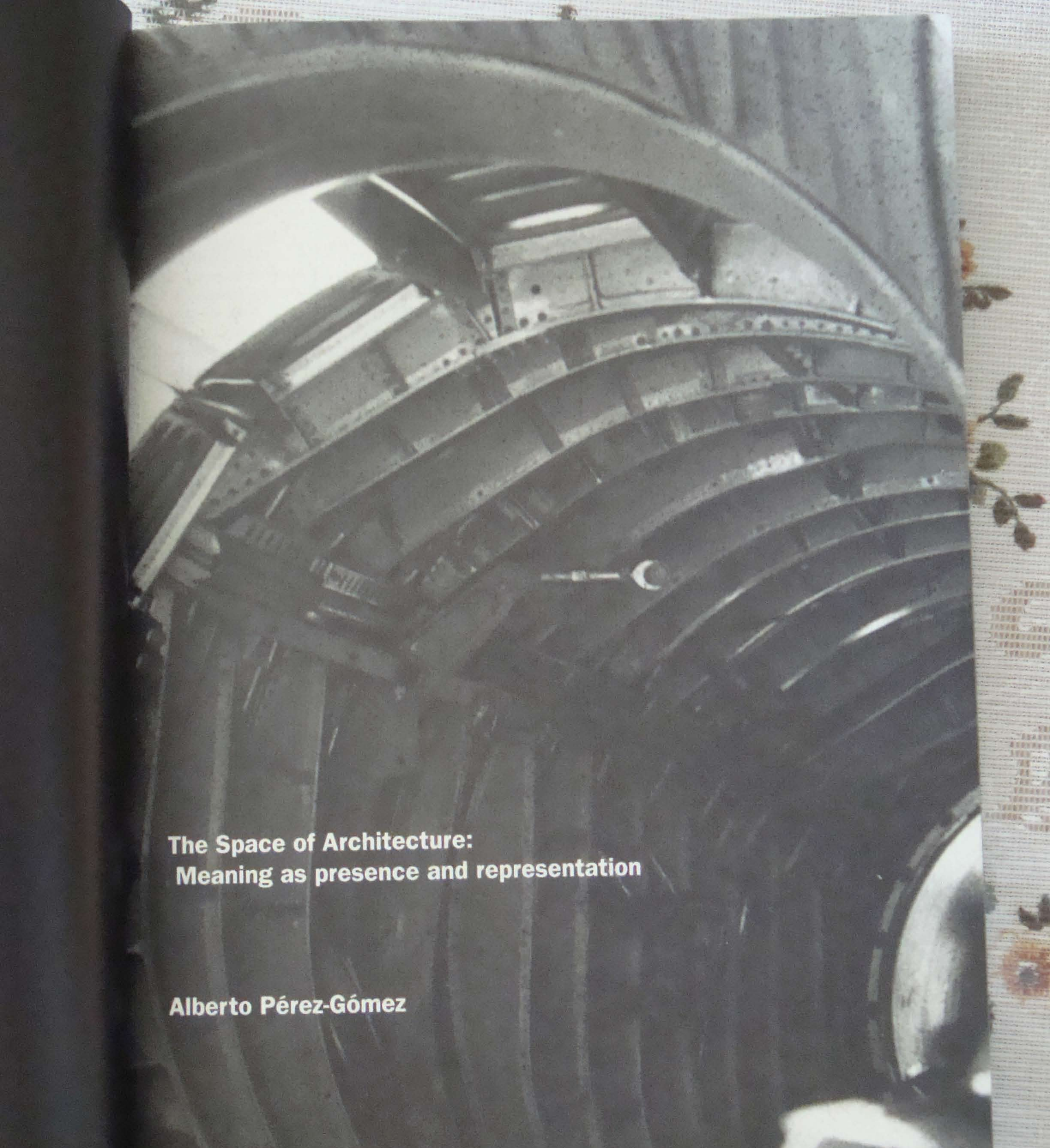
Juhani Pallasmaa
Alberto Pérez-Gómez
Steven Holl
26 March 1993



The Space of Architecture:
Meaning as presence and representation

Alberto Pérez-Gómez

THE SPACE OF ARCHTECTURE: MEANING AS PRESENCE AND REPRESENTATION

If architecture can be said to have a poetic meaning we must recognize that what it says is not independent of what it is. Architecture is not an experience that words translate later. Like the poem itself, it is its figure as presence, which constitutes the means and end of the experience. Yet, acknowledging that human experience is always mediated linguistically, and given our particular technopolitical context, we must still ask: What does architecture represent as the stage of our late twentieth-century everyday life? Is it even conceivable that this traditional instrument of power may represent something other than male, ego-centric will and more or less repressive political or benign economic forces, regardless of its site in the world? Could it be possible that despite its common origin with instrumental and technological forms of representation, it may yet allow for participatory human action and an affirmation of life-toward-death through symbolization as "presencing" through the constructed work, rather than manifesting the very denial of man's capacity to recognize existential meaning in privileged artifacts such as works of art? Could it then embody values of a different order than those rooted in fashion, formal experimentation or publicity, and be cast in forms other than the seductive gloss characterizing all present mechanisms of cultural domination?

Rather than naively expecting that architecture may be somewhat miraculously saved by the cultural (and gender) differences that have recently become more explicit in our epoch of incomplete nihilism, I believe we should recall that the present cultural fragmentation, despite its complexity, is only the "other" side of the modern project (the one that ultimately concerns democracy). Attempting to ponder potential alternatives for the architect, i.e., generative theories for practice, it would be foolish to forget the common origin of our tradition which has resulted in a technological world. Although in different stages of accomplishment, this is the "project" of all (or almost all) cultures of our planet.

(Architecture) opens up to us the possibility of being that is intrinsic in every birth; it re-creates man and makes him assume his true condition, which is not the dilemma: life or death, but a totality: life and death in a single instant of incandescence.
Adapted from Octavio Paz, The Bow and the Lyre,p.139 (Austin,1991).

Nearing the end of the millennium, it would be more fruitful for our discussion if we could start to differentiate between architecture and building in terms other than those of eighteenth century aesthetics, articulating the specific status of architecture as embodying wisdom, beyond an exhausted philosophical distinction between the good and the beautiful, while remaining in the context of a thoroughly utilitarian, "constructed" world, i.e., our technological world. If these distinctions can be made, it is crucial for the survival of a civilization whose worth is glaringly manifest in the great works of art and artifacts that constitute our common cultural traditions, that the cause of architecture be furthered. An urgency to reconsider the possibility of a radically different ethics as the basis for all human

action has come about as a result of the technological world we have created. This is a world where "we" control so much that we can effectively destroy decorous human life through genetic engineering, or pollute the universe to death, while "we" individually seem to have in fact lost ground on the possibility of making effective choices about our personal existence and destiny. In this context, we simply cannot afford to give up our quest to identify what constitutes a meaningful order for human life, the promotion and perpetuation of which has been the inveterate concern of architecture. We can't accept market indicators, personal success, aesthetic fashion, some vague formal mysticism, indices of giddiness and titillation, or the mere expression of cultural differences, as the criteria for an appropriate, purportedly significant architectural practice in this age of incomplete nihilism.

Closer to the outset of our architectural tradition Vitruvius identified the origins of architecture with the origins of language.[1] In a moving passage that recreates the beginning of humanity, this Roman writer describes how some thickly crowded trees, tossed around by storms and winds and rubbing their branches against one another, caught fire. Men first ran away like animals, terrified by the fury of the blaze. Eventually they approached the quieter fire and realized that it kept them warm. They subsequently added more wood to the fire and learned to keep it going. As a result of this social event, they stayed together and uttered their first words, learning to name the reconciliatory act that had kept them alive. With this inial poetic naming came the *poiesis* of architecture, the possibility of making. It should be noted that they did not steal the fire from the gods. This architectural action was an act of affirmation taking place in a space that was, from its inception, social, i.e., cultural and linguistic.

Following this realization, Vitruvius also insists that architects *sine litteris* are no good. In the opening passages of Book I he establishes that architecture consists of *fabrica et raciocinatione*, terms that have been translated as "practice and theory" (Morgan), or "craftsmanship and technology" (Granger).[2] These modern renditions are obviously problematic. Vitruvius is simply alluding to that which is made (from *faber*) and that which names it, that which "gives reason" to it, its *logos*. Such *ratio* is epitomized by mathematical proportion, the most unambiguous of potential "namings," the clearest sign that architecture embodies *ta mathemata*, the invariable, an order that may allow man to dwell on this earth. This is considered by Vitruvius to be the crucial knowledge that the architect must possess in order to guide his practice. Numerical proportions referred ultimately to the perceived order of the supra-lunar world, an immutable order that functioned as a paradigm for the human orders and which needed to be brought to appearance in the sub-lunar world, ridden by constant unpredictability and change. It is not surprising that the presence of numerical proportions in architecture underlined the tradition of theoretical texts until the late eighteenth century. According to Vitruvius the dis-

cursive order of cosmology was the *significatur* of the constructed work, to which he refers as named as *significat*, the architecture which signifies.[3] In other words, traditional architecture signified, for all of society, the order of the cosmos.

This understanding, if taken at face value in terms of an uncritical linguistic analogy, seems to condemn the architecture of modernity, particularly after Durand and the French Revolution, to a necessary "meaninglessness," or to a relativistic self-referentiality. As I have elaborated elsewhere concerning the history of architectural theories, one of the major events in the history of epistemology was the early nineteenth century disintegration of a cosmological picture grounded on divine transcendence.[4] It would not take long for Nietzsche to question the age-old distinction between nature and culture, and for Mallarmé to deconstruct the relationship between words and world. Having lost its cosmological referent, does this mean that a radically secularized architecture either is condemned to become homogenized with technological building or, at "best," must pretend to operate legitimately in a space outside language?

Today the *significatur* of architecture can no longer be a discursive *logos*, with its emphasis on clarity and "truth as correspondence"; it cannot be a cosmology, a formal aesthetic, or a functional or technological logic. The signified is that of a *poetic* discourse, the gap between the two terms of a metaphor. In significant work of the last two centuries, the architect has indeed become a narrator of events, disclosing "fictional" modes of dwelling by deconstructing and twisting the language of technology, both in his **constructions** (questioning reductive tools of representation[5]) and through his **words** (questioning functional programming). This is already a sketchy anticipation of my polemical conclusion, an argument that needs careful elaboration.

I qualify as significant, works in the tradition of Lequeu, Gaudi, Le Corbusier, Lewerentz and Aalto. In North America, such a strategy of "resistance" has been embraced by John Hejduk and Steven Holl. This list is intended as an impressionistic sample and is obviously far from being exhaustive. Although the following discussion is intended as a generative rather than as a critical theory, it should nevertheless demonstrate how these works both refer to the most authentic tradition of architecture, and also respond genuinely to the demands of our own time "at the end of progress" and linear history. This cultural epoch, qualified by Heidegger as "too late for the gods and too early for Being..." and by some cultural historians as postmodernity, suggests the possibility of a new beginning, and yet it cannot pretend to overcome modernity and simply leave it behind. It must maintain its fundamental roots in *historicity* as our only possible source to articulate ethical action, while shifting and redefining the critical terms of history, particularly the meaning of past and future shaping a concept of time (anticipated by artists and writers of the last two hundred years) that accepts its aporias (linear/cyclical, ever-changing/ever-

present) as complementary, rather than contradictory.

To shed some light on our present dilemma I will, therefore, tell a *story*. I will discuss the original Greek understanding of the "space" of architecture during the *dawn* of discursive reason, a liminal epoch curiously symmetrical with our own, the complex origin of a tradition to which our technological consciousness in a time of incomplete nihilism *still* belongs. I will elaborate on its pre-Socratic connotations and trace a brief historical sketch of this issue, eventually returning to the first question: How can the architecture of the late twentieth century "represent" and yet aspire to retrieve its status as an architecture of "presence" embodying authentic cultural values?

As is well known, Plato's *Timaeus* marks the origin of our scientific tradition. We all know of his predilection for ideas over the objects of personal experience that are merely their shadow, and of his low opinion of artists whose work is merely a copy of a copy. Yet Plato's position is infinitely more complex than this. It is true that he championed the cause of "truth as correspondence," that is, of the presumed identity of truth and Being that marked the two thousand years of philosophy and science after him and which led to "enframing" (Heidegger) and perspectival objectification, i.e., to the increased concealment of Being until its present occultation. On the other hand, Plato also understood that the absolute truth and goodness, *agathon*, like the sun itself, could never be contemplated directly and made an object of pure knowledge, but rather had to be "experienced" as the "lighting" that makes it possible for the things of our world to be what they are. Any artifact or work of art that allowed such "lighting" to be experienced was therefore highly appreciated.

Timaeus is the first systematization of the universe, rendered intelligible in a discourse that seems generally autonomous from myth. Plato's formulation of a geometrical universe became the source of inspiration for cosmological pictures in the Western world until Newton, and was thus accepted as the structure of *physis* (nature), the macrocosm that architecture's microcosm was meant to emulate and whose mathematical structure (*ratio*, proportions) was a symbol that assured meaningful work. Being, symbolized by mathematical proportion, was intentionally embodied in man-made artifacts such as machines for war and peace, buildings, gardens, and solar clocks. The aim was to propitiate a virtuous life and ultimately to seduce Fortune (destiny) and frame human institutions (and power!) with *the* true order. Harmoniously taking measure of time and space was the privileged mode of human participation in the order of the real.

Plato's own articulation of reality, however, *is not* a simple duality of Being and Becoming. As he refines his discourse in *Timaeus*, starting at section 16, he feels the need to introduce a *third* term to do justice to his experience of human affairs. After identifying this third distinct form, he imme-

diately realizes that this one is "difficult and obscure" to speak about. "In general terms, it is the receptacle and, as it were, the nurse of all becoming and change."[6] Before naming this third term as *chora* (space, place), he endeavours to define it in relation to our common understanding of the world, matter and generation. First we learn that this term is the "stuff" of the world, that primordial "element" that constitutes both humans and nature, given that "the names fire, earth, water, air really indicate differences of quality not of substance."[7] As everything in the world is in the process of change and those four most elemental substances are, in the end, never stable, we should speak of them not as "things" but rather as qualities. The receptacle is then compared to a mass of "neutral" plastic material upon which differing impressions are stamped. This *prima materia* has no definite character of its own, and yet is the ultimate reality of all things. To explain this, Plato introduces the example of a goldsmith who crafts many different geometrical shapes out of gold, continuously remoulding each shape into another. The most appropriate name for the craftsman's work is "gold" rather than "triangles," "squares" or the like. "The same argument applies to the natural receptacle of all bodies. It can always be called the same because it never alters its characteristics... We may indeed use the metaphor of birth and compare the receptacle to the mother, the model (Being) to the father, and what they produce between them to their offspring..."[8] Following from an ancient misconception of genetics, Plato assumed that the mother was an appropriate metaphor for his neutral receptacle because biological traits were believed to be an exclusive attribute of the male semen. It is also interesting to note that in describing the marrow, the male life-substance and seed which he believed flowed between the lofty spherical head, seat of ideas, and the penis, he also describes a substance practically identical to the neutral plastic mass/receptacle in question, composed of "smooth and unwarped" triangles, capable of producing "the purest fire, water, air, and earth..." Genetic misconceptions aside, this *prima materia* is androgynous, a receptacle of all "visible and sensible things" which is itself "invisible and formless, all-embracing, *possessed in a most puzzling way of intelligibility, yet very hard to grasp*" (my emphasis).[9]

Thus Plato concludes that there must be three components of reality: first, "the unchanging form, uncreated and indestructible, ...imperceptible to sight or the other senses, the object of thought" (Being); second, "that which bears the same name as the form and resembles it, but is sensible, has come into existence, is in constant motion... and is apprehended by opinion with the aid of sensation" (Becoming); and third, *chora*, "which is eternal and indestructible, which provides a position for everything that comes to be, and which is apprehended without the senses by a sort of spurious reasoning and so is hard to believe in - we look at it indeed *in a kind of dream* and say that everything that exists must be somewhere and occupy some space, and that what is nowhere in heaven or earth is nothing at all (my emphasis)."[10] In the following paragraph, Plato identifies this receptacle with the space of chaos, "a kind of shaking implement" that separates the four basic elements out of itself, so to speak, to constitute the world in

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we know it. Connected etymologically to the Indo-european *chasbo*, *chasm* maintains its connotations as a primordial gap, opening or abyss, as well as a primordial substance.

What can we make of all this? Plato is describing nothing less than *the space of human creation and participation*, postulating a coincidence between *topos* (natural place) and *chora*, yet naming the latter as a distinct reality to be apprehended in the crossing, in the *chiasma*, of Being and Becoming. This disclosure is a prerogative of human artifacts, and in the particular context of Plato's tradition it was the province of poetry and art.

Chora is both cosmic place and abstract space, and is also the substance of the human crafts. In architecture it would undermine the common distinction (that in fact dates from only the nineteenth century!) *between contained space and material container*. Most importantly, *it would point to an "invisible ground" that exists beyond the linguistic identity of Being and Becoming, of words and world, of signifier and signified, while also making language and culture possible in the first place*. It is the "region" of that which exists. The problem, as Plato emphasizes, is that its presence and reality can be grasped only with great difficulty, obliquely so to speak, through a kind of "bastard reasoning..."

Prior to Plato, there was no name for this third term. Indeed, the absence of this awareness characterizes a "mythical world." Specifically with regards to ancient Greece, we can support this conclusion from an observation of the pairing of the goddess Hestia and the god Hermes. Jean-Pierre Vernant argues that, among the six major divine couples that appear on the base of the great statue of Zeus at Olympia, only the coupling of Hermes and Hestia cannot be accounted for through genealogy.[11] This pair in fact seems to represent a religious articulation of space and movement, of centre and path, of immutability and change. While Hestia refers to domesticity, femininity, the earth, darkness, centrality and stability - all qualities of interior "space" - Hermes is identified with the masculine values of mobility and threshold, of changing states, openness and contact with the outside world, the light and the sky -qualities associated with the external, public "spaces" of action. What must be emphasized is that the *pair* reveals how "place" and "movement," i.e., *space and time*, were not detached as independent, abstract concepts in this cultural context. Both were always present, together with other aspects, in the concrete experience of reality as "Thou," rather than as a scientific or philosophical "it."

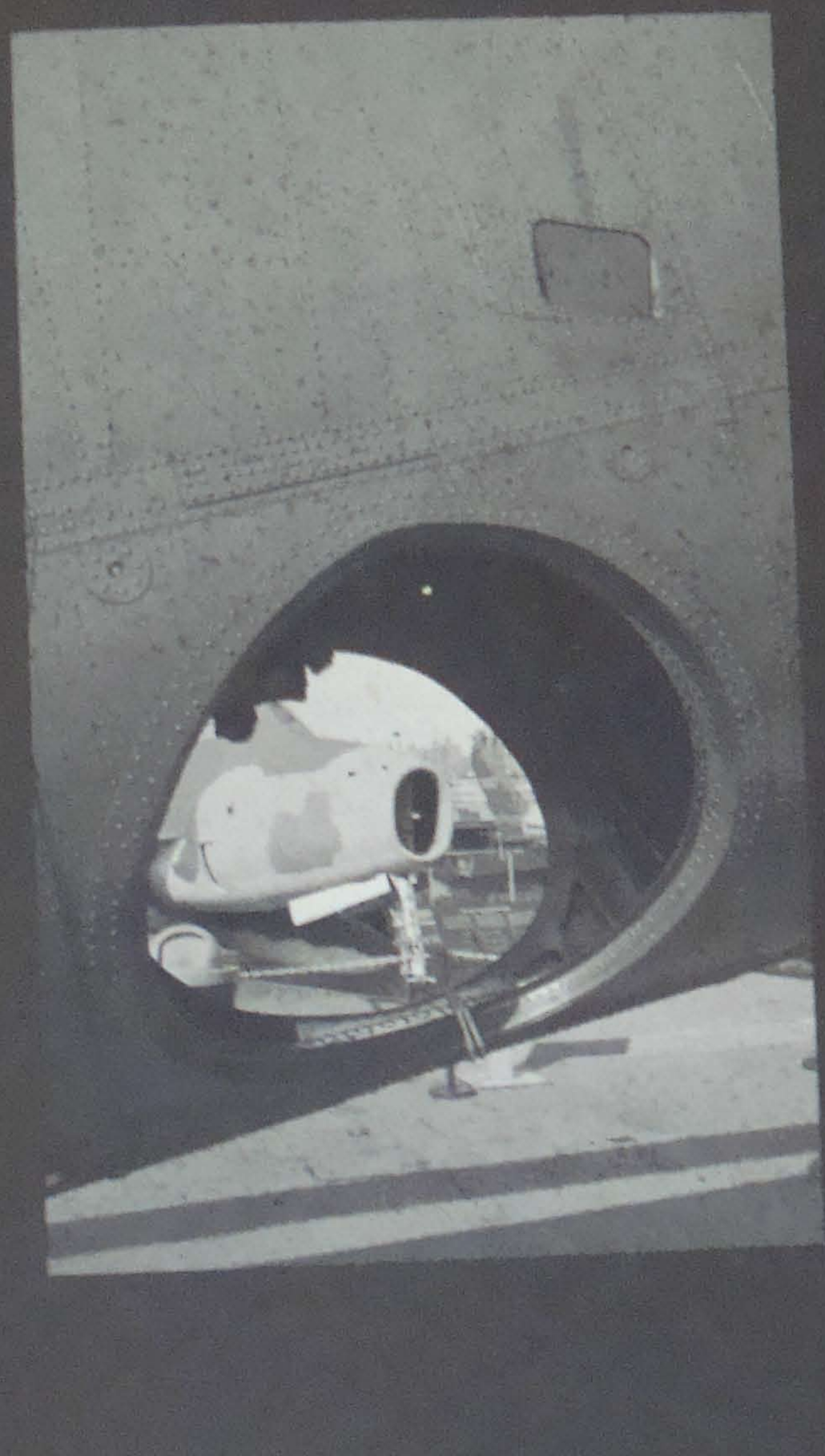
It is difficult for us to conceive a personified, willful and therefore totally unpredictable external reality, identical and continuous with the self, needing constant propitiation through human actions to secure the survival of the world from one instant to the next. Nevertheless, this is precisely the context of ritual. One could indeed argue that external reality, i.e., "nature," was so thoroughly articulated through myth as a "cultural" con-

struction that there was a homology between the "mountain" and the "pyramid," between the *thalos* and the cave... yet these acts of ritual construction were participatory in an a priori order, they were affirmations of the "given" (indeed, a gift) through a propitiatory action in the infinite thickness of the present, rather than product-oriented projects. These reflections will be helpful when we return to discuss the problem of architecture's potential meaning in the context of our technological world - a meaning that perhaps signals, at the end of Western metaphysics, a *ricorso* of history that, while recognizing a distance from the first beginning, seriously acknowledges the collapse of "nature" into "culture" as the locus of "political" action.

In ancient Greece there was a well known ritual that became the historical precedent of Western art and architecture. Aristotle himself gives us a clue when he states that both tragedy and comedy, at first mere improvisation, originated with the leaders of the dithyramb.[12] The dithyramb was originally a spring ritual dedicated to Dionysus. The word itself meant a leaping, an inspired dance, and in its original form was an actual bringing back of life, a rising-up, or calling-up that took the form of *dromena*, actual "things done" such as song and dance.[13] Of course it is no surprise that the great tragedies of Aeschylus, Sophocles and Euripides were performed in Athens during early April, at a festival in honour of Dionysus.

The ritual origins of the Western work of art, as manifest in the Greek theatre, hold many lessons for architecture. The dramas were most likely played not upon the stage, but in the *orchestra* (particularly in the early stages of the development of the *dromenon* into drama). The *chorus*, that group of dancing and singing men often in charge of lamenting destiny, was always at the centre of the action. Its actual role is difficult to comprehend and digest for many a modern observer. The focus of the event was the circular dance platform often named after the *choros* itself, a chorus that originally signified a group dance and eventually took its name from *orchesis*, which also means dance.[14] We have evidence from Roman texts of the second century A.D. that such events, combining poetry, music and dance in its architectural frame, were believed to have a cathartic effect. In fact, both *katharsis* and *mimesis* seem to have been employed quite early in relation to art, *katharsis* meaning a purification or a reconciliation between the darkness of personal destiny and the light of the divine *dike*, as expressed in the tragedy.[15] *Mimesis*, also in relation to the *choreia*, signified not imitation but rather the expression of feelings and the manifestation of experiences through movement, musical harmonies and the rhythms of speech: an acknowledgment, through the body's presence, of its intermediate location *between* Being and becoming, and a disclosure of its legitimate place of (public) *appearance*.

At this point we should recall some pertinent aspects that appear in the myth of Daedalus, who personified the first Western architect.[16] One of Daedalus's important commissions was the design of a *chora* or dance plat-



form in Knossos. This followed his more famous commission to build the labyrinth; both were unequivocal sites of dance and drama. While the figure of the labyrinth made explicit the mythical co-presence of path (Hermes) and space (Hestia), and became a privileged symbol of cities (and architecture in general) in the Western tradition, the same co-presence remained implicit in the *chora* or dance platform. Although an excursus into the theme of the labyrinth is always tempting, it is only crucial for us to remember that it was a condensed symbol of human life (one entry, one centre) and of the presence of order in apparent disorder, and that it originated in the Trojan games, as a dance which, according to Virgil in the *Aeneid*, was performed in Troy on two occasions: for founding the city and for honouring the dead.[17] The labyrinth is therefore a frozen choreography that remains present but invisible in the *orchestra* of the Greek theatre.[18]

Whereas ritual allows primitive man to propitiate the external world and dwell in a totality, the Greek theatre frames the transformation of the same task, now in the tradition of Western art. The introduction of the amphitheatre poignantly represents the profound epistemological transformation signaled by the advent of philosophy. This becomes a place for seeing, where a distant contemplation of the epiphany would have the same cathartic effect on the observer as was accomplished previously through active, embodied participation in the ritual. This distance is of course akin to the theoretical distance introduced by the philosophers, which enabled a participation in the wholeness of the universe through rational understanding, as a disclosure of discursive *logos*. This, we must remember, is the same distance that created the conditions for the eventual concealment of Being, for the objectification and enframing that resulted in the substitution of the world for its scientific "picture," leading to instrumental rationality and to the crisis of representation that we must confront today.

Emphasizing the importance of a healthy site for the theatre, Vitruvius writes: "...when plays are given, the spectators, with their wives and children, sit through them spellbound, and their bodies, motionless from enjoyment, have their pores open, into which blowing winds find their way."[19] The human voice of the actors, being "a flowing breath of air..." and moving "in an endless number of circular rounds, like the innumerable increasing circular waves which appear when a stone is thrown into smooth water," demanded that architects perfect the ascending rows of seats in the theatre by means "of the canonical theory of the mathematicians and the musicians..."[20] It is in the design of the theatre that the architect must apply his knowledge of harmony, and here Vitruvius introduces musical modes and intervals, followed by tetrachords and a discussion of the sounding bronze vessels to be placed under the seats. The plan of the theatre is then constructed in accordance with the image of the sky, starting from a circle and inscribing four equilateral triangles "as the astrologers do in a figure of the twelve signs of the zodiac, when they are making computations from the musical harmony of the stars." Although Vitruvius is describing the Roman (and not the Greek) theatre, his account of its reality

as a cosmic place, disclosed through the event of the tragedy, is poignant enough. It is here that architecture "happens," disclosing an order that is *both* spatial and temporal: the "meaning" of architecture can never be grasped through a mere "visit" of an aesthetic object or a tourist attraction (regardless of how exquisitely detailed it may be...).

Framed by the building, tragedy inhabits a space of transition, its ultimate theme being the event *in between* the Dionysian and the Apollinean. The architectural event takes place in the choir, the "space," the *chora*, for an epiphany of the Platonic *metaxy*. This Platonic notion defines human existence not as a given, static fact, but rather as a disturbing moment in the in-between ignorance and knowledge, time and timelessness, imperfection and perfection, hope and fulfillment, and ultimately, life and death. The issue of meaning for man involves *participation in a movement* with a direction to be found or missed. Greek tragedy in its gestural frame, the Greek theatre, constitutes the supreme epiphany of belonging and wholeness (meaning) to be attained by individual citizens "at a distance." The well-known effect that Aristotle named "catharsis" speaks for itself. The re-enactment of the tragedy purified, centred and appeased the spectators, and in a world where disorders were always understood to be psychosomatic, it is not surprising to find that the tragedy was deemed to have powerful healing effects, as demonstrated by the presence of the great theatre of Epidauros in the sanctuary of Aesclepius the healer.

Drama is experienced as a tight weaving of temporality and spatiality. Its effect must be attributed to the narrative dictated by the poet, already an individual author in the Western artistic tradition, as opposed to the plurality and diversity of traditional myths. Nevertheless, the plot was always in agreement with the collective and philosophical understanding of the purposefulness of the cosmos and its motions. Catharsis, a recognition of Being's presence in the events of everyday life, does not rely on ordinary language (prose). The language of drama is a poetic language, the language of *metaphor*, and it maintains a high-tension gap between the two terms of metaphorical speech, exposing the audience to the nearness of distance. The receptacle, *chora*, dance platform or *orchestra*, takes its shape through *mimesis* from Being and becoming. We must recall how, in his *Poetics*, Aristotle posits *mimesis* as a function of art: rhyme, rhythm, eurhythmy, and harmony are but attributes of what the spectator *recognizes* as a universal ground in the possible but improbable plot of the tragedy, always new and striking and yet uncannily familiar.

We are now in a better position to understand the nature of *chora* as paradigmatic architectural work, again recalling its importance in the myth of Daedalus. It is simultaneously the work and the "space," its ground or lighting; it is that which is unveiled, the "truth" embodied by art, and the "space" between the word and the experience. It is both a space for "contemplation" and a time set out for "participation," a space of recognition. It is my contention that in this liminal understanding of architecture as a

space for the dance, as a place for the poetic motility that distinguishes human beings from other animals, as a "choreo-graphy" woven by language in a narrative form, we find the *ever-present* "origin" of the work of architecture, an approximation of its "invisible" significance.

It would be futile to attempt in this short paper a thorough history of *chora* and its transformations. Until the end of the Renaissance the disclosure of wholeness (the three terms of reality for Plato) had been unquestionably the province of artists and architects, and this disclosure was always situational. Of particular concern was the ungraspable third term, the very event of ontological continuity, manifested during the Renaissance as a mysterious geometric depth that was disclosed by the work of art but remained concealed and elusive in everyday life. Quotidian experience in the sublunar world appeared to be located in *topos*, a natural space. We must recall that movement was not a state in Aristotelian physics; objects changed their being when they moved, an ontological difference existed between rest and movement, and *topos* was the locus of becoming.

Despite his traditional sources and his many contradictions, only Galileo was capable of imagining a truly different physics in which space could be objectified, as well as substance, and in which motion or rest could indeed be only a "state" incapable of affecting the bodies' being. Galileo not only brought Platonic space, the original *chora*, down from the supralunar heavens to the earth of man; through his scientific cosmology, he also created the conditions for such a "space/substance of ontological continuity" to be no longer contemplated but instead inhabited or manipulated, concealing the mysterious event itself while allowing for the reduction of Being to the purely ontic, i.e., to a re-presented world of objects. Only through manipulation and control of space and substance (nature), would it become possible to "prove" the mathematical truths of Galileo's physics, grounded as they were in assumptions about motion in an imaginary void.. Thus, Galileo created the conditions for *chora* to divide into the antithetical poles of scientific (geometric) space and inanimate (quantitative) substance, and for instrumental and technological culture in general.[21]

Baroque architects set out to change the world and accomplished an exciting synthesis of the qualities of natural space and the geometrical attributes of *chora*. The potential to transform the totality of the human world into a self-referential cultural entity appeared for the first time, and yet, given the overwhelming presence of a natural ground of meaning, a distinction was established among the points of epiphany, the perspective vanishing points in theatres and churches, and the rest of experience. It was in these *theatrical* points that the sacred or profane representation attained its supreme coherence and meaning. Much less ambiguously than in the Renaissance, it is now man who contemplates the space of God, re-presented exclusively as a geometric entity. The transformation of the world into a picture took on another dimension. To experience this epiphany, human beings must

literally leave aside their bodies and binocular vision, and assimilate themselves with the geometric vanishing point - now truly a "point at infinity." In Baroque institutions this epiphany still could be considered part of an embodied ritualized life, both in politics and religion, while the obsession to "build" human space as "infinite" or at least "indefinite," to observe René Descartes's distinction, is undeniable.

It is important to remember that despite Descartes's insistence that space and matter are co-substantial, and that nature abhors the vacuum, this philosopher was explicitly uninterested in the medium of painting. In his *Dioptric* he praises the character of precise copper engravings because they convey the objective form of things. For him, colour is secondary. Only line drawing is capable of disclosing *extension* as the reality of existing things. Obsessed by constructing vision according to epistemic models rather than abiding in perception, Descartes must be held responsible for the "thinning" and objectification of space, now erected into a positive being, outside of all points of view: *chora* had been objectified, assumed to be transparent to mathematical reason, rather than the "in-between" Being and Becoming that characterizes embodied existence.
This consecration of *perspectiva artificialis* as the prime epistemological model led depth to lose its status as the "first" dimension, to become merely one of three dimensions, analogous to length and breadth.[22] *Space was separated from time,* and in architecture ideas could be generated through a fixed system of reductive projections

In the eighteenth century the whole world was conceived as a stage, and the analogies between architecture and theatre became literal. The proscenium arch separating the stage from the space of real experience seemed to disappear in Ferdinando Galli-Bibiena's *Architettura Civile*. His *perspectiva per angolo* democratized the theatre; now every individual occupied a place in geometric space and the space of man became fully a construction. The social conventions for public interaction in the large European cities of the eighteenth century also betrayed the theatricality of everyday life.[23] In the churches, frames of frescoes tended to disintegrate, while Rococo architects collapsed the traditional Renaissance categories of ornament and structure, transforming their work into a "subjective" formal game that no longer addressed the inveterate quest to erect structures as a frame for rituals that in turn demanded appropriate ornamentation. Inhabiting an objectified *chora* and a linear, progressive time, humanity was either on the verge of constructing paradise in a utopic future, following its old quest for transcendence now through technology; or else the vision of paradise in the present here-and-now, represented by traditional artistic endeavours, was possible only as a spectacle through an insurmountable gap, the *aesthetic distance* of the Fine Arts, the origin of the well-known paradigm of art for art's sake where the spectator's participation may become irrelevant.

Newton's void was an all-pervasive cosmic space, invisible except for the manifestation of impersonal laws that take place "in" it. It consecrated the

intuitions of Galileo and Descartes, free of the encumbrances of subtle matter (Descartes) or any "necessary" circular motion (Galileo). Human consciousness was expected to become a passive cybernetic receptor in order to do justice to the truths, which for Newton were still transcendental, implicit in the universal law of gravitation taking place in the vacuum. This was the price to pay for intellectual freedom and democracy: *to inhabit an infinitely thin and ungraspable depth in a punctual present*, a perspective depth that appears utterly prosaic once it is secularized, as if the truth of the world were indeed conveyed by something akin to documentary photographic images, where lines are believed to meet at infinity as a matter of fact and tactility is disregarded, where we can be seduced by the promise of cyberspace and cybersex.

While all this was taking place, artists and architects became divided about the nature of their work. Some, comfortable with the secularized version of utopia that resulted from science and technology, simply built within this prosaic world and embraced the technological values of efficiency and economy, asserting that "meaning" was not the concern of the architect, that it would simply follow. Early in the nineteenth century the *Ecole des Beaux Arts* attempted to temper this dangerous proximity to the task of the engineer through a recovery of architectural "tradition," but the crucial question of the potential meaninglessness of art for art's sake was not addressed. In this context, architecture could be only the stylistic ornament attached to the shed, at best irrelevant, or even criminal as Adolf Loos proclaimed, from a social or ethical standpoint. In an attempt to clarify the ultimate status and specificity of architecture as a Fine Art it was declared, indeed for the first time (1898), that architecture was *the art of space*; its intentional *raison d'être*, according to Schmarzow, was the artistic manipulation of space. This seems like the end of our story. Could it also signal a new beginning? Finally architecture had a proper, "scientific" definition. Once its essence had been named, it could be more easily manipulated and reduced to aesthetic or formal composition, with its axes and its unambiguous linear "promenades" (a touristic perception of space), and to a *marche à suivre* for the architect, prescribed through design methodologies, typologies, and the *méchanisme de la composition*. Its space was indeed the invisible, insidious space of panoptic domination and surveillance.

Other artists and architects, however, adopted a strategy of resistance. Once geometric space had become the locus of social and political life, these architects sought to retrieve the mystery of depth, the transitional event of *chora*, by implementing strategies of destructuration and recollection of embodiment. Piranesi and Ingres were precocious members of this group. Their quest was continued by artistic movements in the twentieth century, intensely informed by Cézanne's obsession to abandon the external form of objects that pre-occupied realism and impressionism in order to retrieve a new depth, a true depth of experience whose paradigm is erotic, that traditional illusionism could not convey. The artist's vision is no

longer a view of the outside, a mere "physical-optical" relation with the world. As Merleau-Ponty has pointed out in regard to Cézanne, the world no longer stands before him through perspectival representation; rather it is the painter (and the observer) to whom the things of the world give birth by means of a concentration of the visible. These works proclaim a fallen distance, a temporalization of depth. The architectural and artistic works of resistance in the last two hundred years are, first of all, "autofigurative." They are a spectacle of something only by being a spectacle of nothing. Works by Lequeu and Duchamp, Gris and de Chirico, Giacometti and Peter Greenaway, Steven Holl and John Hejduk, are stylistically very diverse and yet, they break the skin of things in order to show "how the things become things, how the world becomes a world."[24]

The artistic paradigm of Renaissance illusionism became problematic once humanity could start to "inhabit" homogeneous, geometric space during the eighteenth century. Thus, the arts of resistance all became imbued with the traditional concerns of architecture. Once symbolic representation was substituted by instrumental representation, the aesthetic distance could only be exacerbated. We need only remember Walter Benjamin's city of voyeurs. The danger for art and architecture is, indeed, irrelevancy through potential closure, the closure to participation implicit in instrumental (i.e., aesthetic) representation. It is my contention, however, that it is possible to contemplate an opening through this paradox that may afford us a new opportunity to understand *chora* as the ground of being, but now in terms of a fully built culture. We are now in a better position to imagine a *ricorso* of history that starts by acknowledging that culture is our nature, while respecting the irreducible and silent presence of the body as our transhistorical ground.

Artistic meaning rests upon an intricate interplay of showing and concealing. The work of architecture is no mere bearer of meaning, as if the meaning could be transferred to another bearer. Instead, the meaning of the work lies in the fact that it is there. Above all, emphasizes Gadamer, this creation is not something that we can imagine being made deliberately by someone.[25] It is, first and foremost, of the world, and our experience of it overwhelms us. Rather than simply meaning "something," art and architecture allow meaning to present itself. We *recognize* the meaning as new and yet we cannot *name* it; we are invited to silence and yet must proclaim the utterly familiar. Thus art and architecture, as cultural forms of representation, present something that can exist only in specific embodiments. They signify an increase in being, disclosing the "lighting" that makes the world of things into objects, the event of becoming-into-being. This representative power - which has nothing to do with replacement, substitution or copy - distinguishes the work of art and architecture from other technological achievements. Its order, like the Platonic *chora* itself, resists pure conceptualization. It is not linked to an ultimate meaning that could be recuperated intellectually. The work of architecture, properly speaking, preserves its meaning within itself. It is *not* an allegory in the sense that it

says one thing and gives us to understand something else. What the work has to say can be found only within itself, grounded in language, and yet beyond it. Experiencing and participating in a work of architecture has a fundamental temporal dimension. Acknowledging the ambivalent reality of its space constitutes a re-cognition that is, also, a creation of ourselves. Architecture being a meaning-for-embodied-consciousness demands an erotic projection from the maker and the participant, an abandonment of our selves for the other, an act whose final objective is our realization as embodied, imagining selves.

The work of architecture as *chora* is indeed space-matter, it demands a synthesis of the material and spatial imaginations (in the sense of Bachelard), obviously beyond any traditional typology of artistic products. Philosophers of art have generally avoided speaking about architecture because of the complexities involved by questions of utility and program. Yet, it is my contention that architecture must be understood as the paradigmatic cultural product of representation after the demise of Renaissance illusionism. It is the fragmentary artifact *par excellence* that may allow us to identify our opaque nature under the linguistic "house of being," while embracing use-values in our secular society. Architecture is the technological artifact that may reveal the *horizon* of beings that we recognize (in our wholeness), while we acknowledge that it is never fully present.

While marking an intensification of being or embodying truth without objectifying it, architecture is "demanding" on the spectator or inhabitant. It requires from the architect and the inhabitant a different relationship with external reality. This is what Martin Heidegger has named *gelassenheit*, an attitude that may stand beyond the dichotomy of ritual participation versus intellectual contemplation. Philosophy itself has denounced its traditional claims to an absolute truth in the spirit of a rigorous science. We know from Heidegger's late philosophy that Being is no longer graspable through pure contemplation or pure instrumentality. As an event, Greek tragedy perhaps already held this promise for us, distinct from the scientific implementation of *logos* that resulted from the same cultural origins. While accepting the technological language and body from which it issues, architecture seeks to destructure it; it aims at love and recognition beyond optical seduction, it seeks to demonstrate (often through monstrosity), the mysterious origin of technology and the impossibility of survival in a world of objectified things or cyberspace.

Fully to address the dangers of aestheticism, reductive functionalism and either conventional or experimental formalism, architecture must consider seriously the potential of narrative as the structure of human life, a poetic vision realized in space-time. The architect, in a sense, now must also write the "script" for his dramas, regardless of whether this becomes an explicit or implicit transformation of the "official" building program. This is, indeed, a crucial part of his design activity, and also the vehicle for an

ethical intention to inform the work. Only by accepting this responsibility will it be possible for his work to invite the radicalized "individual" of the late twentieth century to exercise, with his/her freedom, a reciprocal responsibility to "participate" in the re-creation of a work of art that is no longer a *mimesis* of a shared, socially validated or transcendental order nor the product of a Romantic imagination attempting a construction ex *nihilo*. Architectural work is therefore articulated as a narrative, "metaphoric" projection grounded on recollection. On one hand, the spectator's perception must remain "distant," the work a representation of mysterious depth, the ultimately unnamable presence of the lighting that can be construed as a trace of cultural continuity. On the other hand, the rupture with the cosmological epoch is signaled by the inhabitant's intimate participation in re-creating the work through language for it to yield its "sense" in the high tension gap inherent in the metaphor. This intensification of being is what defines the work of art, regardless of its medium and its figurative or "non-objective" nature. In it, humanity recognizes its purpose.

To repeat: during the last two centuries all art forms, including literature, music, sculpture, painting and more recently, film and other "hybrids," seem to be emphatically "about" space, about *chora.*, material and constructed, yet qualitative and metaphoric. The imagining self must prevail, in opposition to the deconstructive obsession to eliminate the subject indiscriminately. Only the imagining self as creator and spectator, a very different reality from the fully transparent and coincidental Cartesian *ego cogito*, can inhabit through these works a world already beyond the future-orientation of modernity, where the notion of progress has collapsed and yet the narrative function with its vectors of recollection and projection remain the only alternative to articulate ethical action, and construe an appropriate choreography for a postmodern world. *Chora*, an empty gap that is not nothingness, assumed by common sense to be the exclusive space of action, is the meaning of architecture. In works of architecture that transcend the reductions of functional "modernism" and the pastiches of "historicism," however, it is revealed as infinitely dense and impenetrable. *Chora* is the site of darkness that is our *Nature* and must be preserved for the survival of humanity.

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2 Compare V
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3 Vitruvius, D
4 Alberto Pér
5 See Alberto
6 Plato, *Time*
7 Plato, *Time*
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8 Plato, *Time*
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11 Jean Pierr
12 Aristotle,
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19 Vitruviu
20 Ibid., 13
21 The mo
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22 Maurice
23 Richard
24 Merleau
25 Hans-G

Endnotes

1 Marcus V. Pollio Vitruvius, *The Ten Books on Architecture*, tr. by M.H. Morgan (New York: Dover 1960), II, i, 1.

2 Compare Vitruvius, *The Ten Books on Architecture*, tr. by Morgan, with *De Architectura*, tr. by F. Granger (Cambridge, Mass.: Harvard University Press 1983), 2 vols.

3 Vitruvius, *De Architectura*, I, i, 3.

4 Alberto Pérez-Gómez, *Architecture and the Crisis of Modern Science* (Cambridge, Mass.: The MIT Press 1983), chs. 8 and 9.

5 See Alberto Pérez-Gómez and Louise Pelletier, "Architectural Representation beyond Perspectivism," *Perspecta* 27, 1993.

6 Plato, *Timaeus and Critias*, tr. by H.D.P. Lee (Cambridge: Hardmonsworth 1965), 66.

7 Plato, *Timaeus and Critias*, 67. Maurice Merleau-Ponty names this primordial element in his late philosophy as the flesh of the world. This radical phenomenological understanding of a non-dualistic reality is, in my view, not so distant from Plato's own formulation. See *The Visible and the Invisible* (Evanston: Northwestern University Press 1968).

8 Plato, *Timaeus and Critias*, 68.

9 Plato, *Timaeus and Critias*, 69.

10 Plato, *Timaeus and Critias*, 70-71.

11 Jean Pierre Vernant, *Mythe et pensée chez les Grecs* (Paris: Maspero 1965), 2 vols., I, 124.

12 Aristotle, *Poetics*, tr. by S.H. Butcher (New York: Dover Publications 1951), IV, 12.

13 Jane Harrison, *Ancient Art and Ritual* (Bradford-on-Avon: Moonraker Press 1978), 40.

14 In modern Greek χωρα, often transliterated hora, is the word for place, used as well as a proper noun to designate the most important city of some islands (there is also a Hora in the Peloponese, close to Pylos). The word for dance, on the other hand, is χοροζ, written with omicron (o) rather than omega (ω), and with the accent on the last syllable. In ancient Greek there was most probably a difference in pronunciation that today has been lost.

15 Wladyslaw Tatarkiewicz, *History of Aesthetics*, (Warsaw: Polish Scientific Publishers 1970), 3 vols., I, 16.

16 Alberto Pérez-Gómez, "The Myth of Daedalus," *AA Files* 10 (1985).

17 Hermann Kern, "Image of the World and Sacred Realm," *Daidalos* 3 (1983), 11.

18 It is significant that the foundations of the *tholos* or circular temple in Epidauros, dedicated to Asclepius the god of healing, are in fact labyrinthine. The special status that Epidaurus held in Antiquity as a place for healing is well known. The famous theatre in the sanctuary played a most important role in the process of restoring psychosomatic stability to the "patients," who could also undergo a dream cure in the *abaton*. The fact that in the circular temple, of which there were very few examples in Ancient Greece, the circular form of the heavens (and the chorus) is physically reconciled with the labyrinth of the underworld (where lived the three sacred serpents associated with the ritual of Asclepius), makes manifest the "function" of architecture as one of the disciplines that allowed order to appear or, if lacking, be restored. The theme of the labyrinth as the foundation of architectural order, while seldom realized as literally as in Epidaurus, was a pervasive foundational idea during the Middle Ages and in Renaissance and Baroque architectural treatises. Architecture thus occupies the liminal position *in-between* darkness and light, revealing the true place of human existence.

19 Vitruvius, *Ten Books of Architecture*, tr. by Morgan, 137.

20 Ibid., 139.

21 The most concise discussion of this aspect of the scientific revolution is still Alexandre Koyré, *Metaphysics and Measurement* (London: Chapman & Hall 1968), especially chs. I-IV.

22 Maurice Merleau-Ponty, "Eye and Mind", in *The Primacy of Perception* (Evanston, Ill.: Northwestern University Press 1964).

23 Richard Sennett, *The Fall of Public Man* (Cambridge: Cambridge University Press 1977).

24 Merleau-Ponty, "Eye and Mind," *The Primacy of Perception*, 181.

25 Hans-Georg Gadamer, *The Relevance of the Beautiful* (Cambridge: Cambridge University Press 1986), 31-39.

An Architecture of the Seven Senses

Juhani Pallasmaa

The taste of the apple...lies in the contact of the fruit with the palate, not in the fruit itself; in a similar way...poetry lies in the meeting of the poem and reader, not in the lines of symbols printed on the pages of a book. What is essential is the aesthetic act, the thrill, the almost physical emotion that comes with each reading.

-Jorge Luis Borges, Forward to Obra Poética

Perhaps thinking, too, is just something like building a cabinet. At any rate, it is a craft, a 'handicraft,' and therefore has a special relationship to the hand. In the common view, the hand is part of our bodily organism. But the hand's essence can never be determined, or explained, by its begin an organ which can grasp. (...) The hand is infinitely different from all the grasping organs...different by an abyss of essence. (...) But the craft of the hand is richer than we commonly imagine. (...) The hand reaches and extends, receives and welcomes - and not just things: the hand extends itself, and receives its own welcome in the hands of others. (...) But the hand's gestures run everywhere through language, in their most perfect purity precisely when man speaks by being silent. (...) Every motion of the hand in every one of its works carries itself through the element of thinking, every bearing of the hand bears itself in that element. All the work of the hand is rooted in thinking.

-Martin Heidegger, "What Calls for Thinking?"

RETINAL ARCHITECTURE AND LOSS OF PLASTICITY

The architecture of our time is turning into the retinal art of the eye. Architecture at large has become an art of the printed image fixed by the hurried eye of the camera. The gaze itself tends to flatten into a picture and lose its plasticity; instead of experiencing our being in the world, we behold it from outside as spectators of images projected on the surface of the retina.

As buildings lose their plasticity and their connection with the language and wisdom of the body, they become isolated in the cool and distant realm of vision. With the loss of tactility and the scale and details crafted for the human body and hand, our structures become repulsively flat, sharp-edged, immaterial, and unreal. The detachment of construction from the realities of matter and craft turns architecture into stage sets for the eye, devoid of the authenticity of material and tectonic logic.

Natural materials - stone, brick and wood - allow the gaze to penetrate their surfaces and they enable us to become convinced of the veracity of matter. Natural material expresses its age and history as well as the tale of its birth and human use. The patina of wear adds the enriching experience of time; matter exists in the continuum of time. But the materials of today - sheets of glass, enameled metal and synthetic materials - present their unyielding surfaces to the eye without conveying anything of their material essence or age.

Beyond architecture, our culture at large seems to drift towards a distancing, a kind of chilling, de-sensualization and de-eroticization of the human relation to reality. Painting and sculpture have also lost their sensuality, and instead of inviting sensory intimacy, contemporary works of art frequently signal a distancing rejection of sensuous curiosity.

The current over-emphasis on the intellectual and conceptual dimensions of architecture further contributes to a disappearance of the physical, sensual and embodied essence of architecture.

ARCHITECTURE OF THE SENSES

In Renaissance times, the five senses were understood to form a hierarchical system from the highest sense of vision down to the lowest sense, touch. The system of the senses was related to the image of the cosmic body; vision was correlated to fire and light, hearing to air, smell to vapor, taste to water, touch to earth.

Man has not always been isolated in the realm of vision; a primordial dominance of hearing has gradually been replaced by that of vision. In his book Orality & Literacy Walter J. Ong points out that "The shift from oral to written speech is essentially a shift from sound to visual space ... print replaced the lingering hearing - dominance in the world of thought and expression with the sight - dominance which had its beginning in writing ... This is an insistent world of cold, non-human facts."

Every touching experience of architecture is multi-sensory; qualities of matter, space, and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton and muscle. Architecture involves seven realms of sensory experience which interact and infuse each other.

In the words of Merleau - Ponty, "We see the depth, speed, softness and hardness of objects - Cézanne says we see even their odor. If a painter wishes to express the world, his system of color must generate this indivisible complex of impressions, otherwise his painting only hints at possibilities without producing the unity, presence and unsurpassable diversity that governs the experience and which is the definition of reality for us."

A walk through a forest or a Japanese garden is invigorating and healing because of the essential interaction of all sense modalities reinforcing each other; our sense of reality is thus strengthened and articulated.

Images of one sensory realm feed further imagery in another modality. In The Book of Tea Kakuzo Okakura gives a fine description of the multi-sensory imagery evoked by the extremely simple situation of the tea ceremony, "...quiet reigns with nothing to break the silence save the note of the boiling water in the iron kettle. The kettle signs well, for pieces of iron are so arranged in the bottom as to produce a peculiar melody in which one may hear the echoes of a cataract muffled by clouds, of a distant sea breaking among the rocks, a rainstorm sweeping through a bamboo forest, or of the soughing of pines on some faraway hill."

The senses do not only mediate information for the judgment of the intellect; they are also a means of articulating sensory thought.

ACOUSTIC INTIMACY

One who has half-risen to the sound of a distant train at night and, through his sleep, experienced the space of the city with its countless inhabitants scattered around its structures, knows the power of sound to the imagination; the nocturnal whistle of a train makes one conscious of the entire sleeping city. Anyone who has become entranced by the sound of water drops in the darkness of a ruin can attest to the extraordinary capacity of the ear to carve a volume into the void of darkness. The space traced by the ear becomes a cavity sculpted in the interior of the mind.

We can recall the acoustic harshness of an uninhabited and unfurnished house as compared to the affability of a lived home in which sound is refracted and softened by the surfaces of numerous objects of personal life. Every building or space has its characteristic sound of intimacy or monumentality, rejection or invitation, hospitality or hostility.

Sight makes us solitary, whereas hearing creates a sense of connection and solidarity; the gaze wanders lonesomely in the dark depths of a cathedral, but the sound of the organ makes us realize our affinity with the space. We stare alone at the suspense of the circus, but the burst of applause after the relaxation of suspense unites us to the crowd. The sound of church bells through the streets makes us aware of our citizenship. The echo of steps on a paved street has an emotional charge because the sound bouncing off the surrounding walls puts us in direct interaction with space; the sound measures space and makes its scale comprehensible. We stroke the edges of the space with our ears. But, the contemporary city has lost its echo.

SILENCE, TIME, AND SOLITUDE

However, the most essential auditory experience created by architecture is tranquillity. Architecture presents the drama of construction silenced into matter and space; architecture is the art of petrified silence. After the clutter of building has ceased and the shouting of workers has died away, the building becomes a museum of a waiting, patient silence. In Egyptian temples we encounter the silence of the pharaohs, in the silence of a Gothic cathedral we are reminded of the last dying note of a Gregorian chant, and the echo of Roman footsteps has just faded on the walls of the Pantheon.

An architectural experience silences all external noise; it focuses attention on one's very existence. Architecture, as all art, makes us aware of our fundamental solitude. At the same time, architecture detaches us from the present and allows us to experience the slow, firm flow of time and tradition. Buildings and cities are instruments and museums of time. They enable us to see and understand the passing of history.

Architecture connects us with the dead; through buildings we are able to imagine the bustle of the medieval street and fancy a solemn procession approaching the cathedral. The time of architecture is a detained time; in the greatest of buildings time stands firmly still. Time in the Great Peristyle at Karnak has petrified into a timeless present.

Experiencing a work of art is a private dialogue between the work and the viewer that excludes other interactions. "Art is made by the alone for the alone," as Cyrille Connolly writes in The Unquiet Grave. Melancholy lies beneath moving experiences of art; this is the tragedy of beauty's immaterial temporality. Art projects an unattainable ideal.

SPACE OF SCENT

The strongest memory of a space is often its odor. I cannot remember the appearance of the door to my grandfather's farm-house from my early childhood, but I do remember the resistance of its weight, the patina of its wood surface scarred by a half century of use, and I recall especially the scent of home that hit my face as an invisible wall behind the door.

A particular smell may make us secretly re-enter a space that has been completely erased from the retinal memory; the nostrils project a forgotten image and we are enticed to enter a vivid daydream.

"...Memory and imagination remain associated," Gaston Bachelard writes. "I alone in my memories of another century can open the deep cupboard that still retains for me alone that unique odor, the odor of raisins, drying on a wicker tray. The odor of raisins! It is an odor that is beyond description, one that it takes a lot of imagination to smell."

And what a delight to move from one realm of odor to the next in the narrow streets of an old town; the scent sphere of a candy store makes one think of the innocence and curiosity of childhood; the dense smell of a shoemaker's workshop makes one imagine horses and saddles, harness straps and the excitement of riding; the fragrance of a bread shop projects images of health, sustenance and physical strength, whereas the perfume of a pastry shop makes one think of bourgeois felicity.

Why do abandoned houses always have the same hollow smell; is it because the particular smell is caused by the visual emptiness observed by the eye?

In his Notebook of Malta Laurids Brigge, Rainer Maria Rilke gives a dramatic description of images of past life in an already demolished house conveyed by traces imprinted on the wall of its neighboring house. "There were the midday meals and sicknesses and the exhalations and the smoke of years, and the sweat that breaks out under the armpits and makes the garments heavy, and the stale breath of mouths, and the oily odour of perspiring feet. There were the pungent tang of urine and the stench of burning soot and the grey reek of potatoes, and the heavy, sickly fumes of rancid grease. The sweetish, lingering smell of neglected infants was there, and the smell of frightened children who go to school and the stuffiness of the beds of nubile youths.

Contemporary images of architecture appear sterile and lifeless as compared to the emotional and associative power of Rilke's olfactory imagery.

THE SHAPE OF TOUCH

The skin reads the texture, weight, density and temperature of matter. The surface of an old object, polished to perfection by the tool of the craftsman and the assiduous hands of its users, seduces the stroking of our hand. It is pleasurable to press a door handle shining from the thousand hands that have entered the door before us; the clean shimmer of ageless wear has turned into an image of welcome and hospitality. The door handle is the handshake of the building. The tactile sense connects us with time and tradition; through marks of touch we shake the hands of countless generations.

The skin traces spaces of temperature with unerring precision; the cool and invigorating shadow under a tree or the caressing sphere of warmth in a spot of sun. In my childhood-images of the countryside, I can vividly recall walls against the angle of the sun, walls which intensified the heat of radiation and melted the snow, allowing the first smell of pregnant soil to announce the approach of summer. These pockets of spring were identified by the skin and the nose as much as by the eye.

We trace the density and texture of the ground through our soles. Standing barefoot on a smooth glacial rock by the sea at sunset and sensing through one's soles the warmth of the stone heated by the sun is a healing experience; it makes one part of the eternal cycle of nature. One senses the slow breathing of the earth.

There is a strong identity between the skin and the sensation of home. The experience of home is essentially an experience of warmth. The space of warmth around a fireplace is the space of ultimate intimacy and comfort. A sense of homecoming is never stronger than seeing a light in the window of a house in a snow-covered landscape at dusk; the remembrance of its

warm interior gently warms one's frozen limbs. Home and skin turn into a single sensation.

But the eye also touches; the gaze implies an unconscious bodily mimesis of identification. Perhaps, we should think of touch as the unconscious core of vision. Our gaze strokes distant surfaces, contours and edges, and the unconscious tactile sensation determines the agreeableness or unpleasantness of the experience. The distant and the near are experienced with the same intensity.

Great architecture offers shapes and surfaces molded for the pleasurable touch of the eye.

The eye is the sense of separation and distance, whereas touch is the sense of nearness, intimacy and affection. During overpowering emotional states we tend to close off the distancing sense of vision; we close our eyes when caressing our loved ones. Deep shadows and darkness are essential, because they dim the sharpness of vision and invite unconscious peripheral vision and tactile fantasy. Homogeneous light paralyzes the imagination in the same way that homogenization eliminates the experience of place.

In his In Praise of Shadows, Jun'ichiro Tanizaki points out that even Japanese cooking depends upon shadows and is inseparable from darkness. "And when yokan is served in a lacquer dish, it is as if the darkness of the room were melting on your tongue." In olden times the blackened teeth of the geisha and her green-black lips and white face were also intended to emphasize the darkness and shadows of the room. In Luis Barragan's view most of contemporary houses would be more pleasant with only half of their window surface.

In emotional states, sense stimuli seem to shift from the more refined senses towards the more archaic, from vision down to touch and smell. A culture that seeks to control its citizens is likely to value the opposite direction of interface; away from the intimate identification towards the publicly distant detachment. A society of surveillance is necessarily a society of a voyeurist eye.

IMAGES OF MUSCLE AND BONE

Primitive man used his body as the dimensioning and proportioning system of his constructions. The builders of traditional societies shaped their buildings with their own bodies in the same way that a bird molds its nest by its body. The essence of a tradition is the wisdom of the body stored in the haptic memory. The essential knowledge of the ancient hunter, fisherman and farmer, as well as of the mason and stone cutter, was an imitation of an embodied tradition of the trade, stored in the muscular and tactile senses.

"The word habit is too worn an word to express this passionate liaison of our bodies, which do not forget, with an unforgettable house," writes Bachelard of the strength of bodily memory.

There is an inherent suggestion of action in images of architecture, the moment of active encounter or a promise of use and purpose. A bodily reaction is an inseparable aspect of the experience of architecture as a consequence of this implied action. A real architectural experience is not simply a series of retinal images; a building is encountered - it is approached, confronted, encountered, related to one's body, moved about, utilized as a condition for other things, etc.

Stepping stones set in the grass of a garden are images and imprints of human steps.

As we open a door, our body weight meets the weight of the door; our legs measure the steps as we ascend a stair, our hand strokes the handrail and our entire body moves diagonally and dramatically through space.

A building is not an end to itself; it frames, articulates, restructures, gives significance, relates, separates and unites, facilitates and prohibits. Consequently, elements of an architectural experience seem to have a verb form rather than being nouns. Authentic architectural experiences consist then of approaching, or confronting a building rather than the facade; of the act of entering and not simply the frame of the door, of looking in or out of a window, rather than the window itself.

In the analysis of Fra Angelico's Annunciation in his essay "From the Doorstep to the Common Room: (1926) Alvar Aalto recognizes the verb essence of architectural experience; he speaks of entering a room, not of the porch or the door, for instance.

The authenticity of architectural experience is grounded in the tectonic language of building and the comprehensibility of the act of construction to the senses. We behold, touch, listen and measure the world with our entire bodily existence and the experiential world is organized and articulated around the center of the body. Our domicile is the refuge of our body, memory and identity. We are in constant dialogue and interaction with the environment, to the degree that it is impossible to detach the image of the Self from its spatial and situational existence. "I am the space, where I am," as the poet Noel Arnaud established.

BODILY IDENTIFICATION

Henry Moore wrote perceptively of the necessity of a bodily identification in art, "This is what the sculptor must do. He must strive continually to

think of, and use, form in its full spatial completeness. He gets the solid shape, as it were, inside his head - he thinks of it, whatever its size, as if he were holding it completely enclosed in the hollow of his hand. He mentally visualizes a complex form from all round itself; he knows while he looks at one side what the other side is like; he identifies himself with its center of gravity, its mass, its weight; he realizes its volume, and the space that the shape displaces in the air."

The encounter of any work of art implies a bodily interaction. A work of art functions as another person, with whom we converse. Melanie Klein's notion of projective identification suggests that, in fact, all human interaction implies projection of fragments of the Self to the other person. The painter Graham Sutherland expresses the same view in regards to his own work, "In a sense the landscape painter must almost look at the landscape as if it were himself - himself as a human being." In Paul Cëzanne's view the landscape thinks through him and he is the consciousness of the landscape.

Similarly, an architect internalizes a building in his body; movement, balance, distance and scale are felt unconsciously through the body as tension in the muscular system and in the positions of the skeleton and inner organs. As the work interacts with the body of the observer the experience mirrors these bodily sensations of the maker. Consequently, architecture is communication from the body of the architect directly to the body of the inhabitant.

Understanding architectural scale implies the unconscious measuring of an object or a building with one's body, and projecting one's bodily scheme on the space in question. We feel pleasure and protection when the body discovers its resonance in space.

When experiencing a structure, we unconsciously mimic its configuration with bones and muscles; the pleasurably animated flow of a piece of music is subconsciously transformed into bodily sensations, the composition of an abstract painting is experienced as tensions to the muscular system The structures of a building are unconsciously imitated and comprehended through the skeletal system unknowingly, as we perform the task of the column or the vault with our body. The brick wants to become a vault, as Louis Kahn has said, but this metamorphosis takes place through the mimesis of our own body.

The sense of gravity is the essence of all architectonic structures and great architecture makes us conscious of gravity and earth. Architecture strengthens verticality of our experience of the world. At the same time that architecture makes us aware of the depth of earth, it makes us dream of levitation and flight.

TASTE OF ARCHITECTURE

Adrian Stokes writes about the "oral invitation of Veronese marble." There is a subtle transference between tactile and taste experiences. Vision also becomes transferred to taste; certain colors as well as delicate details evoke oral sensations. A delicately colored polished stone surface is subliminally sensed by the tongue. Many years ago I felt compelled to kneel and touch the white marble threshold of the James residence in Carmel, California designed by Charles and Henry Greene. Carlo Scarpa's architecture also frequently presents similar experiences of taste.

Tanizaki gives an impressive description of the subtle interaction of the senses,

"With lacquerware there is a beauty in that moment between removing the lid and lifting the bowl to the mouth when one gazes at the still, silent liquid in the dark depths of the bowl, its colour hardly differing from the bowl itself. What lies within the darkness one cannot distinguish, but the palm senses the gentle movements of the liquid, vapor rises from within forming droplets on the rim, and a fragrance carried upon the vapor brings a delicate anticipation."

THE TASK OF ARCHITECTURE

The timeless task of architecture is to create embodied existential metaphors that concretize and structure man's being in the world. Images of architecture reflect and externalize ideas and images of life; architecture materializes our images of ideal life. Buildings and towns enable us to structure, understand, and remember the shapeless flow of reality and, ultimately, to recognize and remember who we are. Architecture enables us to place ourselves in the continuum of culture.

All experience implies the acts of recollecting, remembering and comparing. An embodied memory has an essential role as the basis of remembering a space or a place. Our home and domicile are integrated with our self-identity; they become part of our own body and being.

In memorable experiences of architecture, space matter and time fuse into one single dimension, into the basic substance of being, that penetrates the consciousness. We identify ourselves with this space, this place, this moment and these dimensions as they become ingredients of our very existence. Architecture is the art of mediation and reconciliation.

Questions of Perception
Phenomenology of Architecture

To pass from one discursive space to another, to proceed by reasoning, a text becomes a necessary — though inadequate — conduit. Writing about architecture and perception is inevitably haunted by the question, Can we see through the word into built form? If architecture is to transcend its physical condition, its function as mere shelter, then its meaning, like interior space, must occupy an equivalent space within language. Written language might, then, assume the silent intensities of architecture.

Since words are abstract, not concretized in space, material and direct sensory experience, this attempt to penetrate architectural meaning through written language will risk disappearance. An impossible inner space, inaccessible through language, might be suggested, but words cannot substitute for authentic physical and sensory experience. The attempt to convey heightened awareness is, in Rilke's words, "a matter of becoming as fully conscious as possible of our existence."

Our experience and sensibilities can evolve through reflective and silent analysis. To open ourselves to perception, we must transcend the mundane urgency of "things to do." We must try to access that inner life which reveals the luminous intensity of the world. Only through solitude can we begin to penetrate the secret around us. An awareness of one's unique existence in space is essential in developing a consciousness of perception.

The descent into oneself can inspire a need to communicate discoveries made in solitude: the private reflection provokes the public action. Our world is full of mundane tasks from which we must free ourselves; our ordinary lives are laden with devices which divide our attentions, and cajole our desires, rerouting them to specious commercial ends. Modern commercial existence muddles the question of what is essential. As our technological means multiply, are we growing — or becoming stunted — perceptually? We live our lives in constructed spaces, surrounded by physical objects. But, born into this world of things, are we able to experience fully the phenomena of their interrelation, to derive joy from our perceptions?

Architecture holds the power to inspire and transform our day-to-day existence. The everyday act of pressing a door handle and opening into a light-washed room can become profound when experienced through sensitized consciousness. To see, to feel these physicalities is to become the subject of the senses.

To advance toward these hidden experiences, we must penetrate the omnipresent veil of mass media. We must fortify our defenses to resist the calculated distractions, which can deplete both psyche and spirit.

Everything which is tangibly present must receive attention. If the media make us passive receivers of vacuous messages, we must firmly position ourselves as activists of consciousness. Only by forcefully and passionately asserting our existence can we access what Mallarmé termed the "force of the negative...that which removes the reality of things and delivers us from their weight."

Architecture, more fully than other art forms, engages the immediacy of our sensory perceptions. The passage of time; light, shadow and transparency; color phenomena, texture, material and detail all participate in the complete experience of architecture. The limits of two-dimensional representation [in photography, painting or the graphic arts], or the limits of aural space in music only partially engage the myriad sensations evoked by architecture. While the emotional power of cinema is indisputable, only architecture can simultaneously awaken all the senses — all the complexities of perception.

Architecture, by unifying foreground, middle ground, and distant views, ties perspective to detail and material to space. While a cinematic experience of a stone cathedral might draw the observer through and above it, even moving photographically back in time, only the actual building allows the eye to roam freely among inventive details; only the architecture itself offers the tactile sensations of textured stone surfaces and polished wooden pews, the experience of light changing with movement, the smell and resonant sounds of space, the bodily relations of scale and proportion. All these sensations combine within one complex experience, which becomes articulate and specific, though wordless. The building speaks through the silence of perceptual phenomena.

While sensations and impressions quietly engage us in the physical phenomena of architecture, the generative force lies in the intentions behind it. Goethe's remark that "one should not seek anything behind the phenomena; they are lessons themselves..." stops short of a more modern philosophical approach, which originated with Brentano and Husserl and was later developed by Maurice Merleau-Ponty.

Questions of architectural perception underlie questions of intention. This "intentionality" sets architecture apart from a pure phenomenology that is manifest for the natural sciences. Whatever the perception of a built work — whether it be troubling, intriguing, or banal — the mental energy which produced it is ultimately deficient unless intent is articulated. The relationship between the experiential qualities of architecture and the generative concepts is analogous to the tension between the empirical and the rational. Here the logic of pre-existing concepts meets the contingency and particularity of experience.

There is no such thing as phenomenology, but there are indeed phenomenological problems.

-L. Wittgenstein

In the modern city, phenomenal and experiential complexities develop only partially by intent. More frequently, they result accidentally from the semi-ordered, yet unpredictable, overlapping of individual intentions.

According to Brentano, physical phenomena engage our "outer perception," while mental phenomena involve our "inner perception." Mental phenomena have real, as well as intentional, existence. Empirically we might be satisfied with a structure as a purely physical-spatial entity but, intellectually and spiritually, we need to understand the motivations behind it. This duality of intention and phenomena is like the interplay between objective and subjective or, more simply, thought and feeling. The challenge for architecture is to stimulate both inner and outer perception; to heighten phenomenal experience while simultaneously expressing meaning; and to develop this duality in response to the particularities of site and circumstance.

To understand the interplay between experiential phenomena and intention, we dissect the whole and analyze our partial perceptions. In the following study, projects are shown not as totalities, but as fragments, organized thematically according to distinct phenomena. As in direct perceptual experience, architecture is initially understood as a series of partial experiences, rather than a totality.

In this exercise, each "zone" corresponds to a perceptual phenomena (touch, smell, sight, etc.). In architectural synthesis, these categories naturally overlap. Our aim is to investigate the dominant characteristics of perception and the architectural/ experiential consequences.

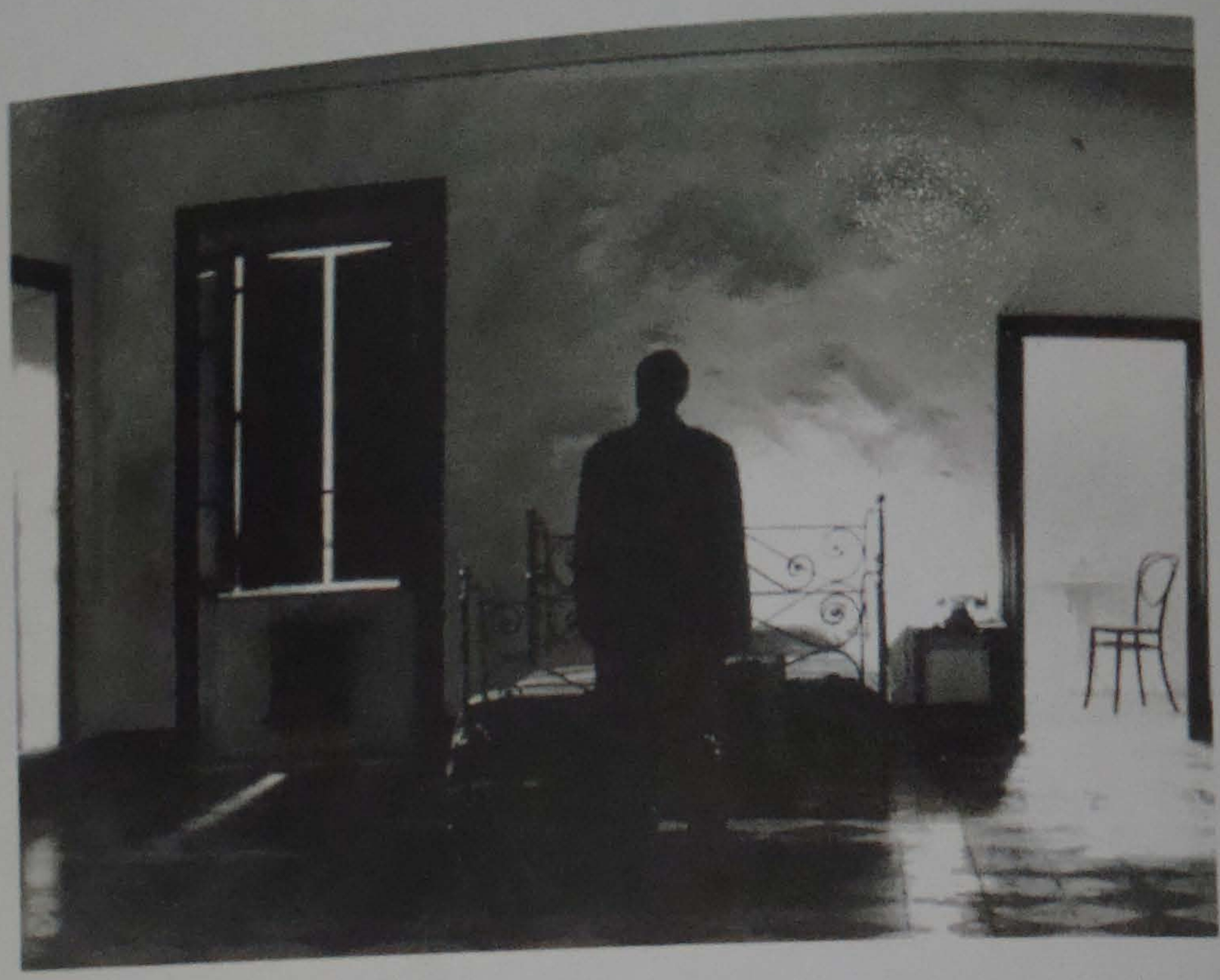
(An appendix at the end of this experimental analysis lists the works as whole entities, outlining the concepts.)

ENMESHED EXPERIENCE:
THE MERGING OF OBJECT AND FIELD

Maurice Merleau-Ponty described an "in-between" reality or "ground on which it is universally possible to bring things together." Beyond the physicality of architectural objects and practicalities of programmatic content, enmeshed experience is not merely a place of events, things, and activities, but something more intangible, which emerges from the continuous unfolding of overlapping spaces, materials, and detail. Merleau-Ponty's "in-between reality" is then perhaps, analogous to the moment in which individual elements begin to lose their clarity, the moment in which objects merge with the field.

The architectural synthesis of foreground, middle ground, and distant view, together with all the subjective qualities of material and light, form the basis of "complete perception." The expression of the originating "idea" is a fusion of the subjective and objective. That is, the conceptual logic which drives a design has an inter-subjective link to the questions of its ultimate perception.

When we sit at a desk in a room by a window, the distant view, light from the window, floor material, wood of the desk, and eraser in hand begin to merge perceptually. This overlap of foreground, middle ground, and distant view is a critical issue in the creation of architectural space. We must consider space, light, color, geometry, detail, and material as an experiential continuum. Though we can disassemble these elements and study them individually during the design process, they merge in the final condition, and ultimately we cannot readily break perception into a simple collection of geometries, activities, and sensations.



A complex interlocking of time, light, material, and detail creates the "whole" of cinema wherein we can no longer distinguish individul elements. Filmmaker Andrey Tarkovsky speaks of cinematic enmeshing in his description of a scene from Kurosawa's The Seven Samurai: " A medieval Japanese village. A fight is going on between some horsemen and the samurai who are on foot. It is pouring rain, there is mud everywhere. The samurai wear an ancient Japanese garment which leaves most of the leg bare, and their legs are plastered with mud. And when one samurai falls down dead we see the rain washing away the mud and his leg becoming white, as white as marble."

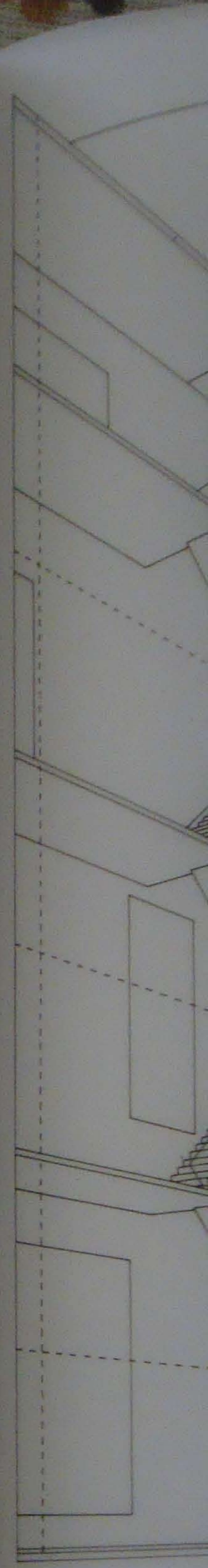
PERSPECTIVAL SPACE:
INCOMPLETE PERCEPTION

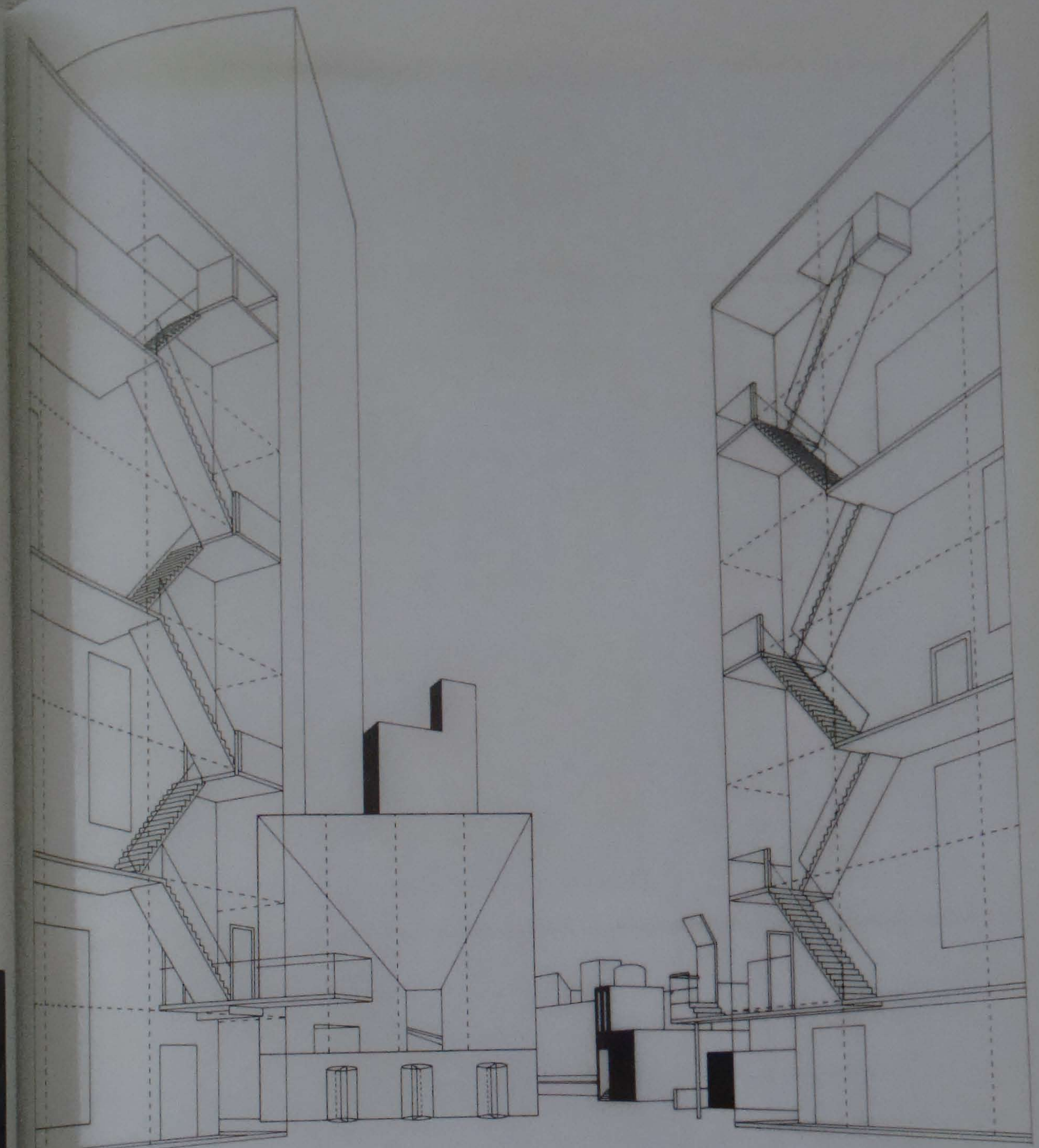
Approaching a given city from the air, our first impression is no longer a frontal perspective. There is no city gate or bridge through which we must pass, and the warp and turn of the plane present several perspective views. If we approach on a fast-moving train, our horizon is suddenly inverted as we arrive on an underground track, from which we will emerge, at the completion of our travels, a horizontal rise by escalator through the overlapping spaces of a modern metro station. These spatial experiences are open-ended. They form a network of overlapping perspectives. The old conditions of linear perspective with its vanishing points and horizon line, disappear behind us as modern urban life presents multiple horizons, hovering horizons, and multiple vanishing points.

Flying from New York to Helsinki overnight allows for a sunrise arrival with window shutters up. Looking down over the pure white March snow, one can see the subtle rolling of hills and notice an astonshing sight; due to the low angle of the sun, the pure air and the unblemished snow, remarkably long shadows are cast even by the smallest tree or bush. As the plane glides in lower and lower, this fantasy picture in white, with rolling long blue-black lines at sunrise, has certainly a special quality of place.

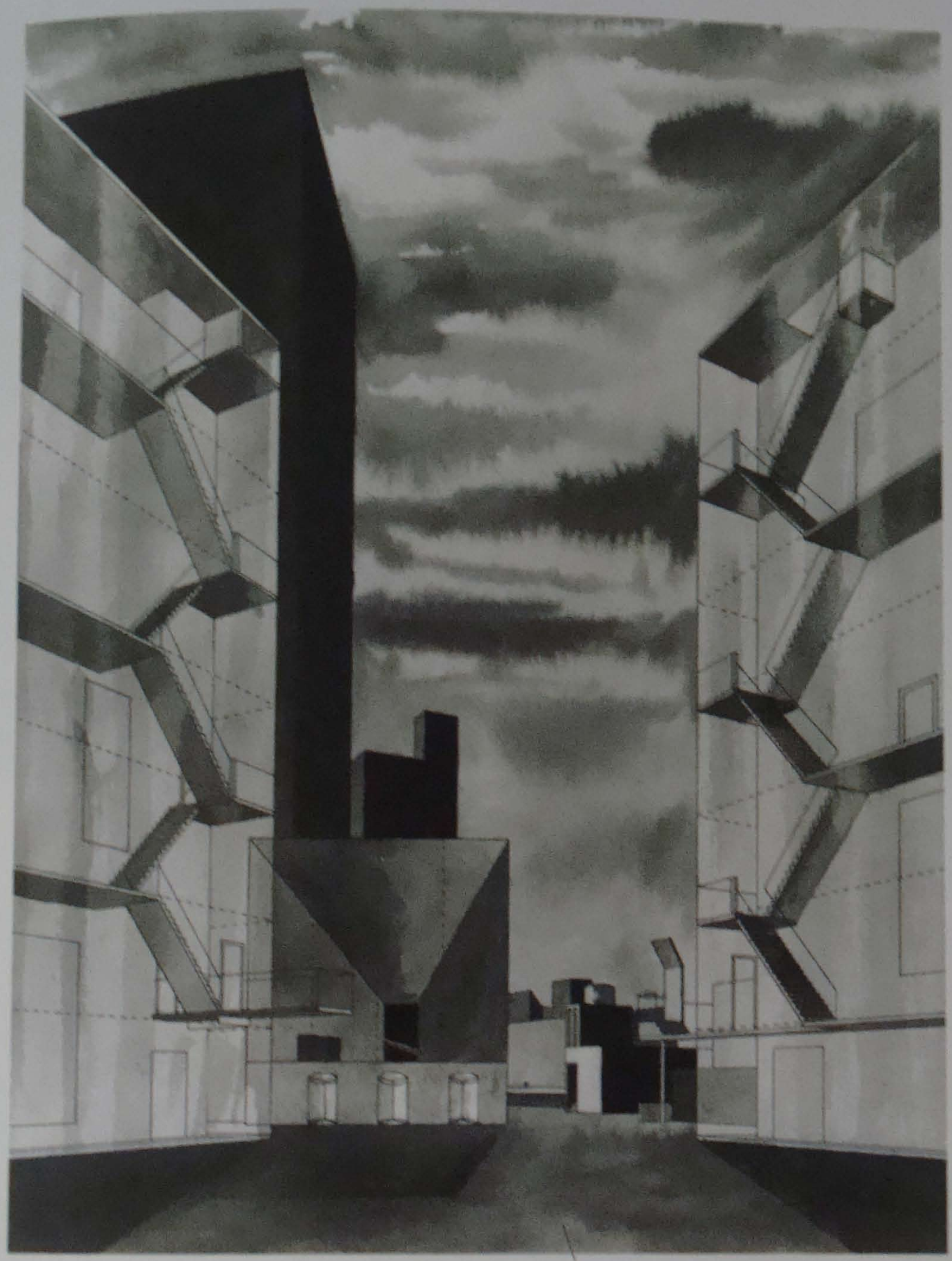
Some speak disparagingly of the "generalization" of the modern city where due to sameness of commercial chains, transportation and airports, etc., it is difficult to distinguish places. Could this also be a question of looking and seeing?

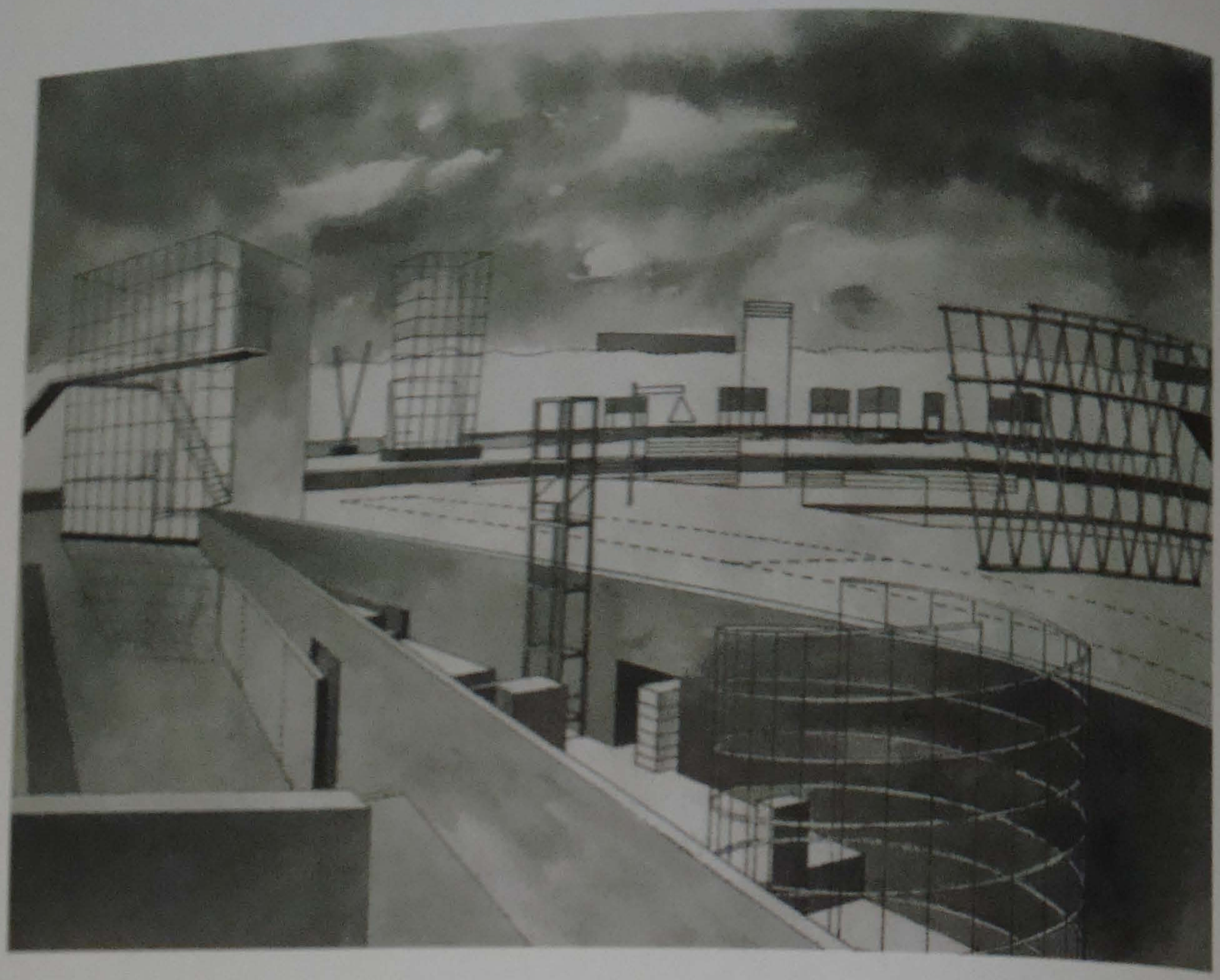
Within the experiential continuum of enmeshed space, we understand distinct objects, distinct fields, as a "whole." Our experience of a city can only be, however, perspectival, fragmented, incomplete. This experience — unlike a static image — consists of partial views through urban settings, which offer a different kind of involvement or investigation than the bird's eye view, which is typically used by architects and planners.

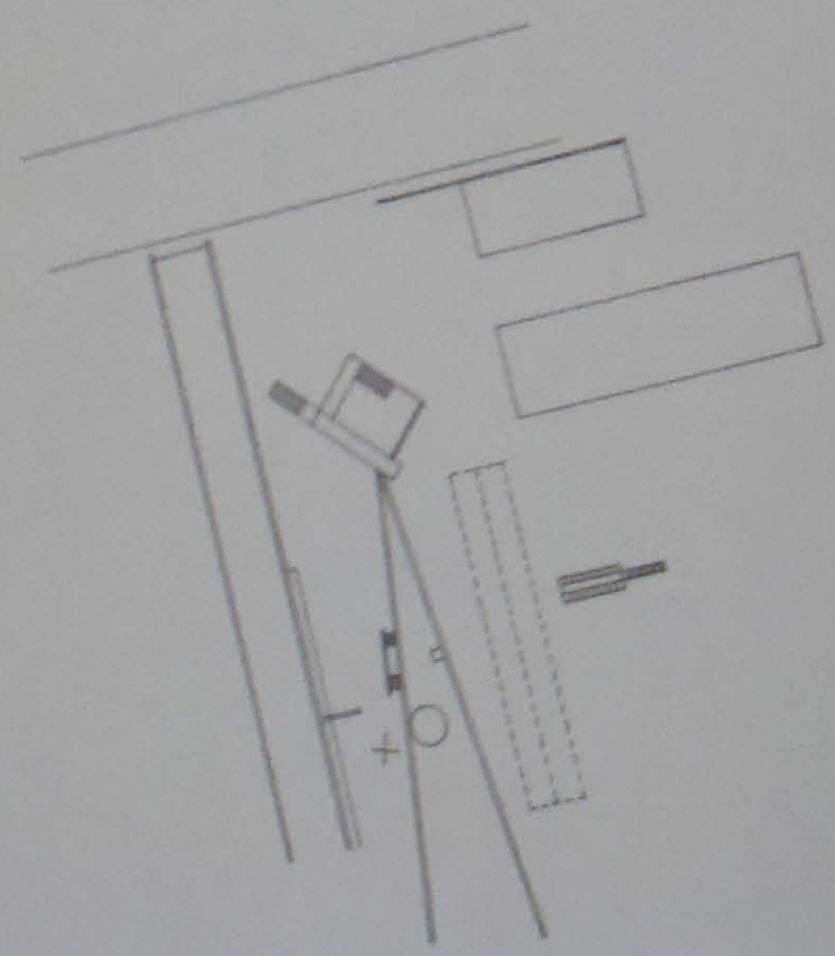


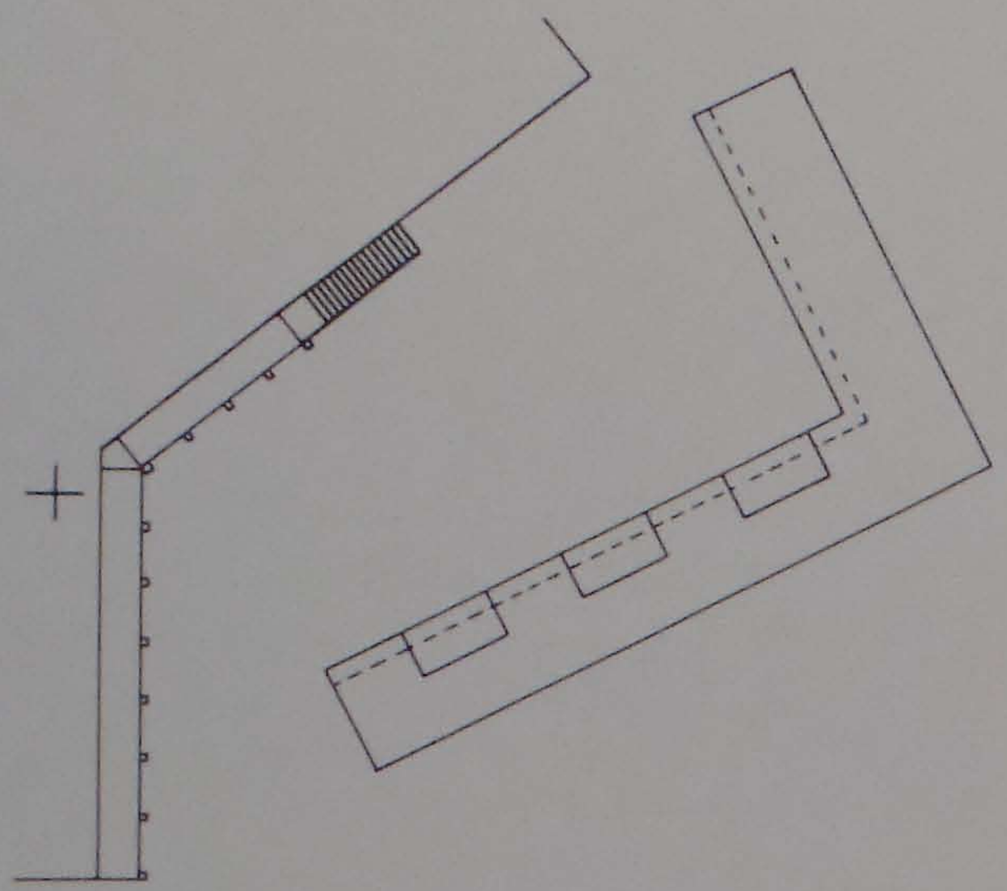


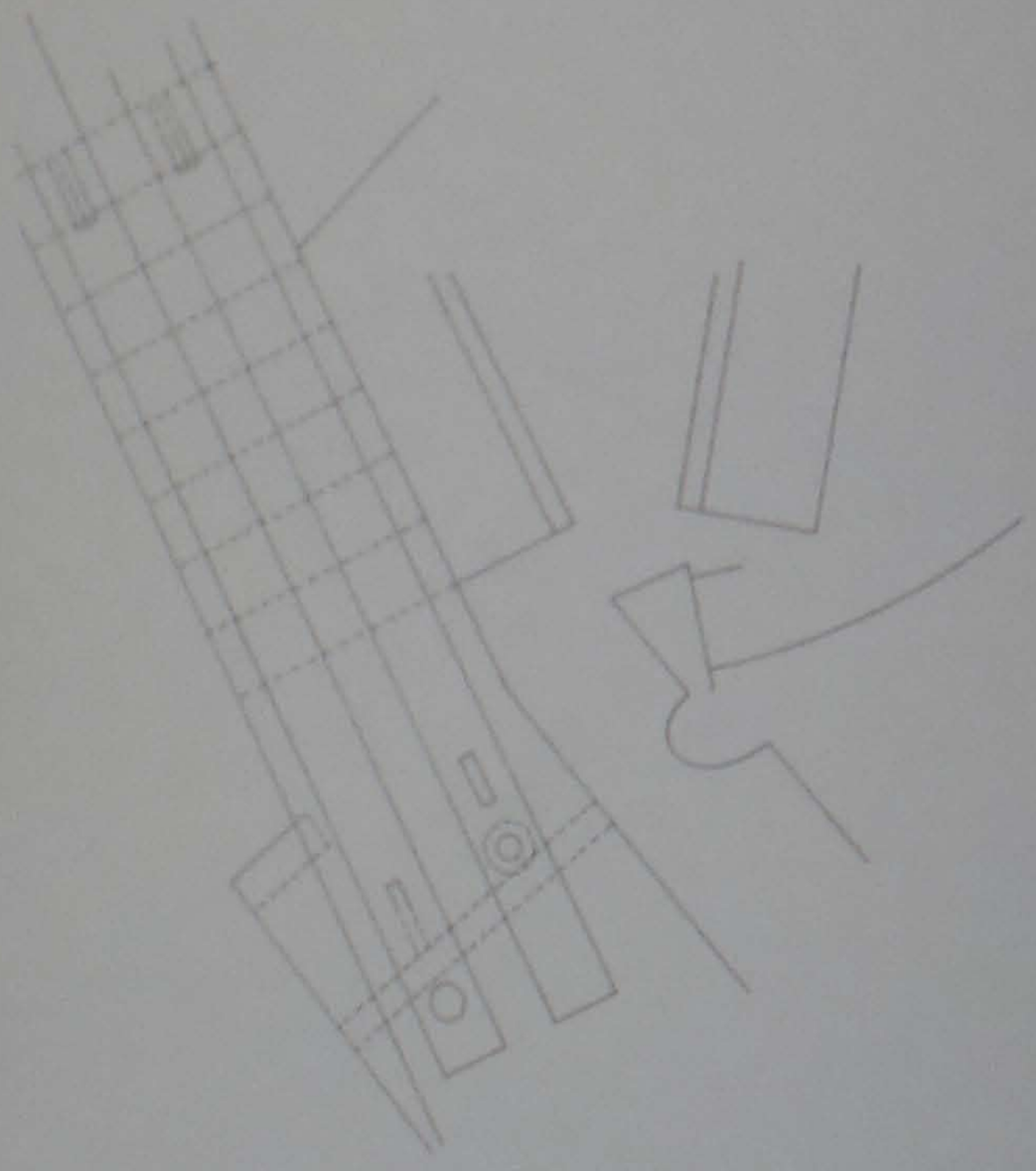
Examples from our Milan Porta Vittoria project of 1986 demonstrate a process of urban design utilizing a series of partial-view perspectives, which were drawn a priori and cast backwards into plan fragments. These fragments were later assembled into a "whole" urban plan, according to a concept of centrifugal movement from heavy to light in reverse of the sprawl tendency of the current city.







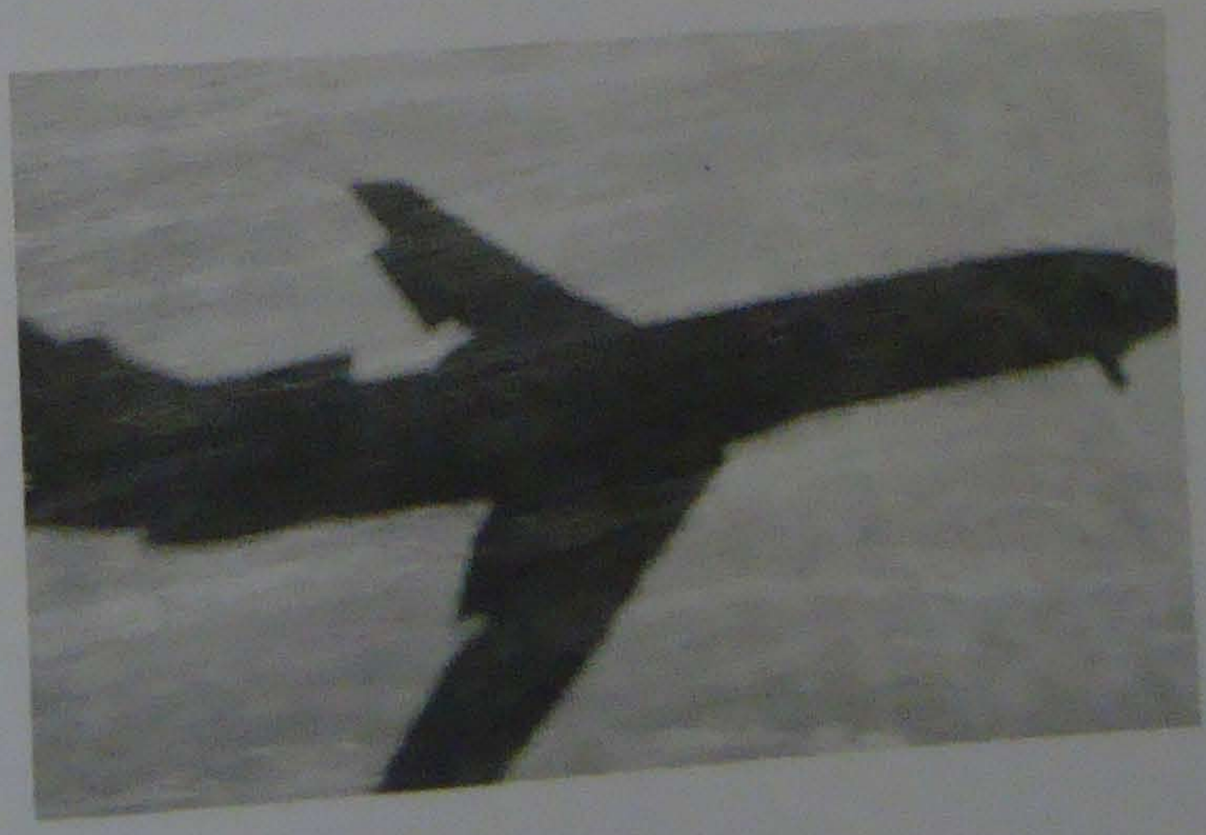




Our perception develops from a series of overlapping urban perspectives, which unfold according to angle and speed of movement. While we might analyze our movement along a specific path at a given speed, we can never enumerate all possible views. The partially described paths through urban geometries remain in doubt, always changing. A series of views from a stationary position is layered upon perceptions along a horizontal, diagonal, or vertical axis of movement. Further, no single view of a building or urban space can be complete, as the perception of a built object is altered by its relationship to juxtaposed solids, voids, the sky and the street.

Through the phenomenological study of cities, we seek ways of incorporating this incomplete, perspectival, experience of space, into our vision and fabrication of architecture. A "multiple-perspectives" approach to urban planning is facilitated by using the computer in the design process to find precise plan dimensions within perspectival views, and to test speed, angles of motion, and peripheral vision. However the pixelated digitized cannot simulate qualities of material, light and other sensations of full-scale urban experience.

We would thus propose to construct urban spaces on perceptual principals, allowing for movement between the absolutes of architectural intention and the indefinitive urban assemblage. Perhaps enlightened concepts of urbanism would evolve with an understanding of alternative ways of moving through cities.



OF COLOR

Variations in reflectivity of glossy and matte surfaces, differences between opaque and transparent colors, and the unique properties of reflected and projected colors begin to suggest an enormous range in the phenomenology of color. Forces which impact on the experience of color function according to available light as well as additional variable properties. Indeterminacy, in fact, might be the central condition of color.

Our perception of color cannot be fully explained through the mathematics of light waves and the physical action of vision. The mathematical rigor of the visible spectrum of light which ranges from 400 - 700 M μ differs significantly from the perception and experience of color.

We could speak of various phenomena as stronger determinants in the experience of color than the actual colors, mathematically defined. The "bright" primary colors - blue yellow and red - seem muted on a matte surface with a very low level of available light. In contrast, the subtle rainbow of colors formed by brilliant sunlight shining through a prism of ice against a white snow background may be incredibly intense. These phenomena, which vary according to available light and contrasting juxtapositions of transparency and opacity, suggest that a study of color by wavelength or primary and secondary categories is not only inadequate but, according to perception and experience, misleading.

Yellow orange and brown autumn leaves seen along the upper Hudson River serve to illustrate the concept of variation and indeterminacy in color. Walking along the bank on a cloudy day, dull brown dominates; the water of the Hudson is a smooth gray background. The very next day is brilliantly sunny, the sky a crisp blue in the 39° air. Walking along the same bank as the day before the experience is entirely different. In the morning the rising sun shines through the medium yellow maple leaves and transforms them to a transparent glowing golden yellow. In the afternoon the brown orange leaves are likewise back lit, a brilliant orange, while the river, reflecting the sky, provides a deep blue contrast.

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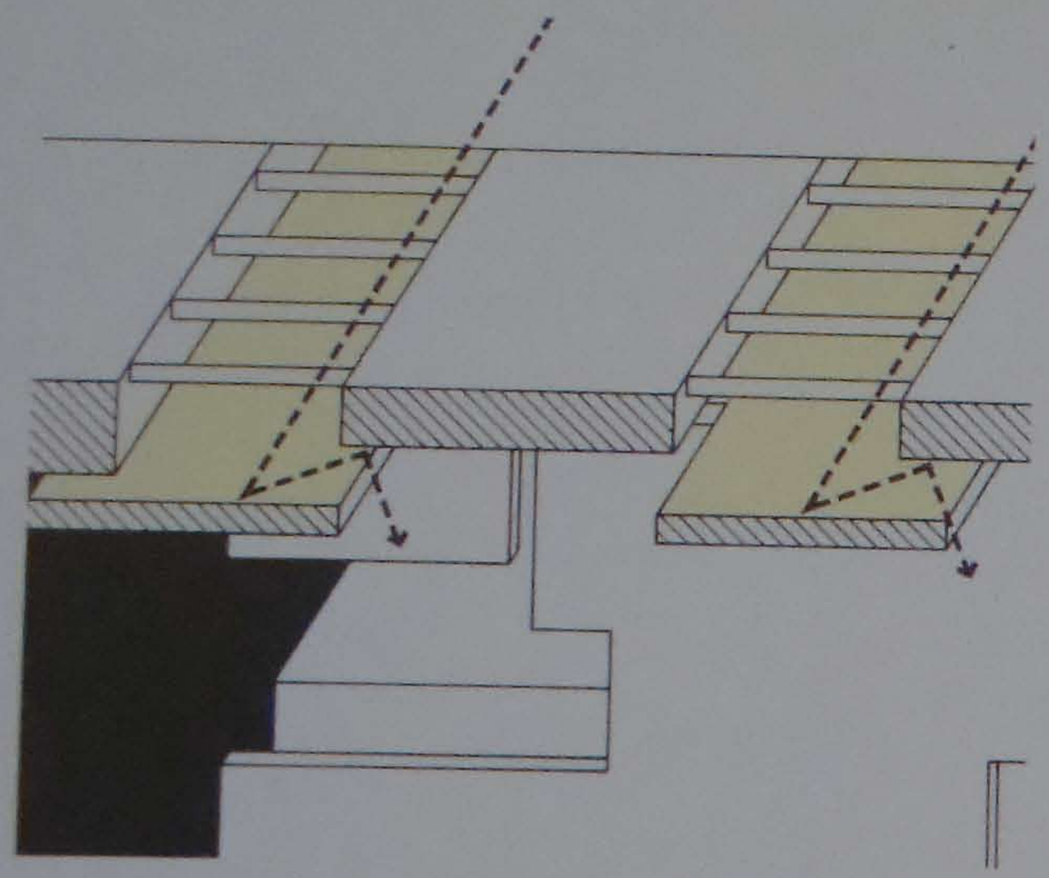
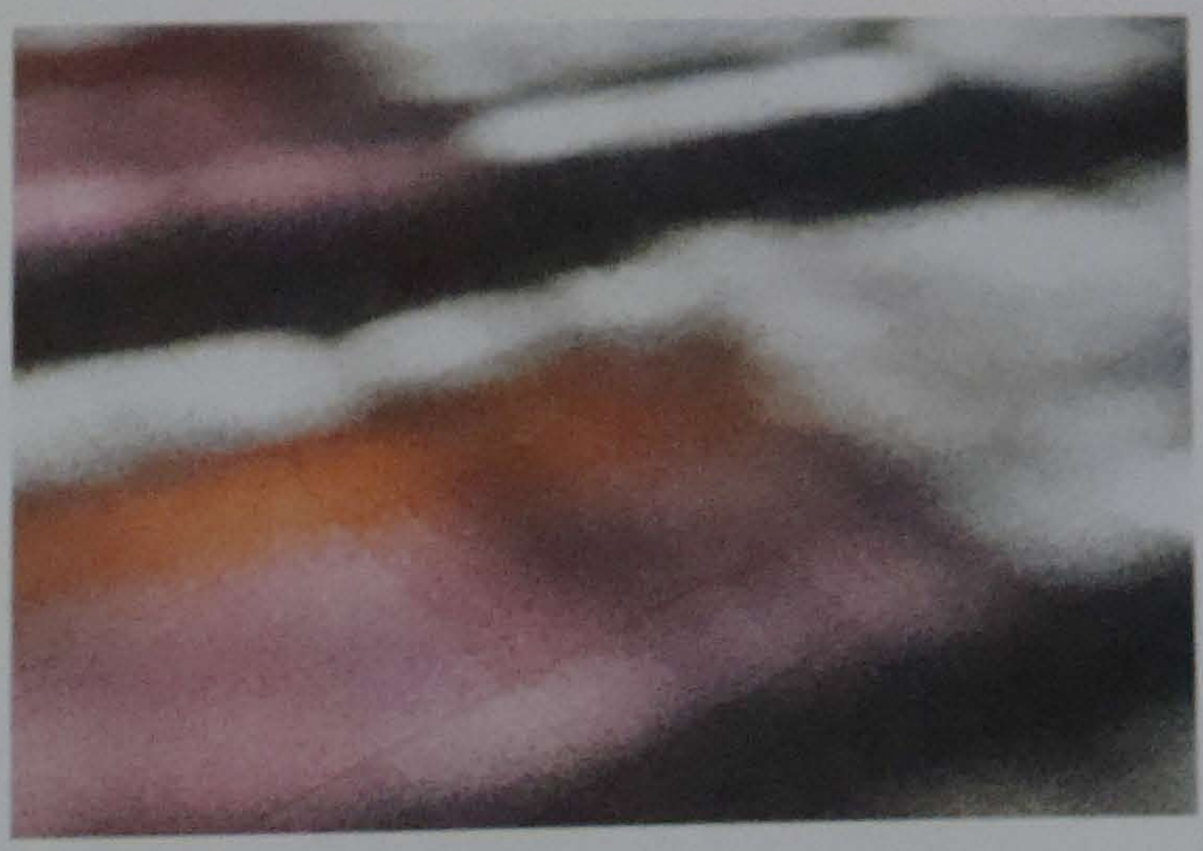


Situation, climate, and culture may determine use and subsequent experience of color. Further, we can imagine people having particular color concepts based on the qualities of light and air in their particular site and situation. For example, the intense Mexican sunlight in the streets of San Miguel de Allende and the omnipresent dust are countered by the local use of bright yellows, oranges, reds, and blues on the plastered facades of the houses. These saturated colors gain potency from the authentic material of pigment and surfaces of hand-applied textures. Intense Mexican sunlight yields a particular fading condition, transforming saturated reds and blues in a natural relation to the humble masonry materials. A Mexican cobalt blue surface becomes distinctly different from, for example, the same color and saturation on a surface of plastic laminate in a Minnesota shopping center.

In our project for the offices of D. E. Shaw in New York City, 1991, we imagined the concept of "projected color," as analogous to the intangible electronic trading which is central to the company's work. Color washes offer subtle experiences according to the sunlight entering behind walls, and the mixing of colors projected from unseen surfaces. The spaces are seen through this projected color and defined by it. Since all the color is on hidden surfaces folded behind the geometry of the spaces, garish colors - fluorescent green yellow and orange - could be used. The projected colors vary in saturation with the intensity of the sunlight on a given day. The movement of the sun enlivens the colors and transforms this time-movement into a strange and glowing flow.



The difficulties we encounter when we reflect about the nature of colors (those which Goethe wanted to get sorted out in his theory of colors) are embedded in the indeterminateness of our concept of sameness of color

-L. Wittgenstein, Remarks on Color

OF LIGHT AND SHADOW

What looked for all the u
art objects becoming so ephe
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itself inside out to reveal
question of object/non-objec
ing and not-seeing, of be
perceive...

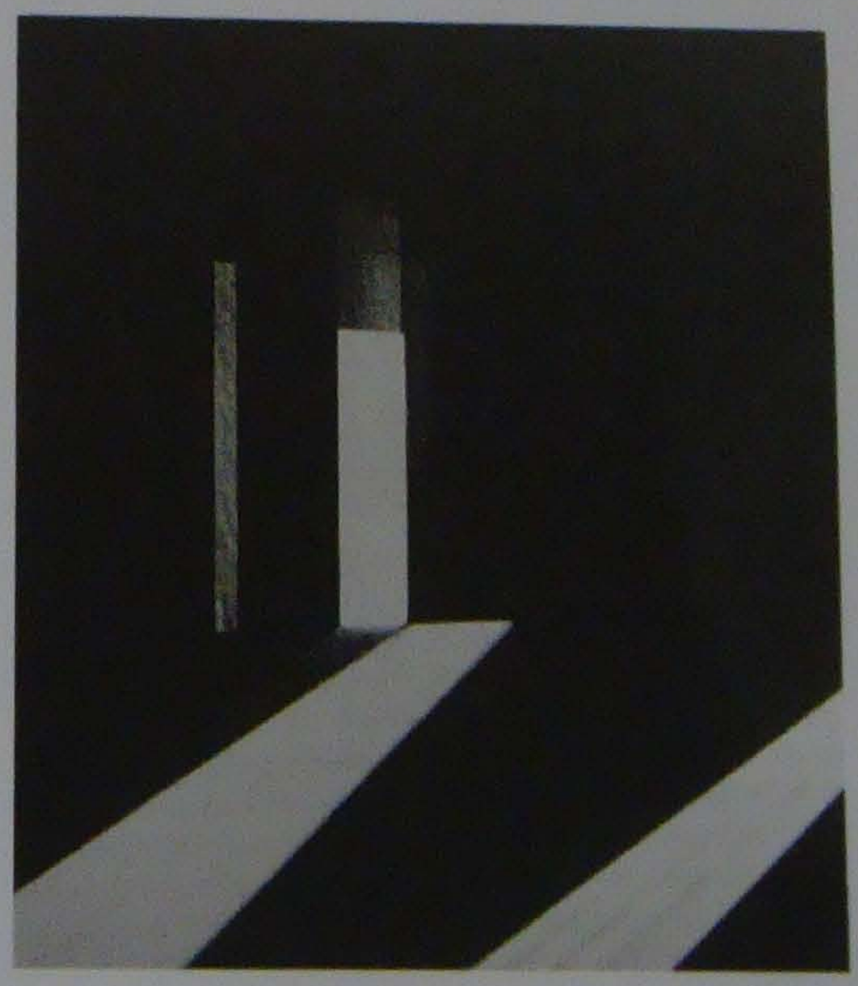
It is not surprising that some architects have written that the entire intention of their work revolves around light, just as some painters have focused completely on the properties of color. The perceptual spirit and metaphysical strength of architecture are driven by the quality of light and shadow shaped by solids and voids, by opacities, transparencies, and translucencies. Natural light, with its ethereal variety of change, fundamentally orchestrates the intensities of architecture and cities. What the eyes see and the senses feel in questions of architecture are formed according to conditions of light and shadow.

A primary concern with light, shadow, time and space, emerged in the 1960's as a characteristic of many artists' work, and continues most intensely today in the work of artists such as James Turrell and Robert Irwin. The raw material of James Turrell's sculptural works, is not clay, stone, or metal, but light itself. An early example of this work can be seen in his Mendota Stoppages, 1968-70.

Natural light and shadows are subject to particularities due to the fact that the sun is not an exact point source. Looking at your own shadow on the street in the intense sun, you notice that the top of the shadow is blurry while the lower part is sharp. This condition of the effects of the sun as a light source can be further illustrated in looking at the pencils of light that penetrate the foliage of a tree. Rather than carving out various shapes on the ground according to the openings in the foliage, the sun's rays form similarly shaped elliptical spots of light. This effect is based on the sun's "altitude angle." Another curious phenomenon which linear shadows are subject to is the "doubled shadow" which occurs when parallel branches of a winter-bare tree are cast on top of each other.

What looked for all the world like a diminishing horizon - the art objects becoming so ephemeral as to threaten to disappear altogether - has, like some marvelous philosophical riddle, turned itself inside out to reveal its opposite. What appeared to be a question of object/non-object has turned out to be a question of seeing and not-seeing, of how it is we actually perceive or fail to perceive...

-Robert Irwin Being and Circumstance: Notes toward a Conditional Art, 1985.



Mendota Stoppages 1968-70

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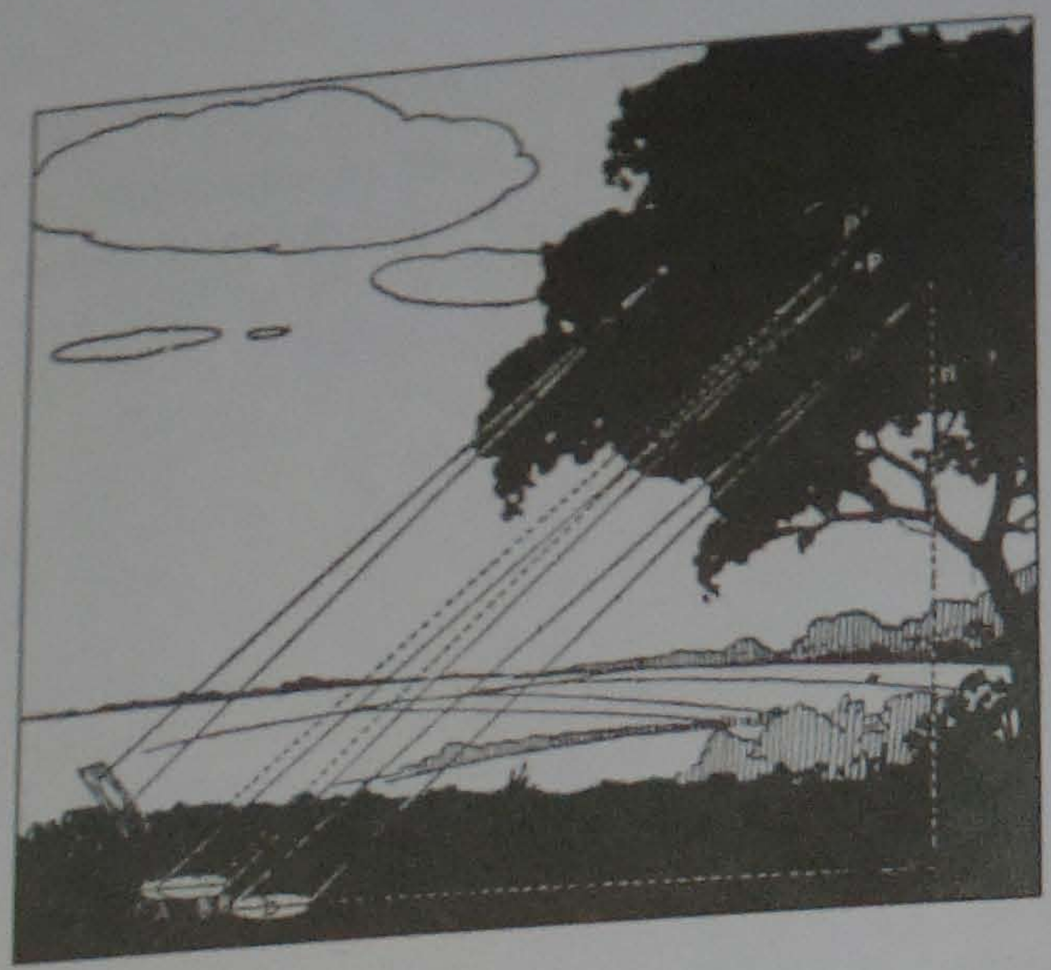
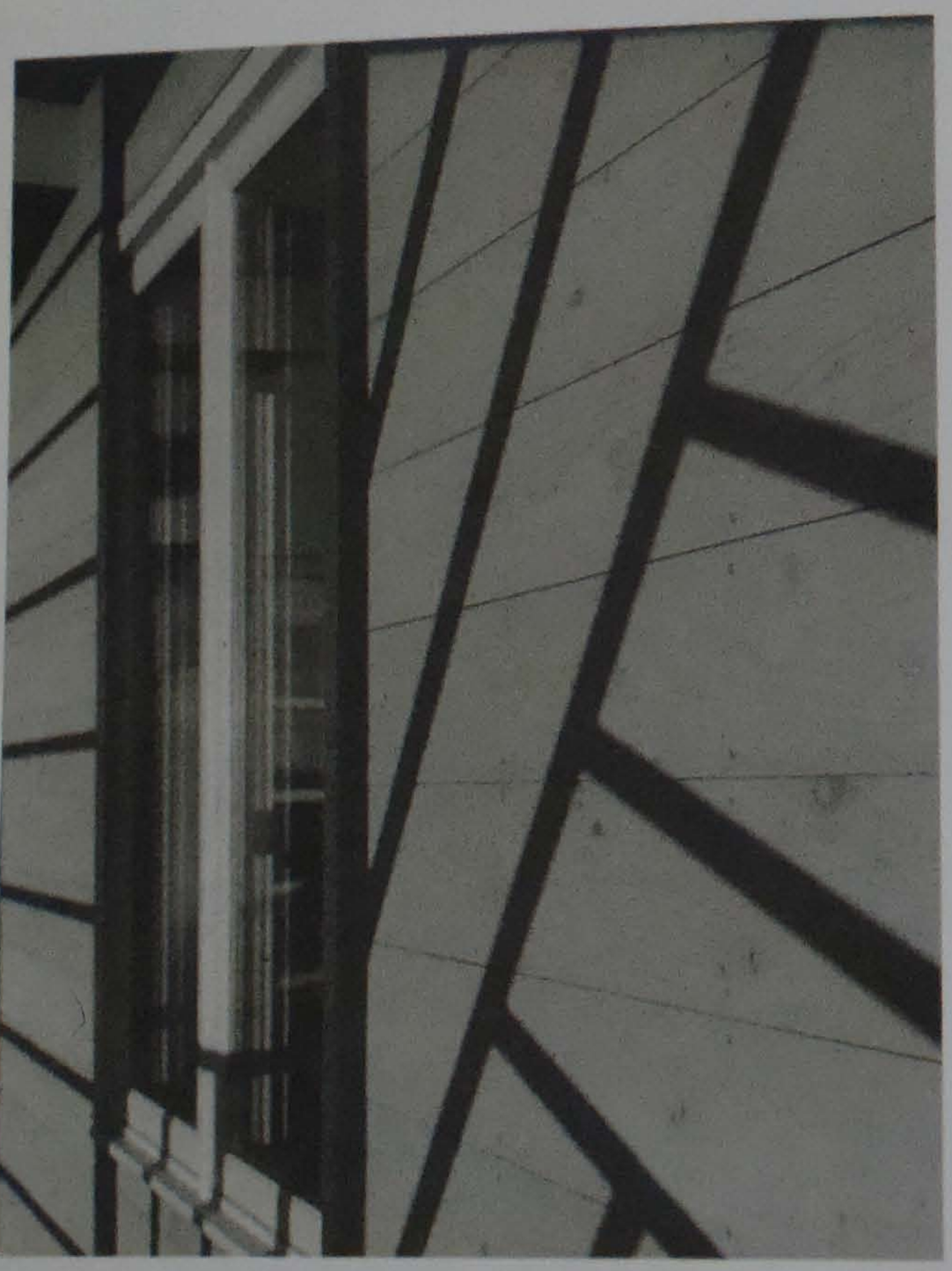
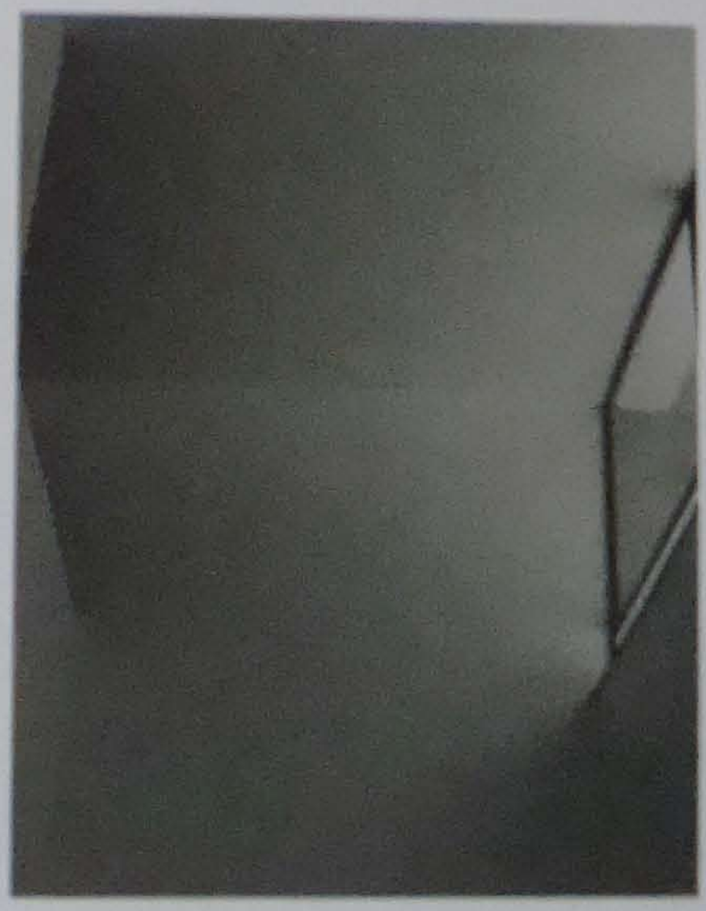


Sun's rays penetrating dense foliage



The properties of linear shadows were explored in an exoskeleton house built in 1985 in New England, as a way of increasing the expression of the architecture. The South elevation is a linear array set away from the exterior wall, allowing the easy reading of the time of day as the shadows turn and rotate with the sun.



In the intense Texas sun: shade and shadow are proportionally dominant.
(Stretto House 1989-91)

An instant of low white clouds before the rising of the moon perfectly immobile on the line of the sea. The apricot translucence with edges of ash darkens, wanes, sets into gray vermillion

-Czeslaw Milosz, Evening

Chiasma interior 1993: light and space for a future art.

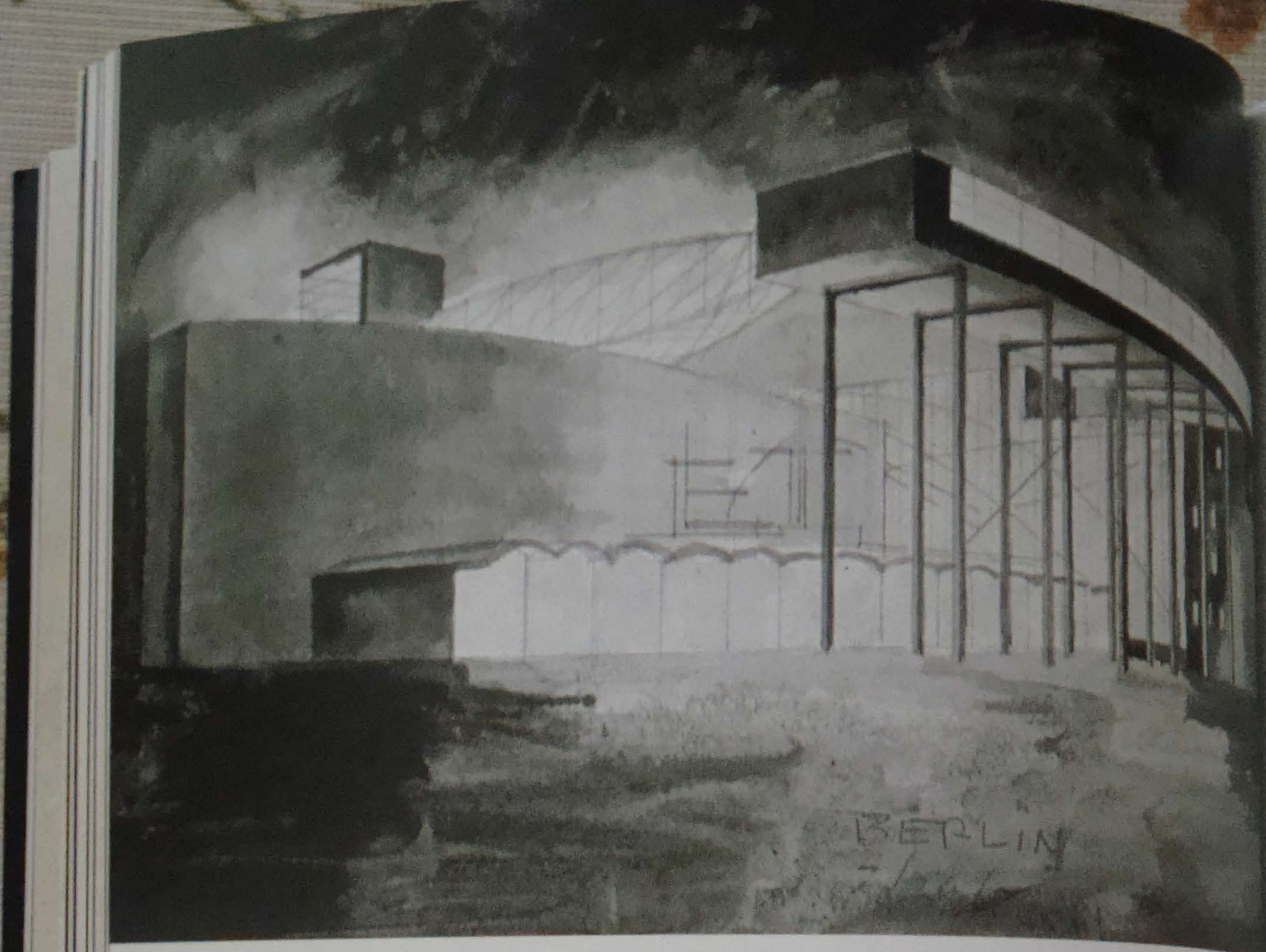
Considering the intense sun, conceptual drawings were made with shadow as the "material" of the spatial sequence for a house in Oxnard, CA, 1986. The entry was an open cube conceived as a box of shadows.

SPATIALITY OF NIGHT

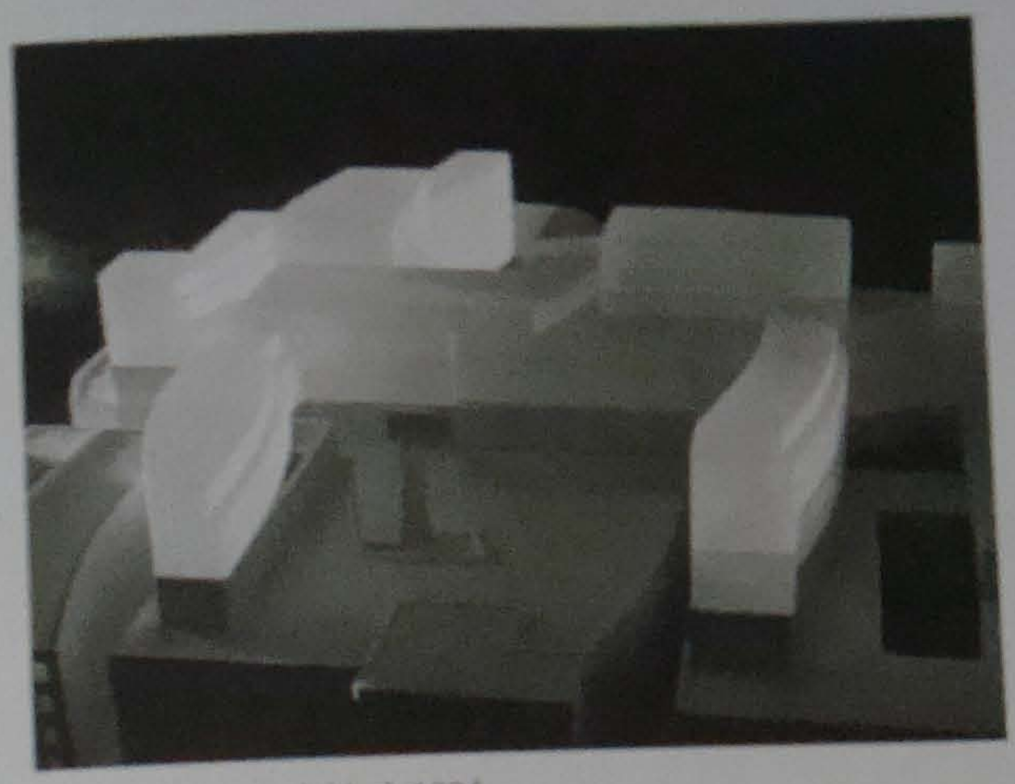
In the 18th and 19th centuries the night-space of cities was only slightly altered in comparison to previous centuries. The twentieth century, however, brought a sudden shock of vast quantities of night light which alters our perception of the shape and form of urban space.

New York City's Times Square is a dirty-gray crowded intersection by day, but at night it is an astonishing volume of glowing light - a space defined by phenomena of light, color, and atmospheric conditions. If there is a slight mist or haze in Manhattan's air at night, Times Square is a space of liquid color and a shaft of light forms over skyscrapers like the Empire State Building or the Woolworth Building.

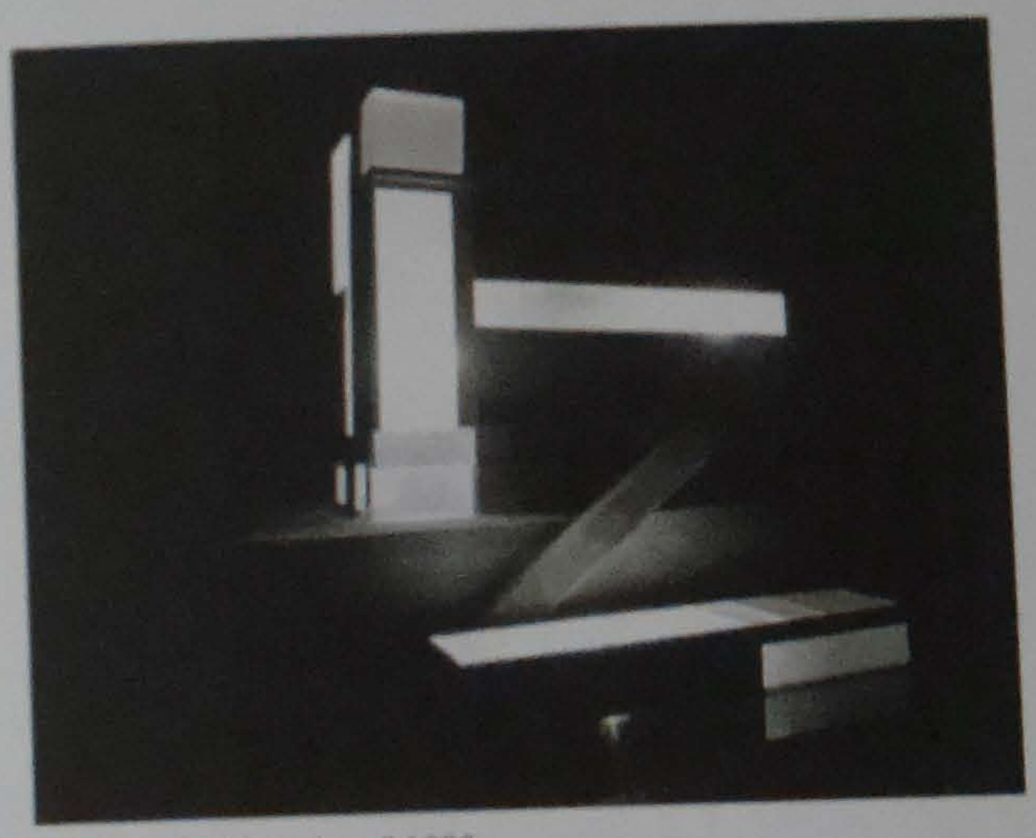
In a horizontal metropolis like Los Angeles or Phoenix, the expanse of lights which define the city on approach by air at night provides a new sensation of city space and form. To shape this light is to give new dimensions to the urban experience. An individual work of architecture in its city space may have an entirely different presence by day and by night, both equally important as the self-contained "object" claims a larger, less contained presence. Especially in Northern Latitudes where there are only a few hours of sunlight in winter, some public buildings may have their most important hours of service at night



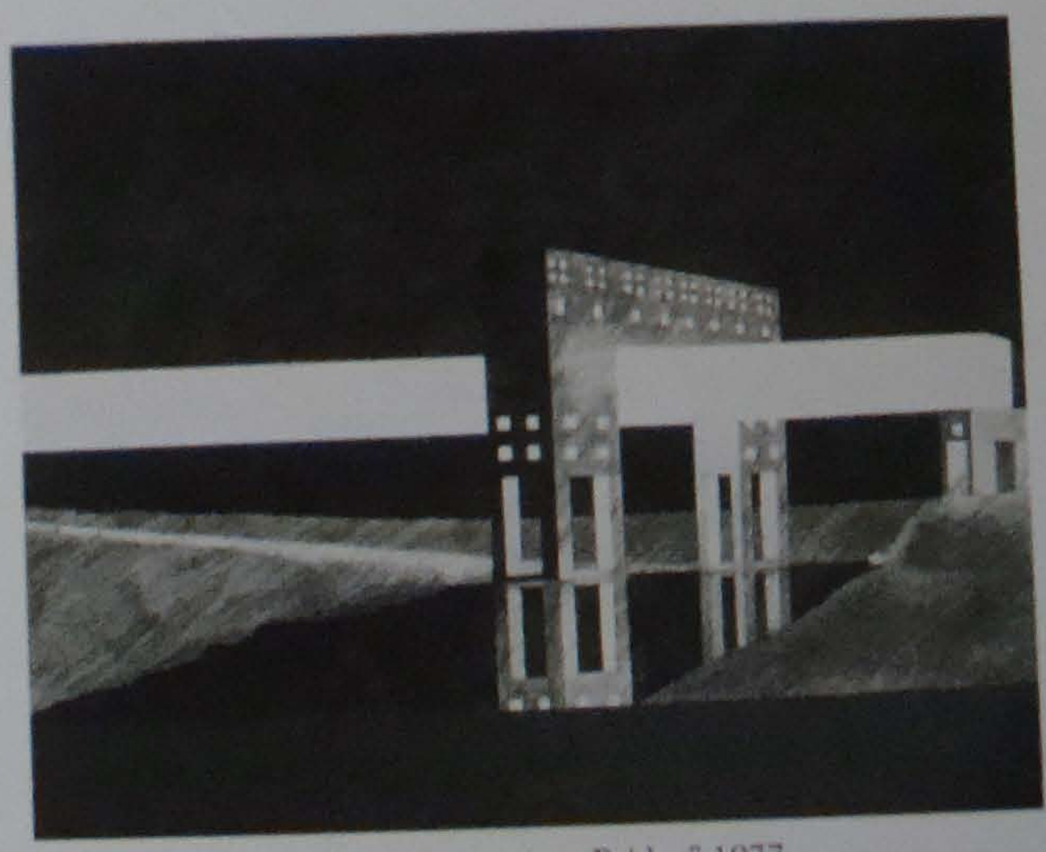
On a rainy winter evening when darkness engulfs Berlin before evening rush hour, this library may serve as a lantern of suggestion; an alternate to the pubs or television. (1988 Competition for the American Memorial Library in Berlin.)



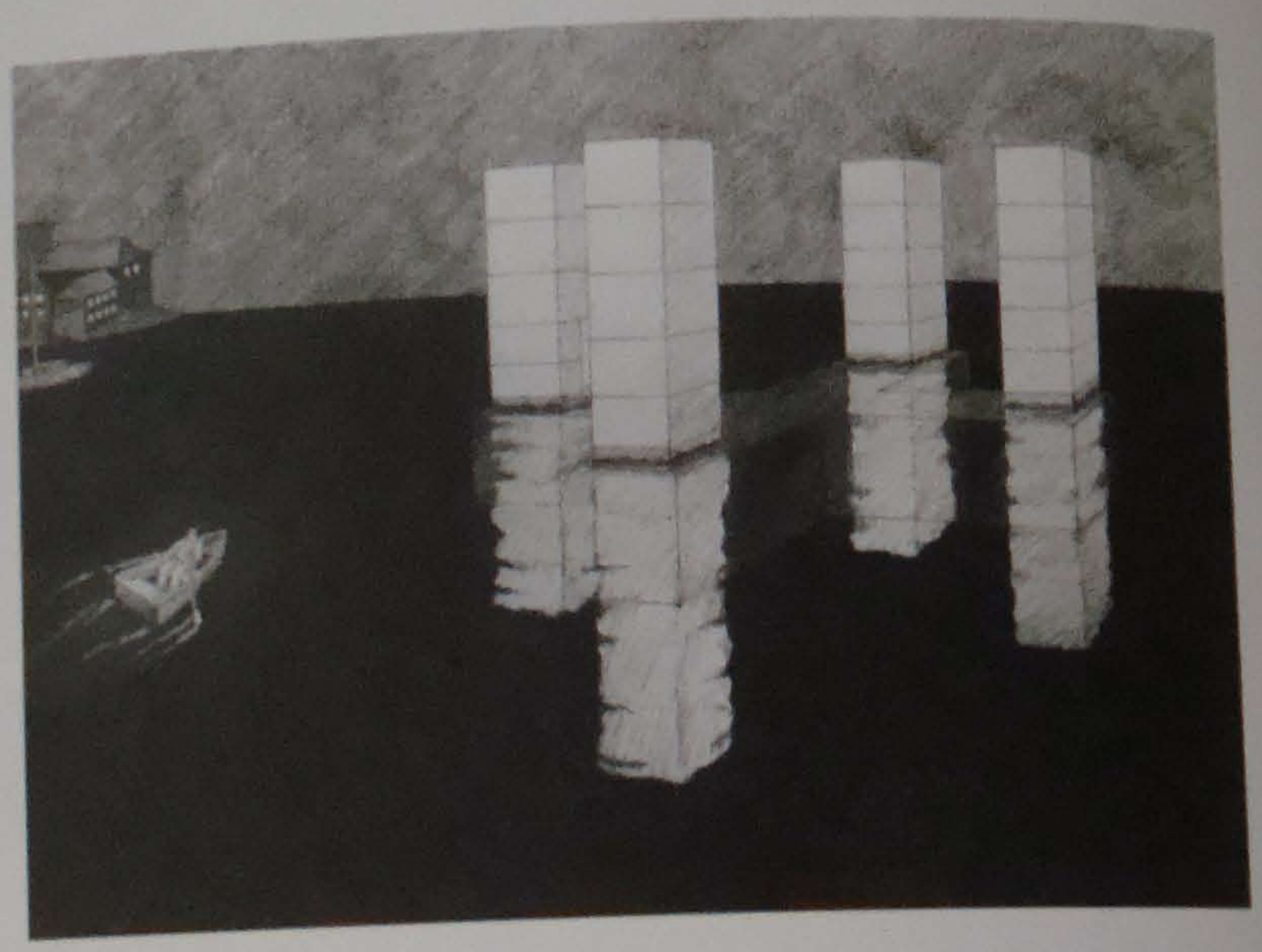
Munich Hypo-bank block 1994



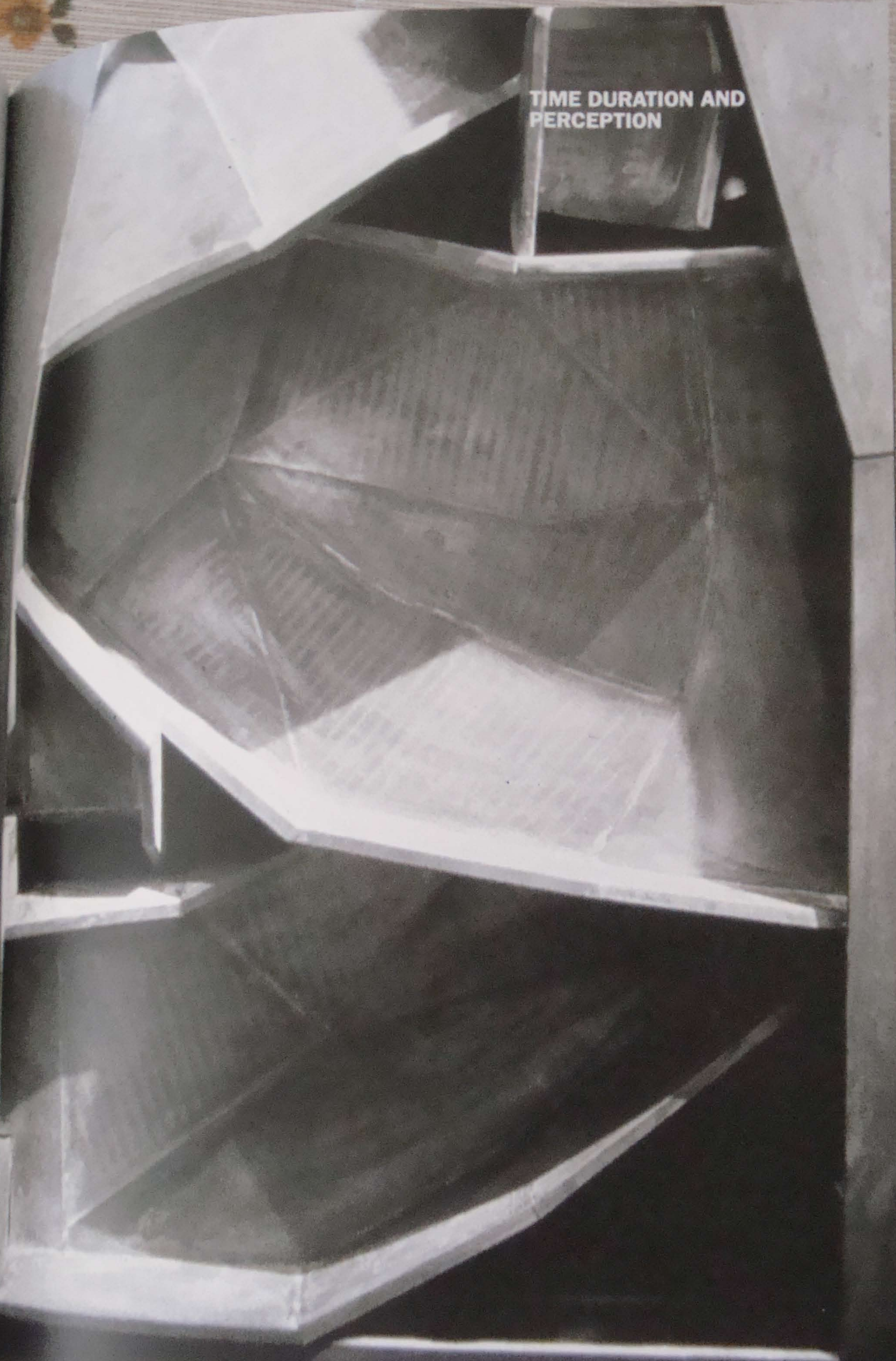
Dusseldorf "Urban Arms" 1993



South Bronx, New York "Gymnasium Bridge" 1977



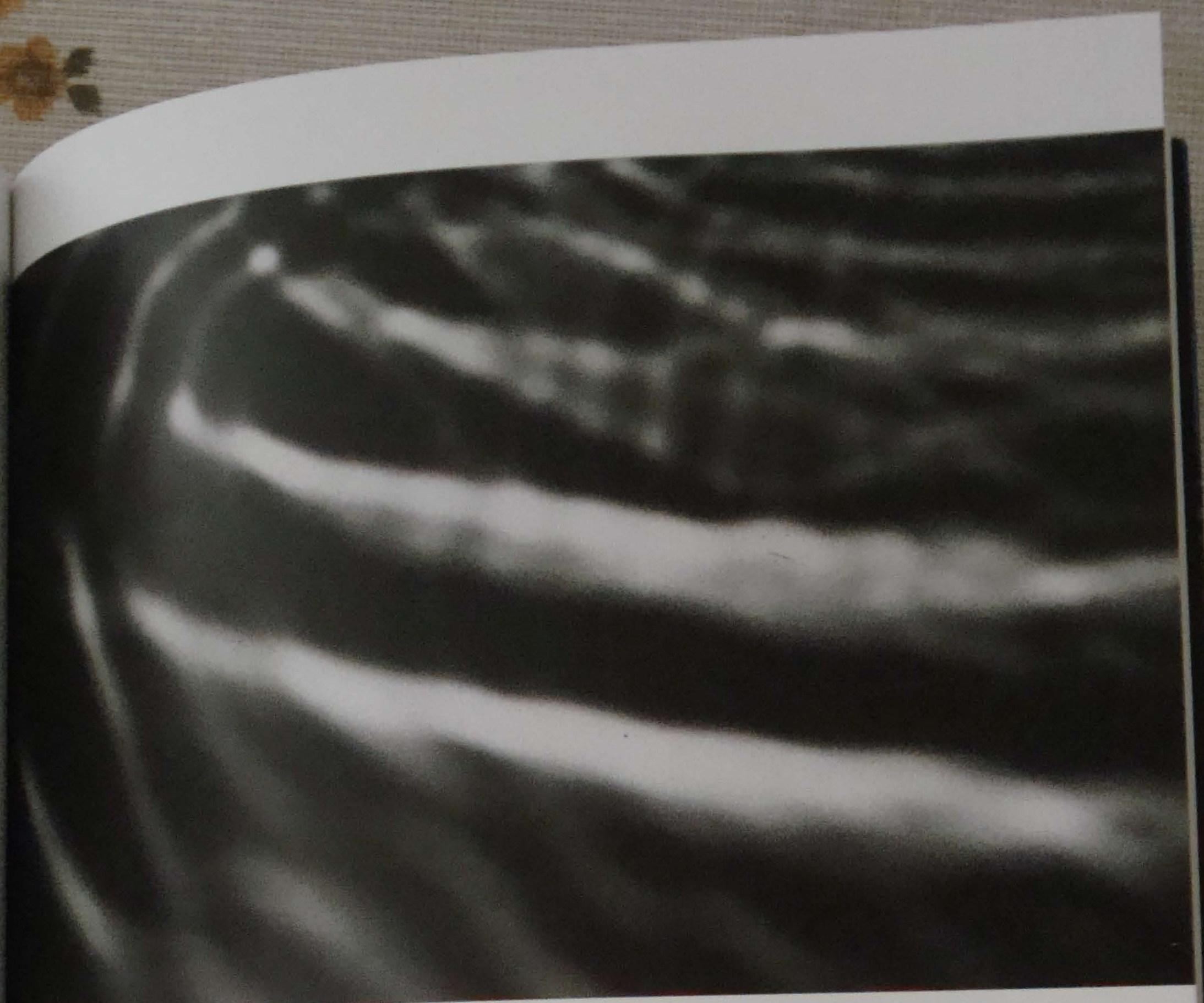
Sokolov Retreat 1976


TIME DURATION AND
PERCEPTION

Our modern concept of time is based on a linear, and perhaps disjunctive, model. The problem of temporal fragmentation of modern life; the destructive effects of increasing levels of media saturation resulting in stress and anxiety, might be countered in part by the distention of time in the perception of architectural space. The physical and perceptual experience of architecture is not a scattering or dispersion - but a concentration of energy. This physically experienced "lived time" is measured in the memory and the soul in contrast to the dismemberment of fragmented messages of media.

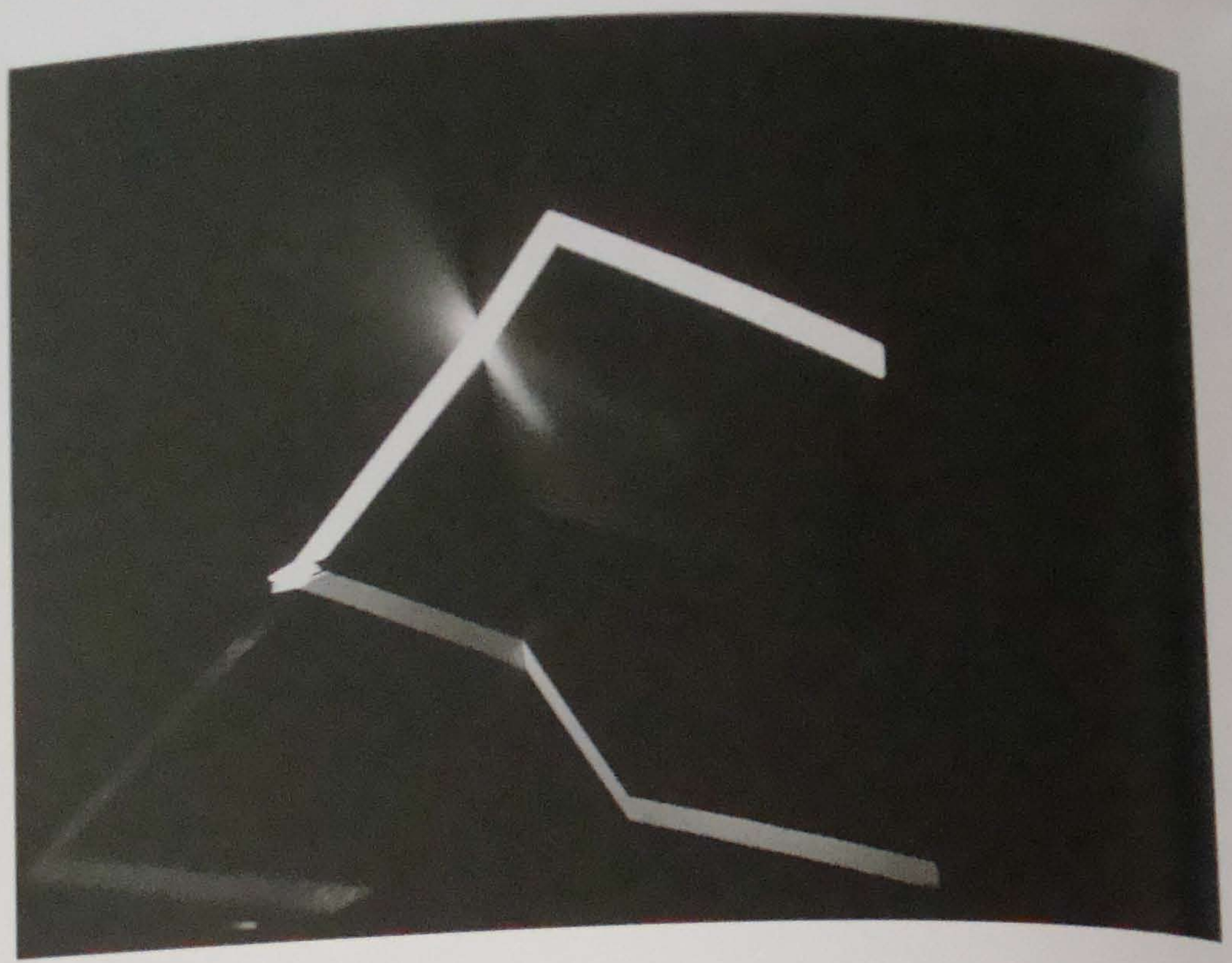
Philosopher Henri Bergson's extensive writings explore the idea of "duration;" a "multiplicity of secession, fusion, and organization." Bergson referred to "lived time" as "durée réel" (real time) and called space the "impure combination of homogeneous time." If, in the experience of day to day urban life, an architectural space forms the frame of measure for "lived time," then a particular place is given material and form, as well as "duree réal," with the construction of architecture; and the multiple ways in which time can be measured may find a unified, spatial resolution.

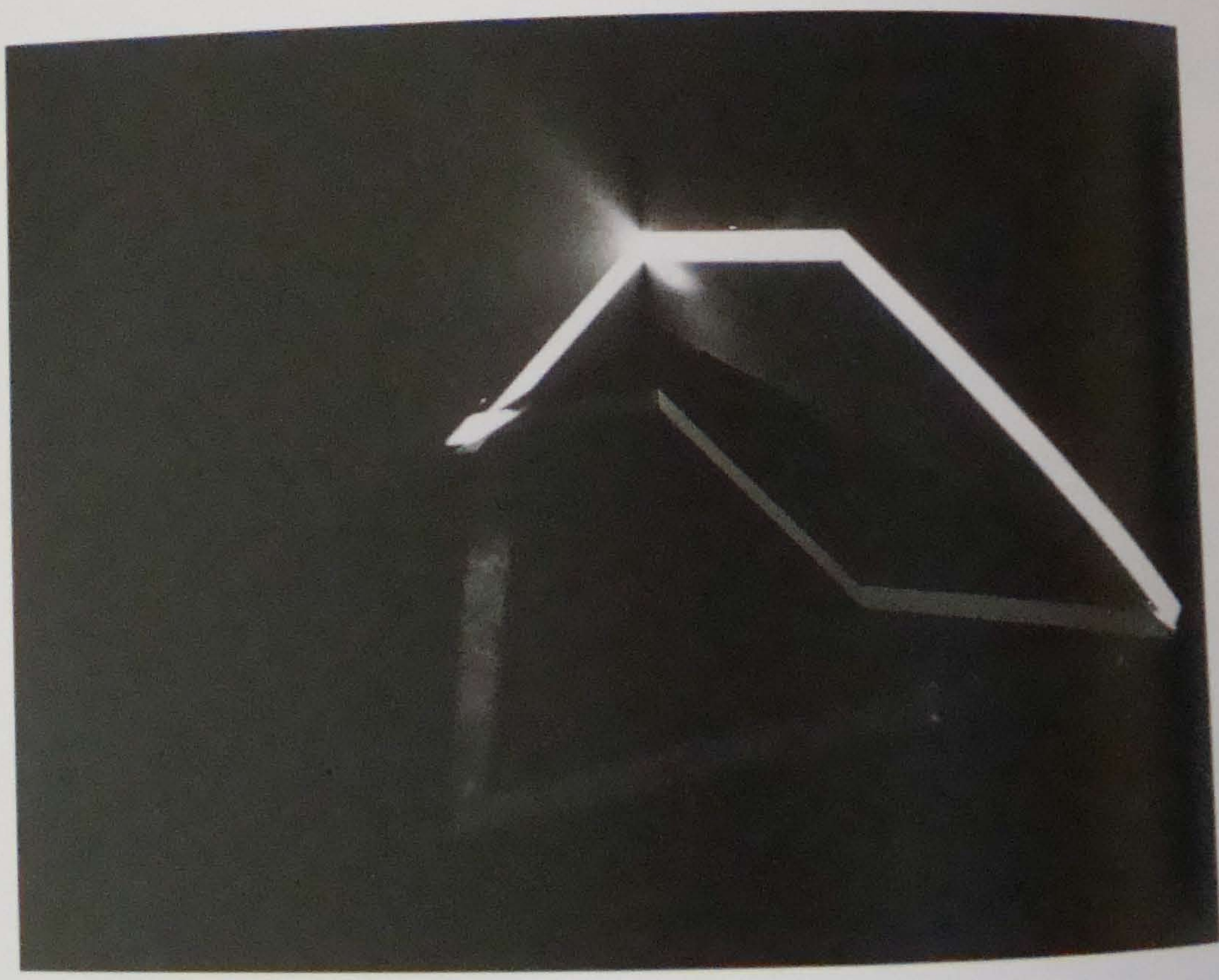
Today's harshest experiences of scattered and negative dispersal of energy exist side by side with transcendent impressions. For a moment as one looks up at the vault over Grand Central Terminal in New York, as the beams of dusted light pour in through the huge arched windows, one's perception modifies consciousness, attention is broadened, time is distended — just as, in the density of language, Osip Mandelstam can nearly stop the passing moment; "the stream of golden honey was pouring so slow.."



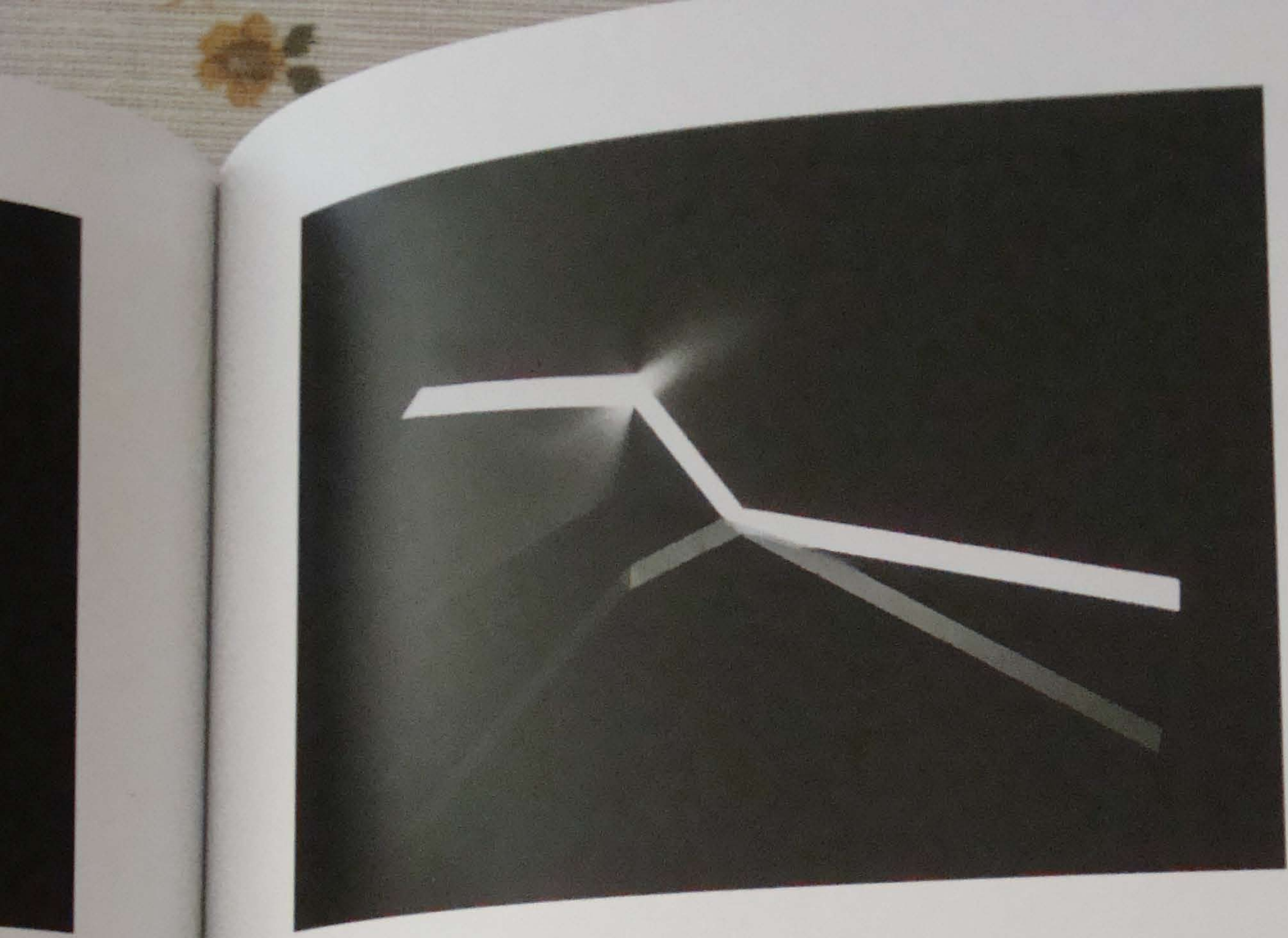
What then is time? If no one asks me, I know; if I want to explain it to a questioner, I do not know...We measure times. But how can we measure what does not exist? The past is no longer, the future is not yet. And what of the present? The present has not duration...In order that we may compare a short and a long syllable, both must have died away. Thus I do not measure the syllables themselves, but the images of the two tones in my memory...Thus when I measure time, I measure impressions, modifications of consciousness.

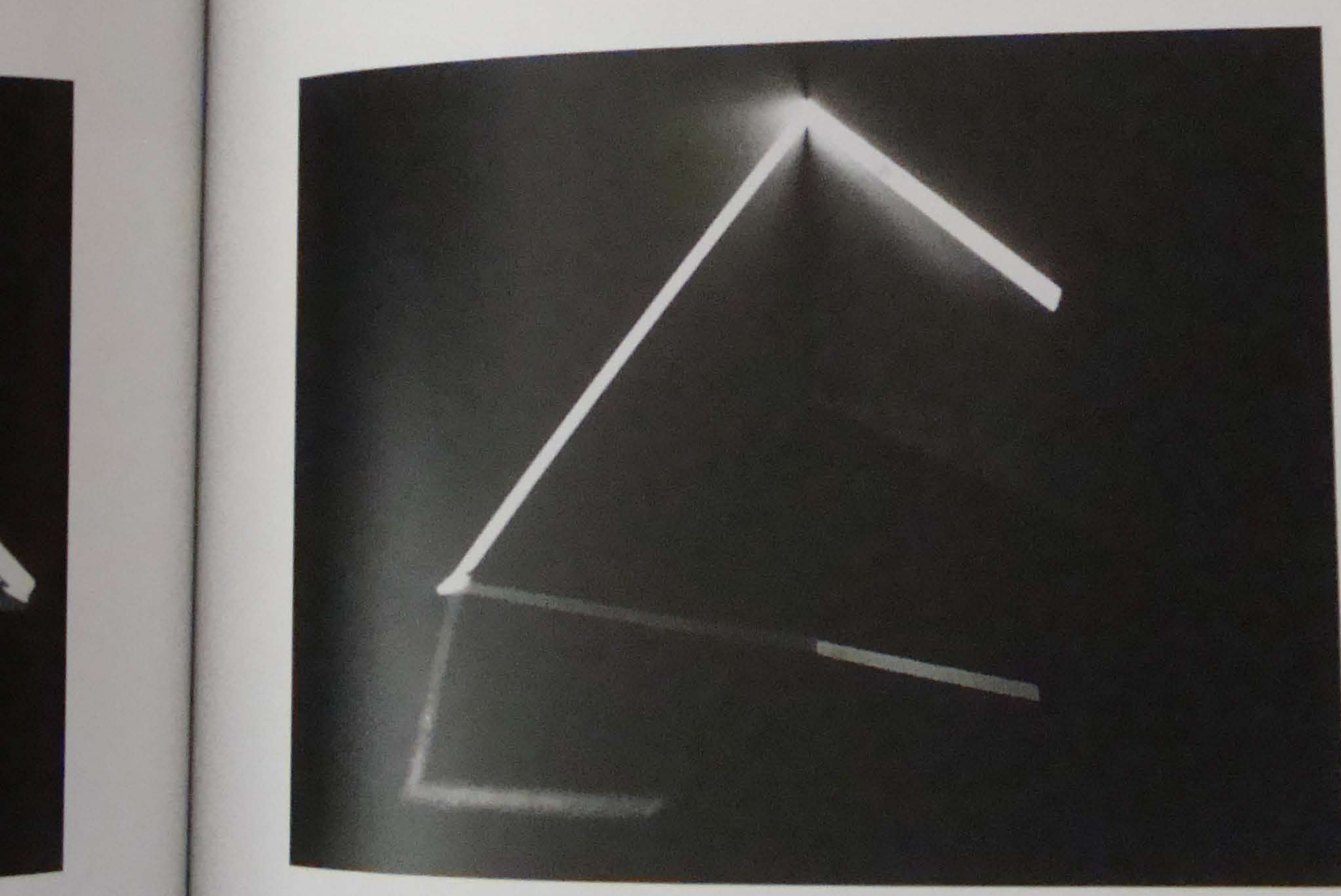
-Saint Augustin





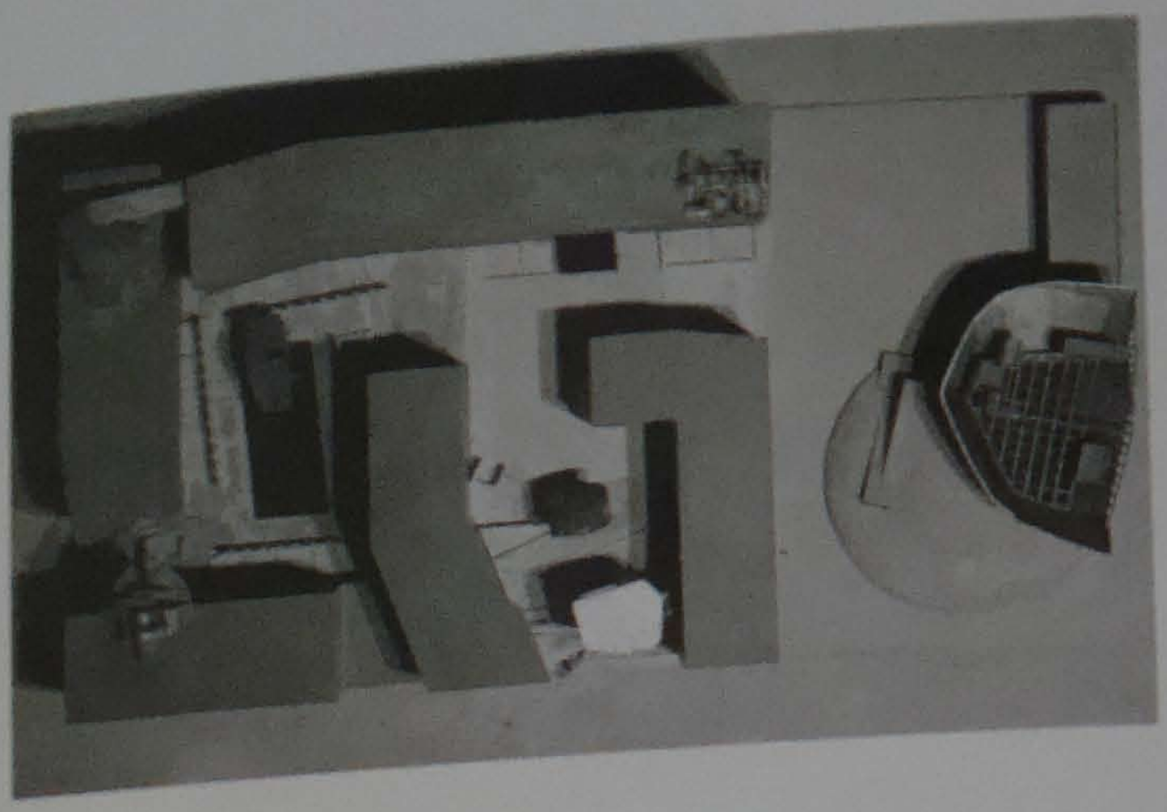
In the Palazzo del Cinema scheme of 1990, time was conceived as the analog between architecture and cinema. In a "cubic pavilion," time was measu



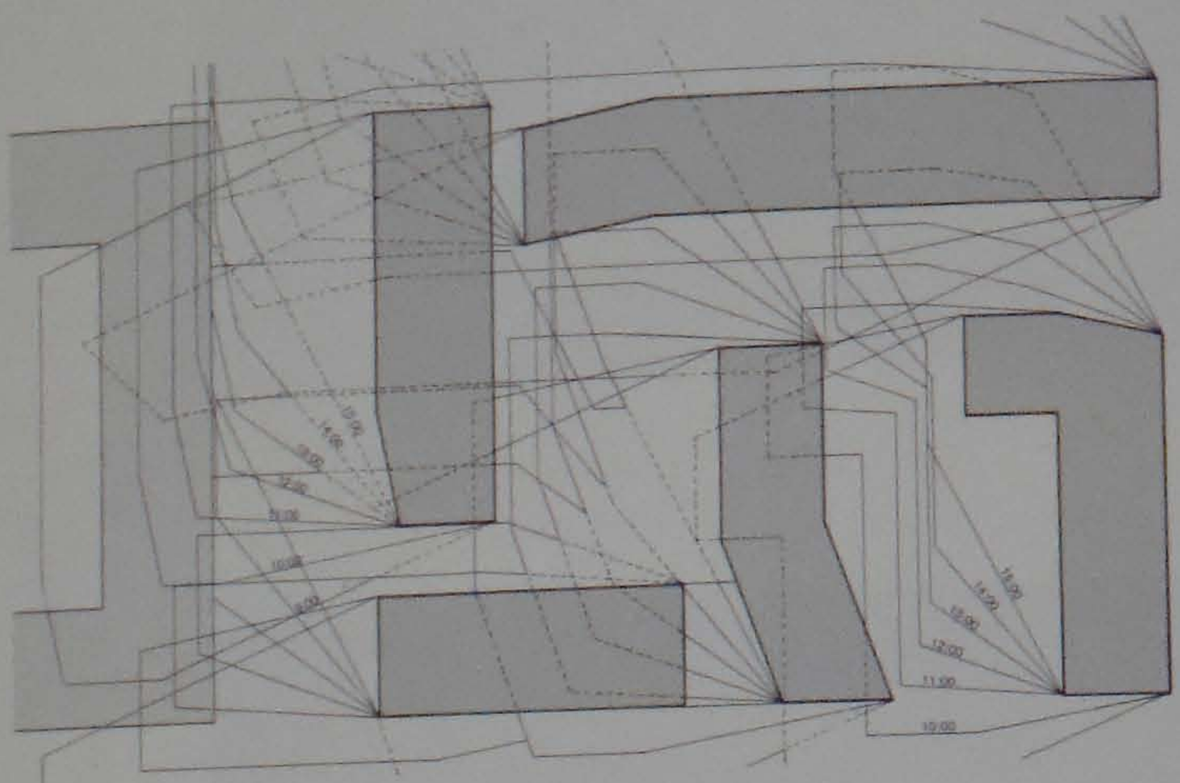


cubic pantheon," passing

time was measured and observed in a precise strip of sunlight which slowly formed different reflections as it passed across the glossy black floor.



Makuhari Housing 1993



The plough of poetry bursting asunder the strata of time...for the resounding valor of millennia to come.

-Osip Mandelstam


WATER: A PHENOMENAL LENS

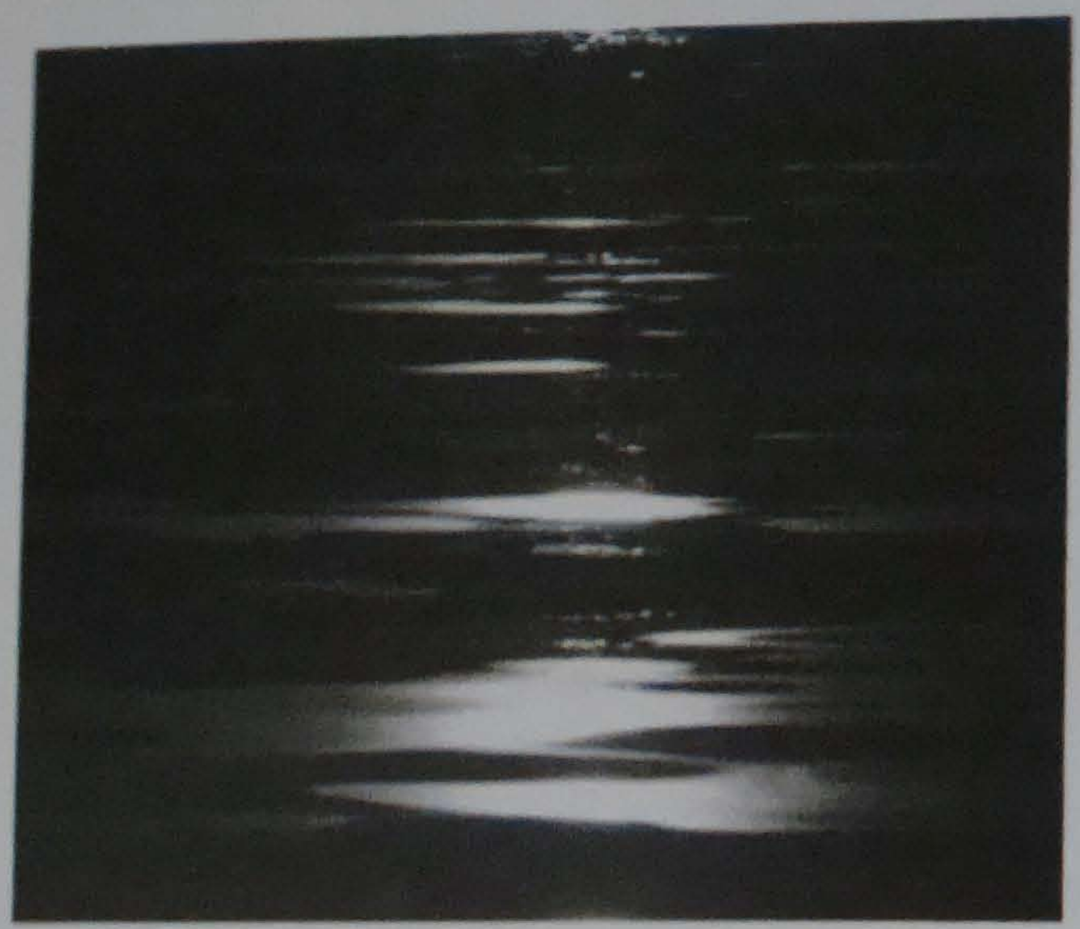
To find a balance between the science of water and the exhilarating qualities of experience, consider the many states and transformative properties of the substance. We might consider water a "phenomenal lens" with powers of reflection, spatial reversal, refraction, and the transformation of rays of light.

At times colors and contours in the reflection of flowers or autumn trees in a clear still pond, seem more intense than the actual view. A flat plate of glass in a window along an urban street reflects the background with an amazingly sharp image. On the bottom of a pool we can often see intense focal lines of sunlight projected by the crests of wavelets acting as lenses. The psychological power of reflections overcomes the "science" of refraction.

Refraction phenomena was a driving force in the design of our housing project in Fukuoka Japan, 1989. The "void space" water gardens and the interior ceilings of the adjacent apartments are connected by reflected light from the ponds. Fantastic patterns of moving water are projected on the undersides of ceilings and soffits.

These "void spaces; 3" of water over black smooth stones from Ise, are analogous to a sacred space within the every day world of domestic urban life. A wind-projected dancing intersection of liquid sunlight bounces within each void.

urban life. A wind-projected dance
bounces within each void.



The lunar silences, the silent tide lapping the still canals, the dry tide-master ribbed between desert and water storm, should cure our ills of the water with a one - colored calm...

-Dylan Thomas, We Lying by Seaside

d the exhilarating
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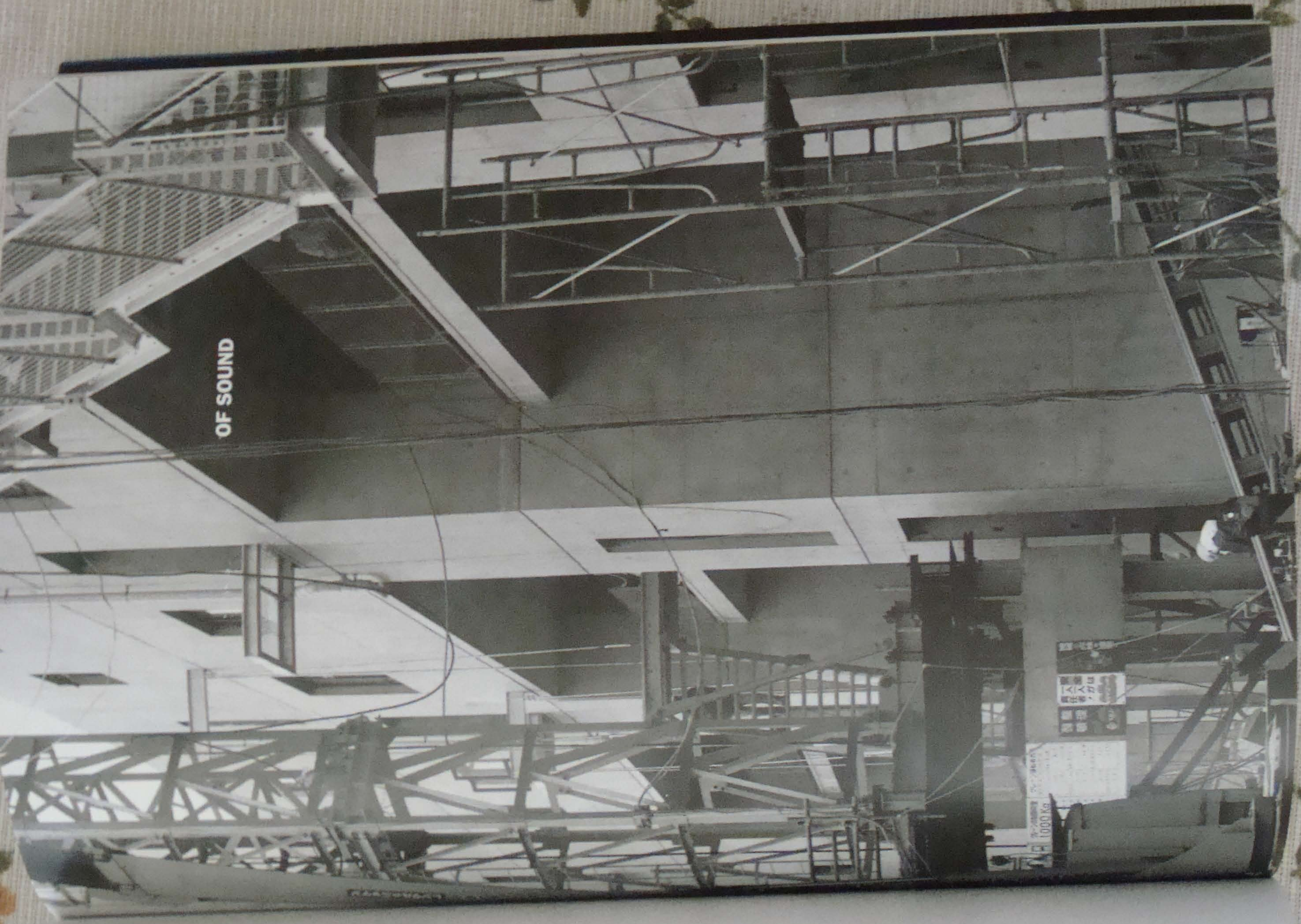
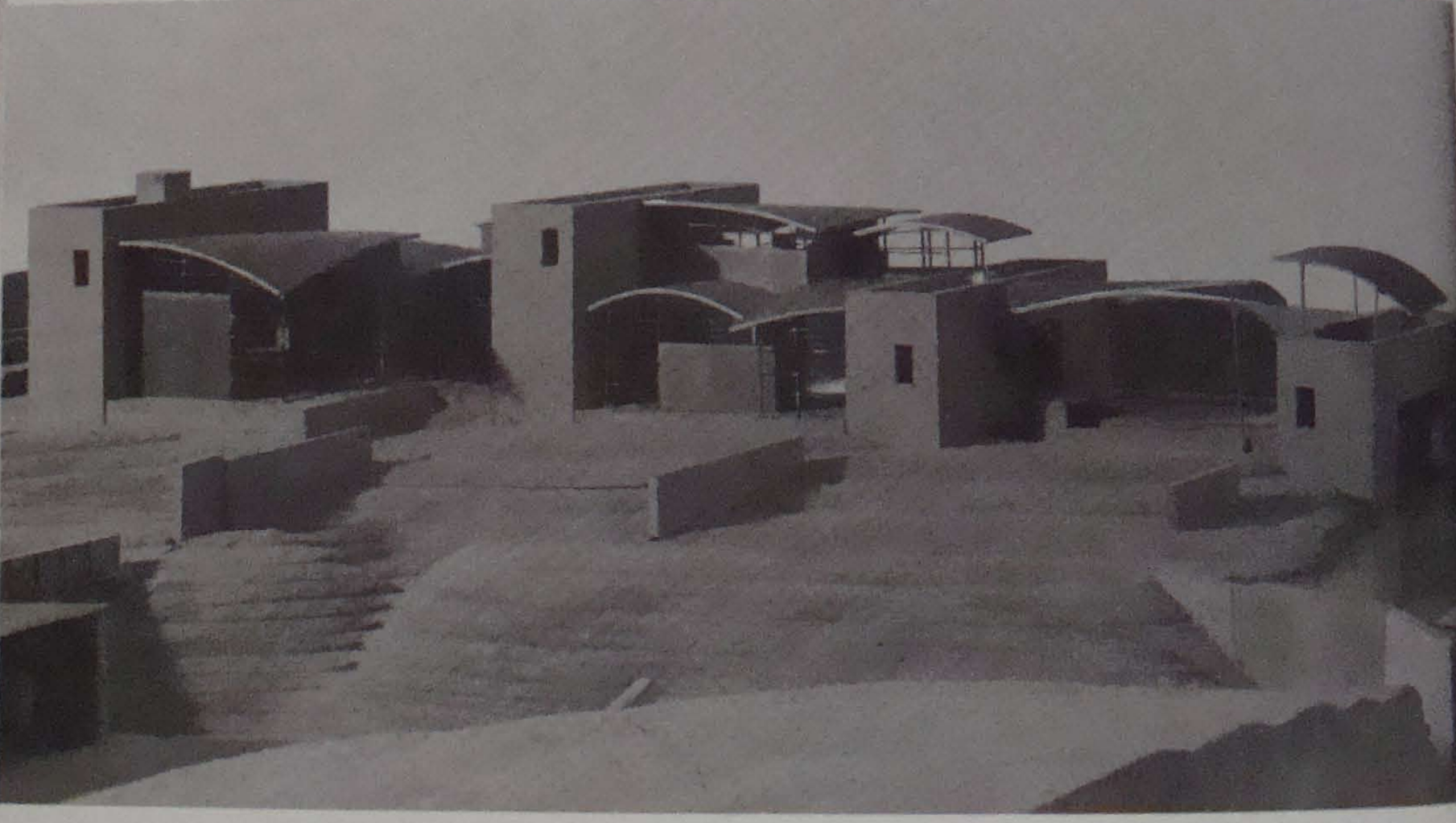
One of the tragedies of modern urban life is that a complex of urban constructions often puts us out of touch with the poetry and unpredictability of the everyday change in the weather. In our Fukuoka housing a fresh rain is immediately evident in ripples on the void space water courts. The wind changes the pattern of the reflections depending on its intensity. Clouds pass overhead and likewise pass through the mirror bottom voids. Dusk's twilight is brought into reflection in the heart of the housing through these "phenomenal lenses."

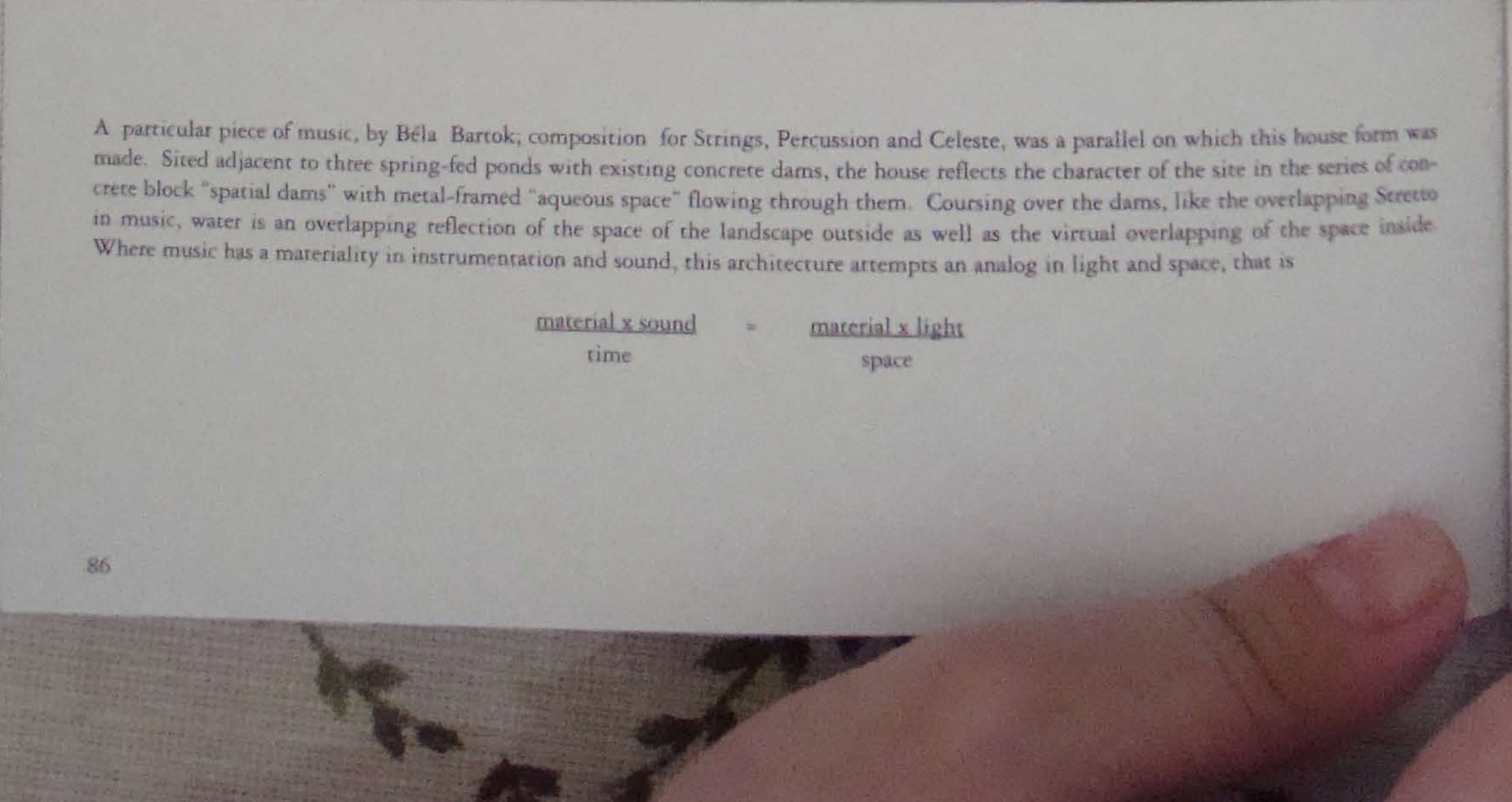
An attention to phenomenal properties of the transformation of light through material can present poetic tools for making spaces of exhilarating perceptions. Refraction phenomena produce a particular magic in architecture that is adjacent to or incorporates water.

As rational metaphysics teaches that man becomes all things by understanding them, imaginative metphysics shows that man becomes all things by not understanding them...for when he does not understand he...becomes them by transofming himself into them.

Vico, New Science


OF SOUND





A particular piece of music, by Béla Bartok; composition for Strings, Percussion and Celeste, was a parallel on which this house form was made. Sited adjacent to three spring-fed ponds with existing concrete dams, the house reflects the character of the site in the series of concrete block "spatial dams" with metal-framed "aqueous space" flowing through them. Coursing over the dams, like the overlapping Seretto in music, water is an overlapping reflection of the space of the landscape outside as well as the virtual overlapping of the space inside. Where music has a materiality in instrumentation and sound, this architecture attempts an analog in light and space, that is

$$\frac{\text{material x sound}}{\text{time}} = \frac{\text{material x light}}{\text{space}}$$

"Jazz brings the resonance of the roar to life"

-John Cage

which this house form was
the site in the series of con-
like the overlapping Stretto
apping of the space inside
pace, that is

Quieting the mind
deep in the forest
water drips down
-Hōsha

The live reflection of echo and re-echo within a stone cathedral increases our awareness of the vastness, geometry and material of its space. Imagine the same space with carpet and acoustically softened...a spatial and experiential dimension of the architecture is lost. We could redefine space by shifting our attention from the visual to how it is shaped by resonant sounds, vibrations of materials and textures.

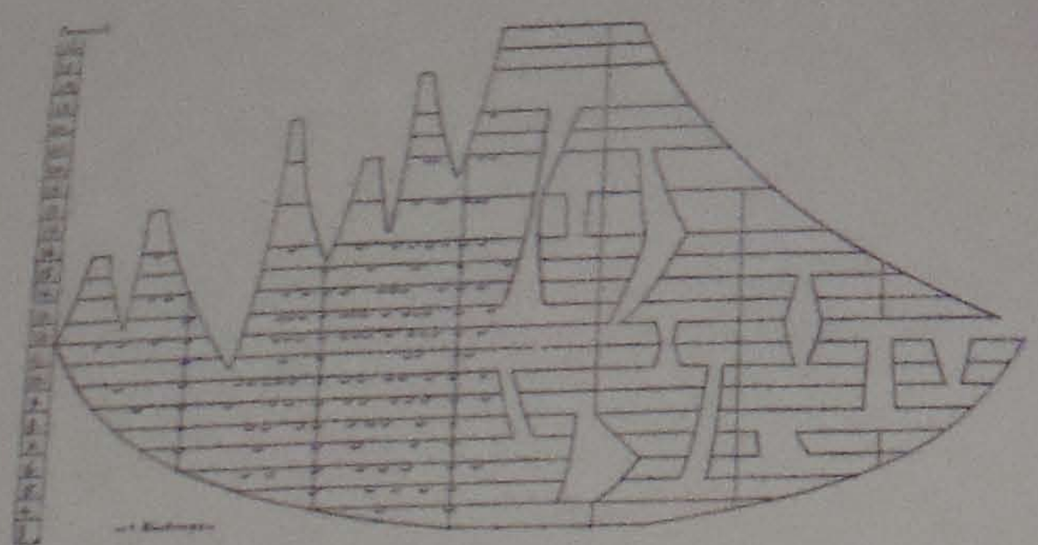
Likewise, the sound of monastery bells ringing at certain hours in the city of Kyoto yields a spatial map of the city's geometry in relation to locations in the fading distance. In some European cities, the regular sound of the church bell's community call creates a psychological space. Its perceptual associations are tied to the materiality of the bell, its resonant tower,and the adjacent square. This kind of "sound space" cannor be accurately recreated with electronic speakers.

Sound is absorbed and perceived by the entire body. A parade drum-roll vibrates the stomach. An explosion can shake one's bones and make the head ache. A sequence of sounds can have a mesmerizing effect on the psyche. The composer John Cage went into an anechoic chamber over forty years ago in order to "hear sounds" and found that experience gave his life direction. Cage's radical and poetic experiments with sound bridged the conventional gap between musical phenomena and the physical and psychological effects of sound.

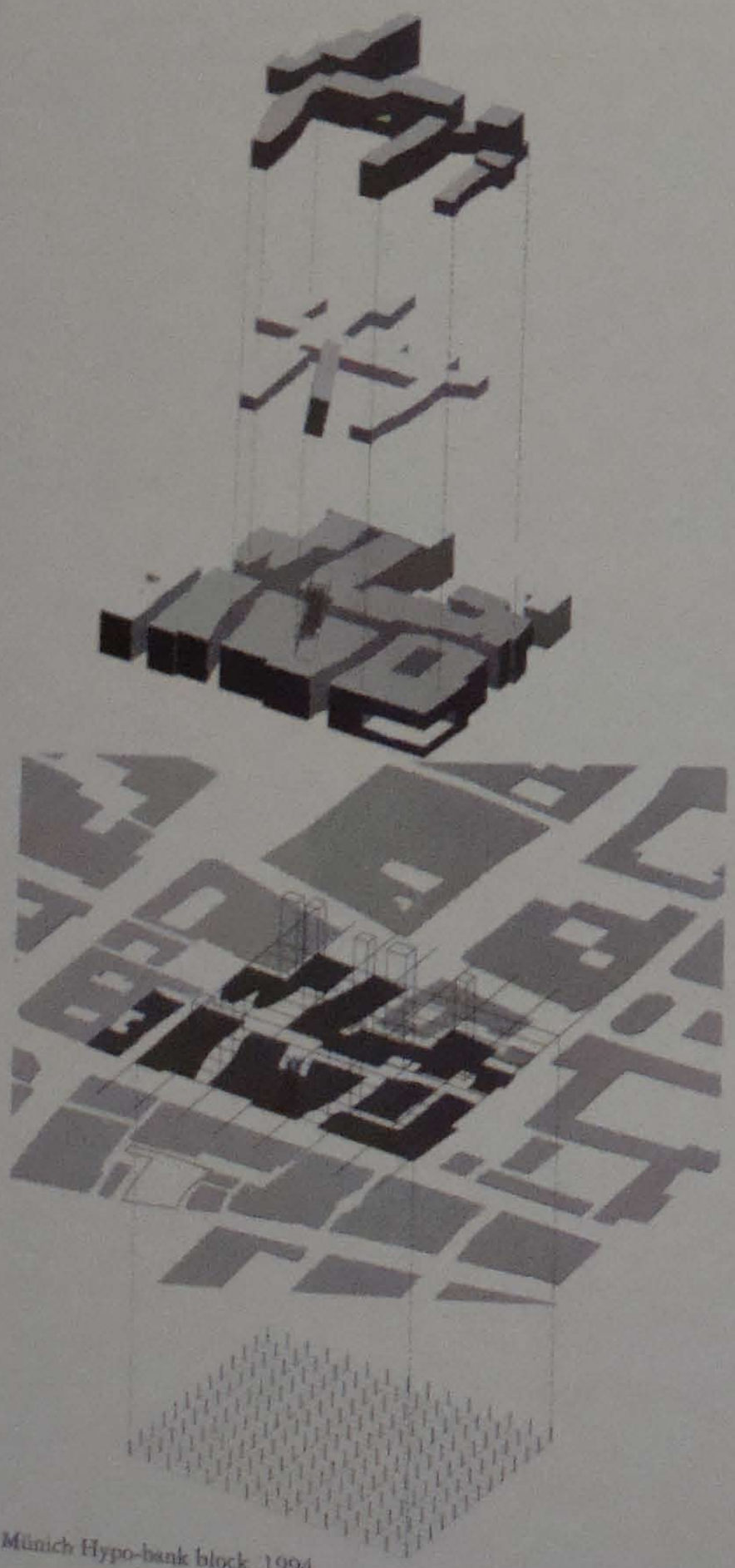
As we might consider modern developments in materials and technology, we might consider a parallel progress in sound. Aural phenomena in the developing of 20th century music has a parallel in the symbolic notation for that music which breaks rules of former centuries.

New instruments and new vocal techniques, electronic music, etc., have provoked composers like John Cage, Karl Stockhausen, Berio, and others. Electronic music has increased the ranges available to composers and changes in thinking have reframed sound and time.

"Space brings the resonance of the acoustic near to life"
-John Cage



"Gruppen," K. Stockhausen, 1955

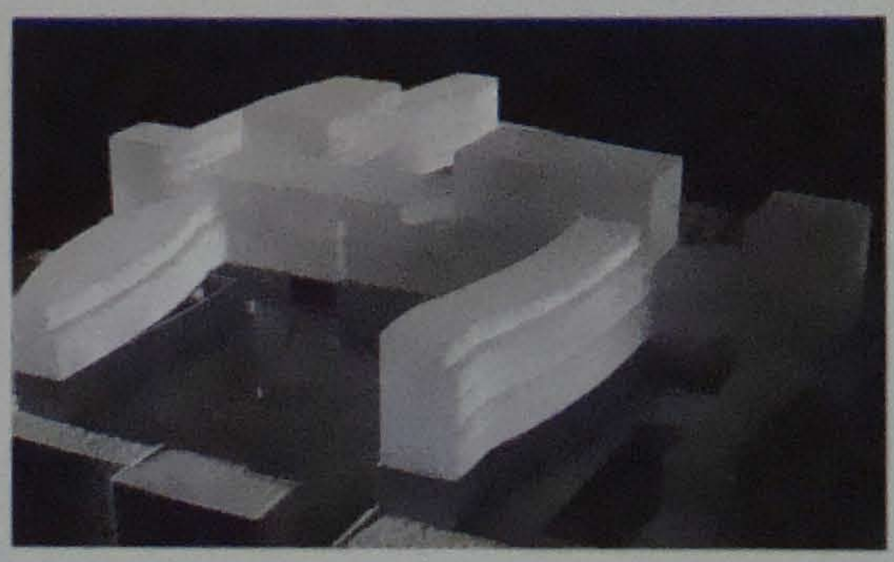


Münich Hypo-bank block, 1994

The architecture of music, the structure of aural phenomena might have a graphic parallel in architectural notations, plans sections, axonometrics, etc. Many composers have used time-space notations in order to compose with irregular rhythms. Notations which allow for accidental chromatic notes, microtones, clusters or vertical bands between marked pitches all appear different from conventional notation.

Accordingly we consider a reframing of space, light and time in architecture. Paul Valery suggested the closeness of music and architecture, that sculpture and painting one can turn away from - but music surrounds us as does the space of architecture.

Our project for a multi-functional upgrading of an area in Münich organizes urban life in three overlapping functional and temporal layers; a **permanent** community of in-city residents, **semi-transient** office workers and urban commuters, and **transient** shoppers and tourists. To organize for maximum quality and range of living spaces and experiences for each community, a musical score by K. Stockhausen for a piece entitled "Gruppen" (inspired by a view of the Alps) is adapted as a heuristic devise. The score shows a *mountain range* in the first three measures and *shaped voids* in the remaining four measures. We organized the block accordingly in three architectonic modes: "glass mountain" apartments, "shaped voids" (open and green space), and city form (masonry, offices and other programs). The integration of these three elements is adjusted to achieve the richest qualities of spatial sequence in light and perspective, taking care to arrange for the shafts of sunlight which orchestrate the shaped voids during the day.



Münich Hypo-bank block, 1994

DETAIL: THE HAPTIC REALM

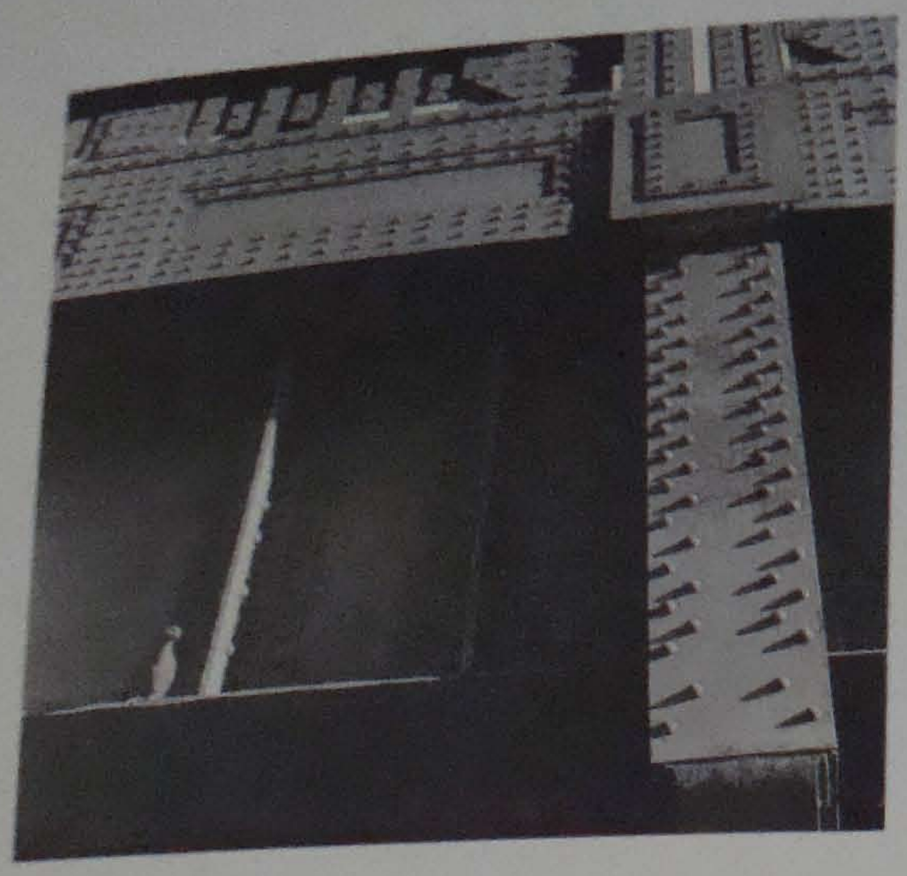
In the ink-stone of the mountain temple, the first ice is early
-Buson

The brevity of a Japanese haiku poem isolates the "thing-in-itself" of experience and perception of material and detail. Buson fuses ink, stone, ice, and the isolated remoteness of a mountain temple in a spare and elegant language. After writing at night with the typical bamboo brush and Suzuri ink stone, he arose the next morning to find ice formed in the well of the thick slab, the ink frozen.

The haptic realm of architecture is defined by the sense of touch. When the materiality of the details forming an architectural space become evident, the haptic realm is opened up. Sensory experience is intensified; psychological dimensions are engaged.

Today the industrial and commercial forces at work on the "products" for architecture tend toward the synthetic; wooden casement windows are delivered with weatherproof plastic vinyl coverings, metals are "anodized' or coated with a synthetic outer finish, tiles are glazed with colored synthetic coatings, stone is simulated as is wood grain. The sense of touch is dulle or canceled with these commercial industrial methods, as is the texture and essence of material and detail displaced.

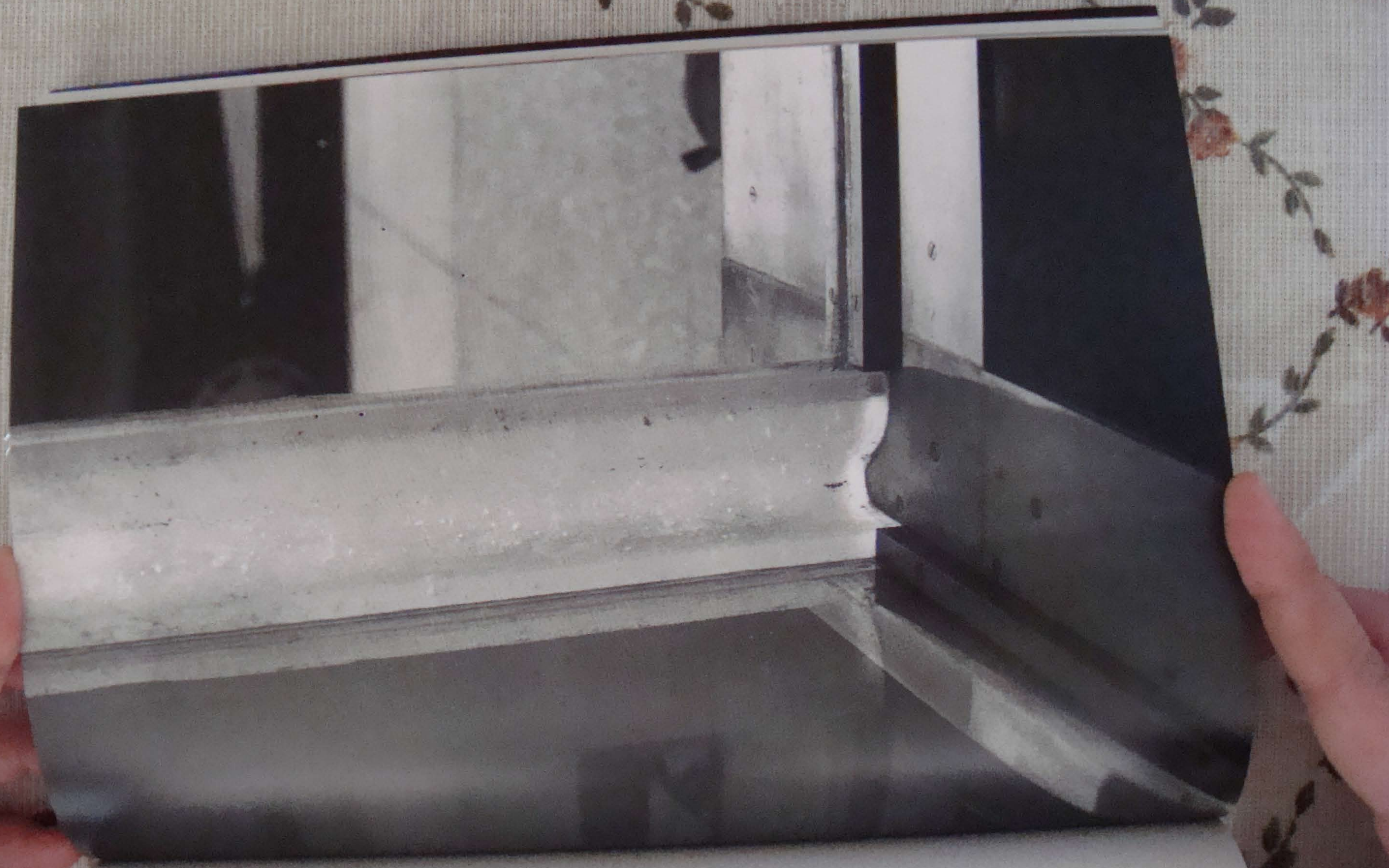
The total perception of architectural spaces depends as much on the material and detail of the haptic realm as the taste of a meal depends on the flavors of authentic ingredients. As one can imagine being condemned to eating only artificially flavored foods - so in architecture the specter of artificially constituted surroundings imposes itself.



Materials may be altered through a variety of means which do not diminish, and may even enhance, their natural properties. We experimented with the refraction properties of cast glass and 3" thick uneven glass in a project for the Giada Showroom in New York, 1985. When light shines through the uneven glass it casts uneven light and dark streaks on adjacent surfaces. This concentration and diffusion of rays of light yields mysterious and exciting phenomenal properties.

Glass becomes radiant as, in transformed states, its functional role is shifted. Bending glass induces dazzling variations to a simple plane with the geometric curvature of reflected light. Cast glass with its mysterious opacity traps light in its mass and projects it in a diffused glow. Sandblasted glass, likewise, has a luminescence which changes subtly depending on the glass thickness and type, and the grain size of the silica sand used.

Metals can be significantly transformed by sandblasting, bending and acid oxidization, to create rich materiality of surface and color. Integral to materials and their weathering change in time, the beauty of various colors and textures of oxidation also gives details a painterly dimension. Cast metals, aluminum bronze and brass also add to the palette of alternative materials, expanding the range of details. A variety of metals, such as copper, nickel and zinc, can now be electronically atomized, and sprayed nearly cold in a thin layer over a surface of a different material, opening up new possibilities for finished and plastic details.



The texture of a silk drape, the sharp corners of cut steel, the mottled shade and shadow of rough sprayed plaster or the sound of a spoon striking a concave wooden bowl, reveal an authentic essence which stimulates the senses.

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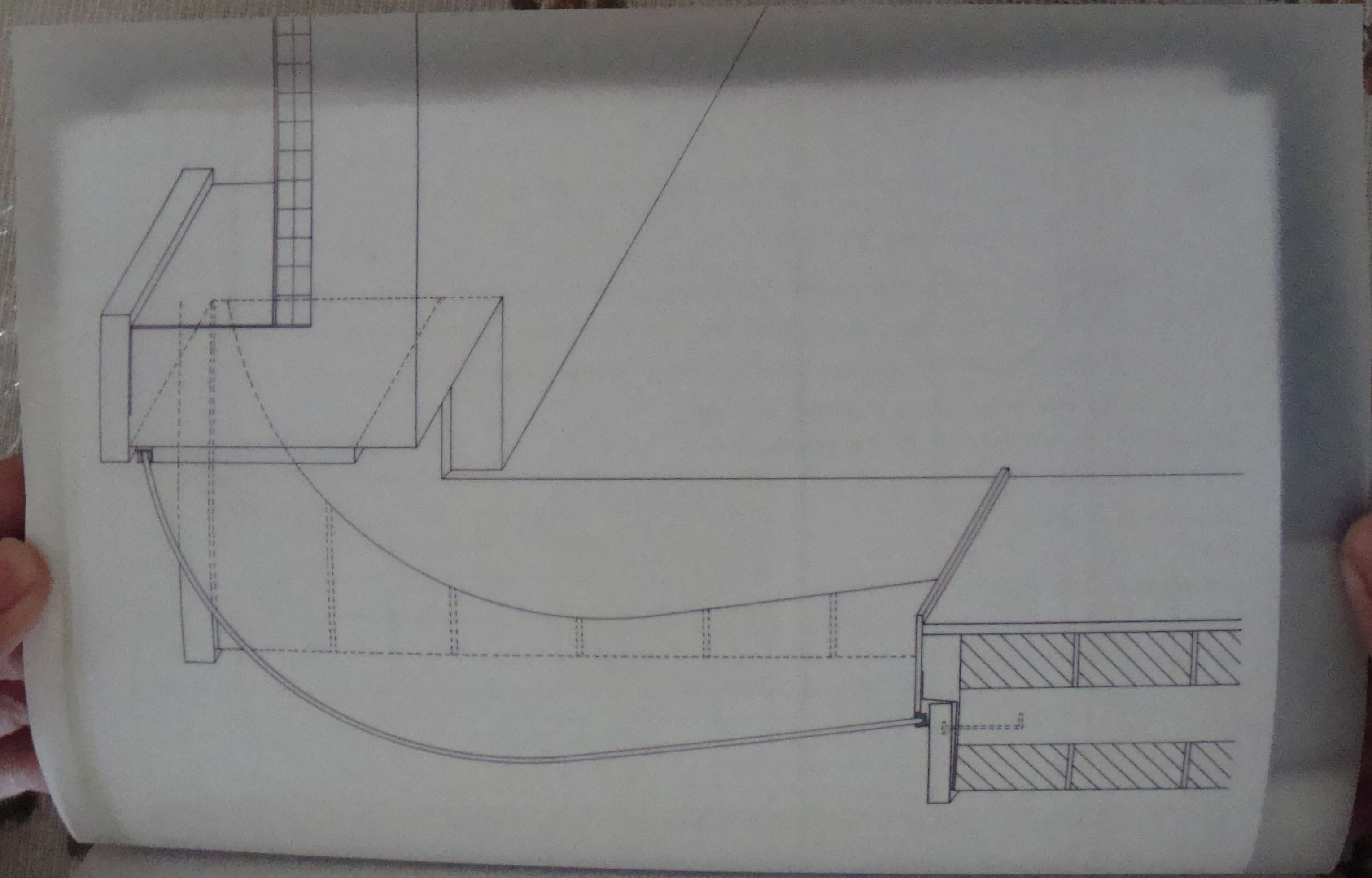
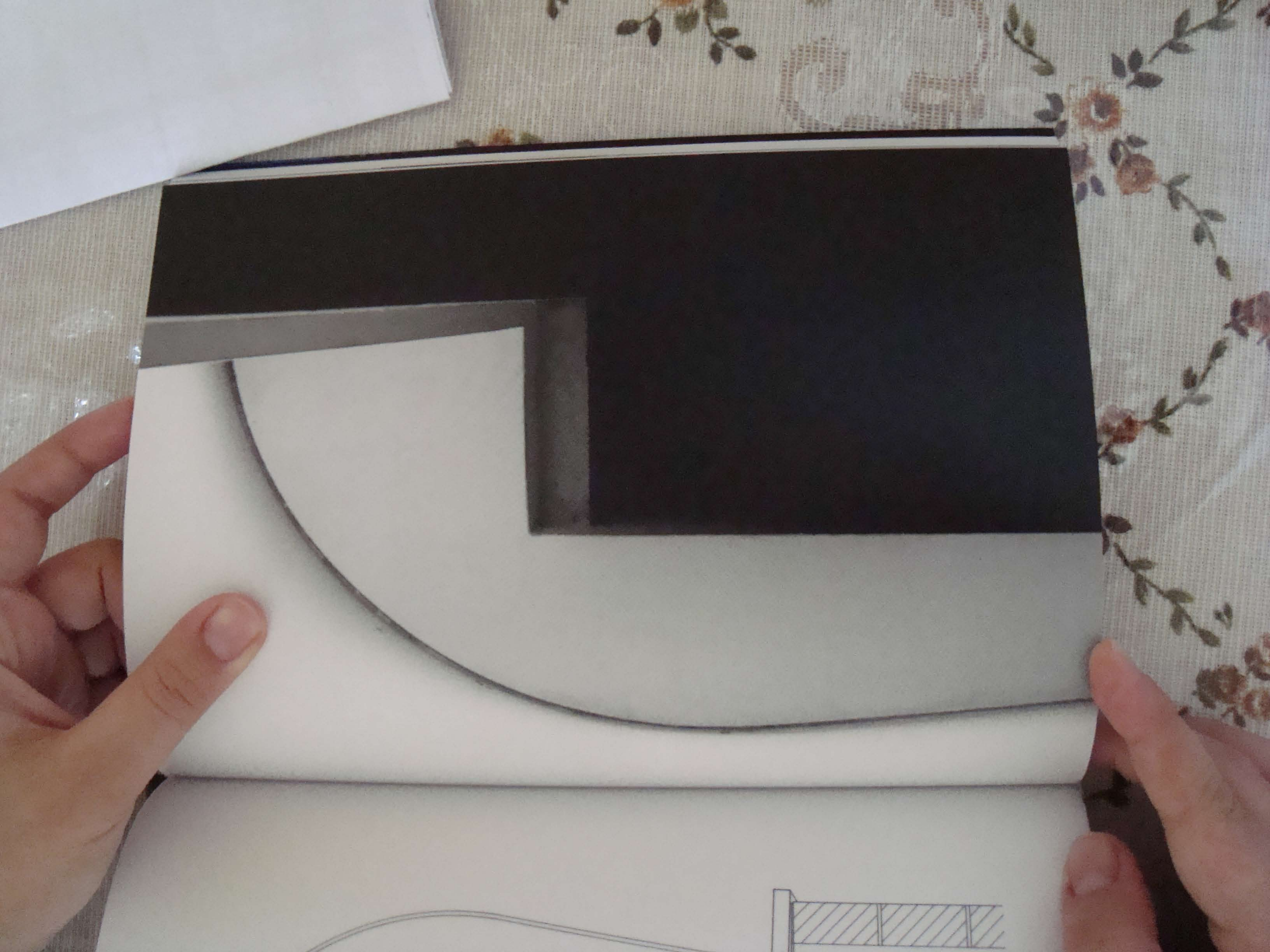
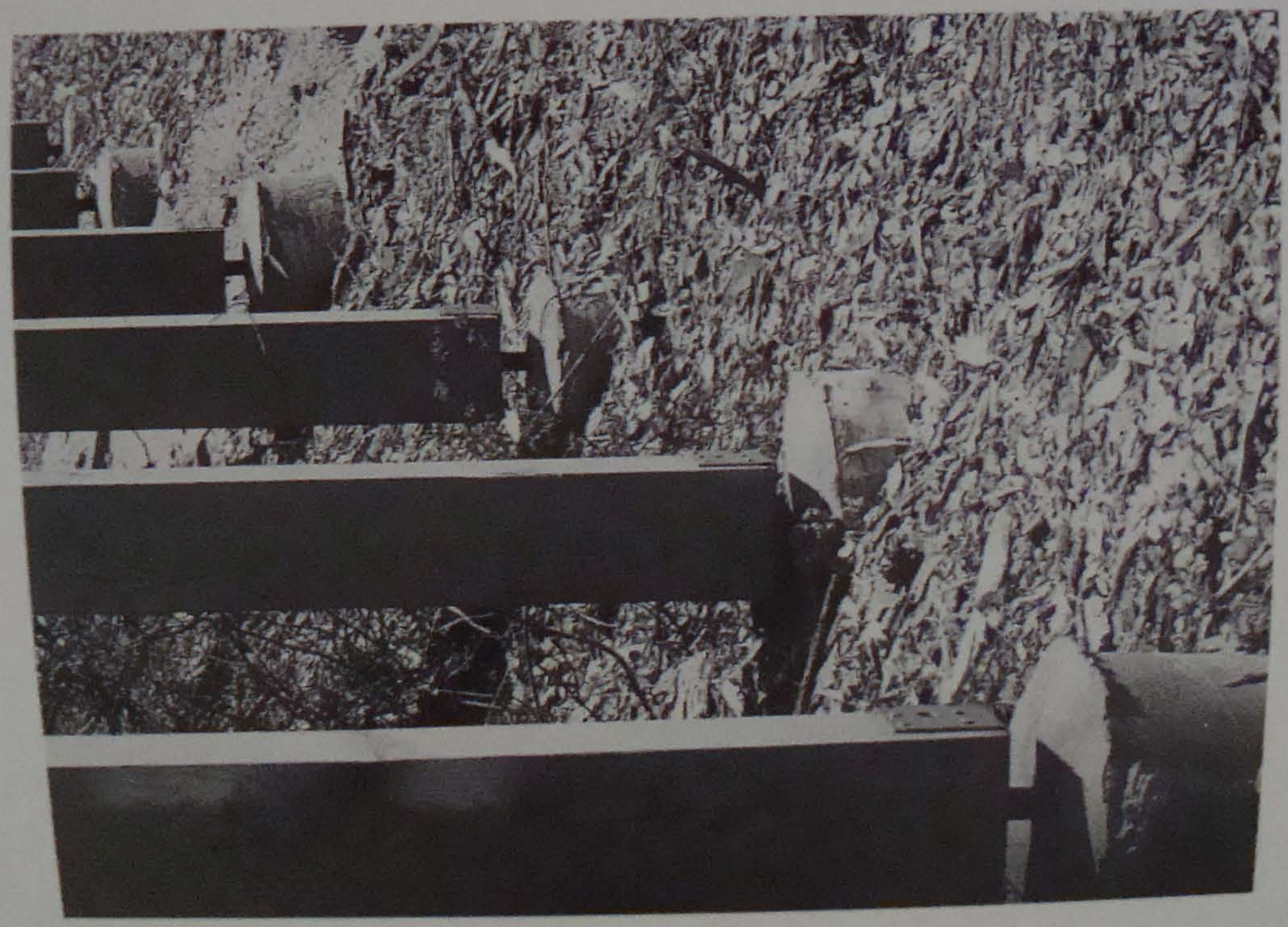
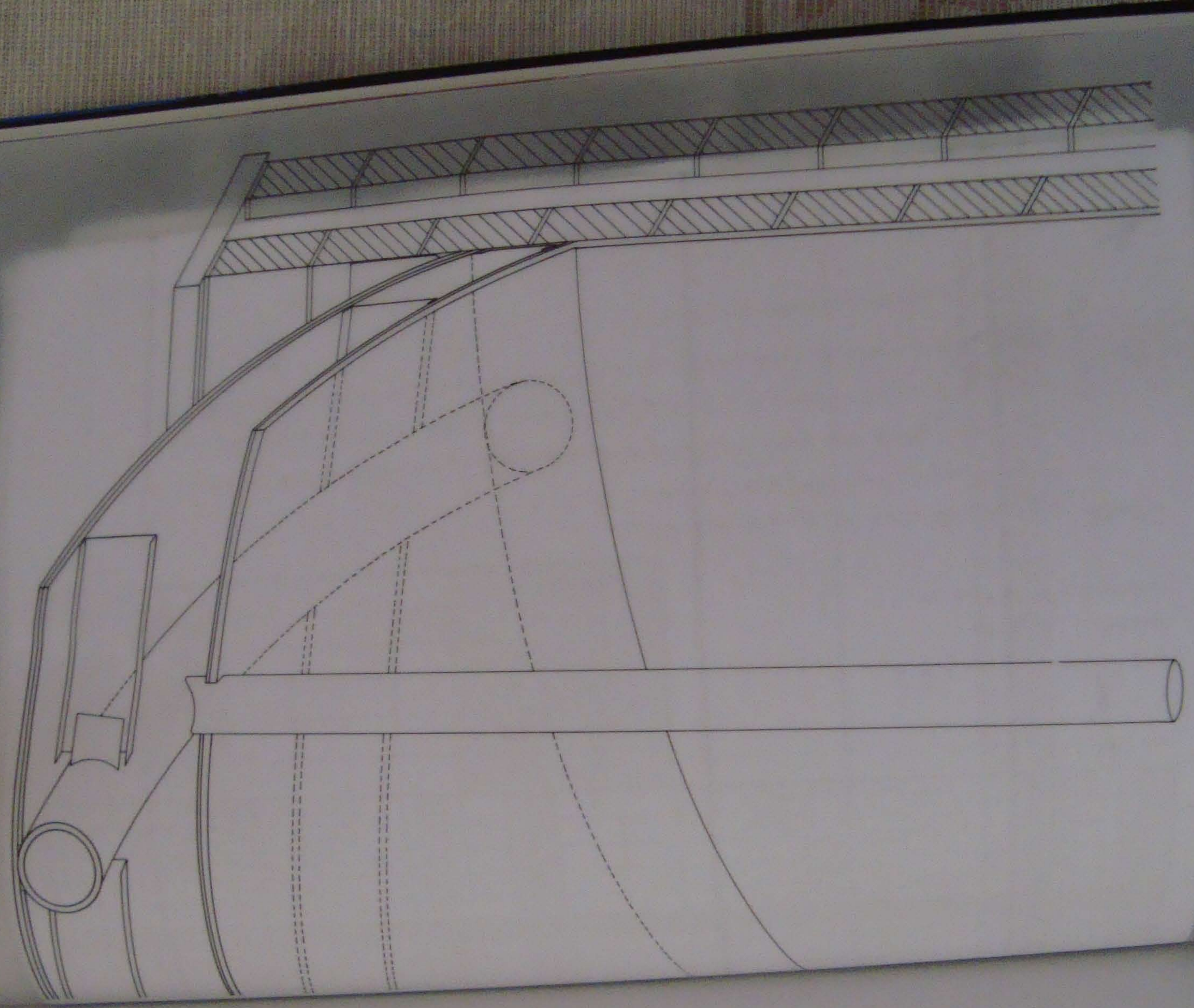
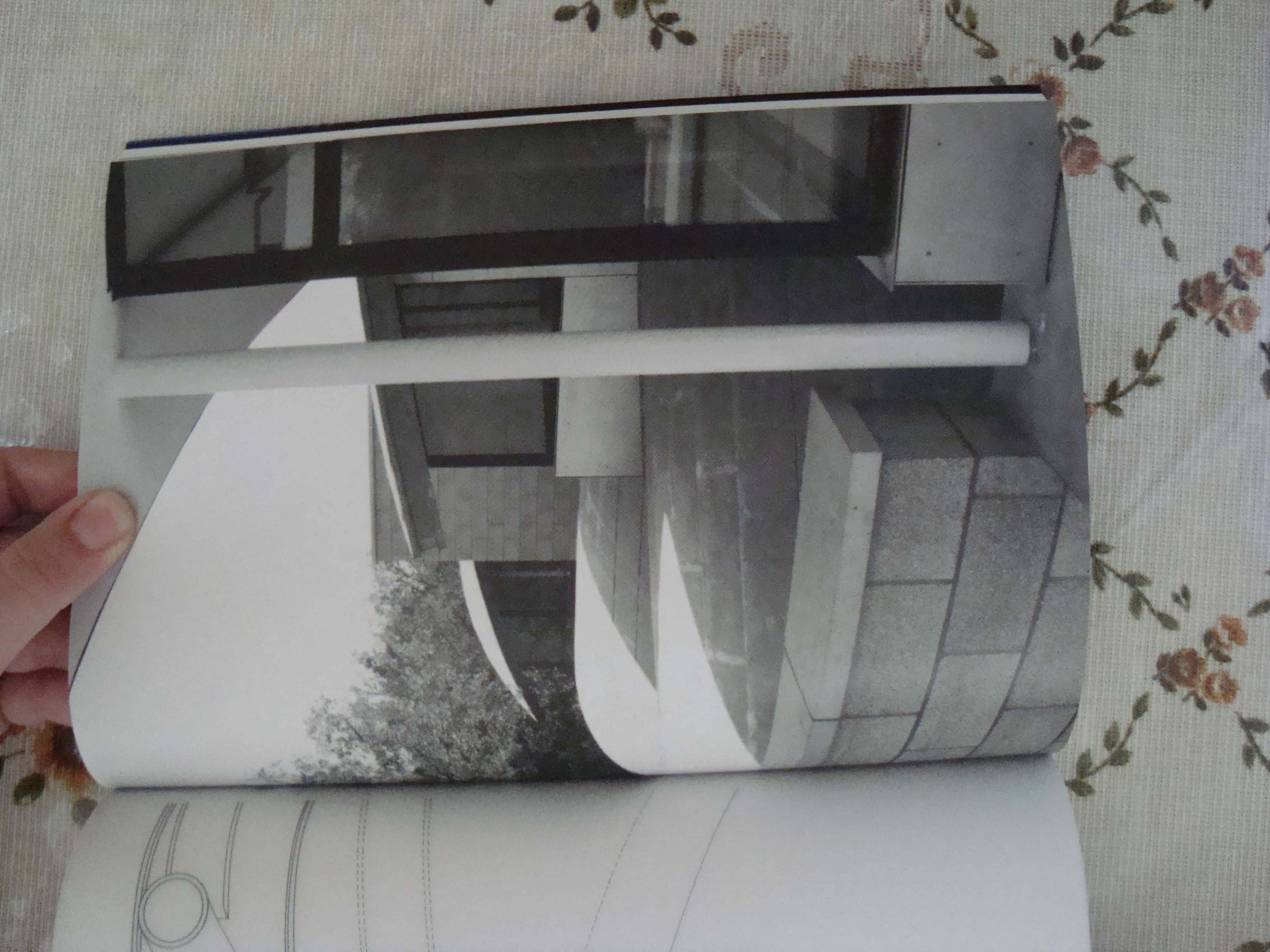
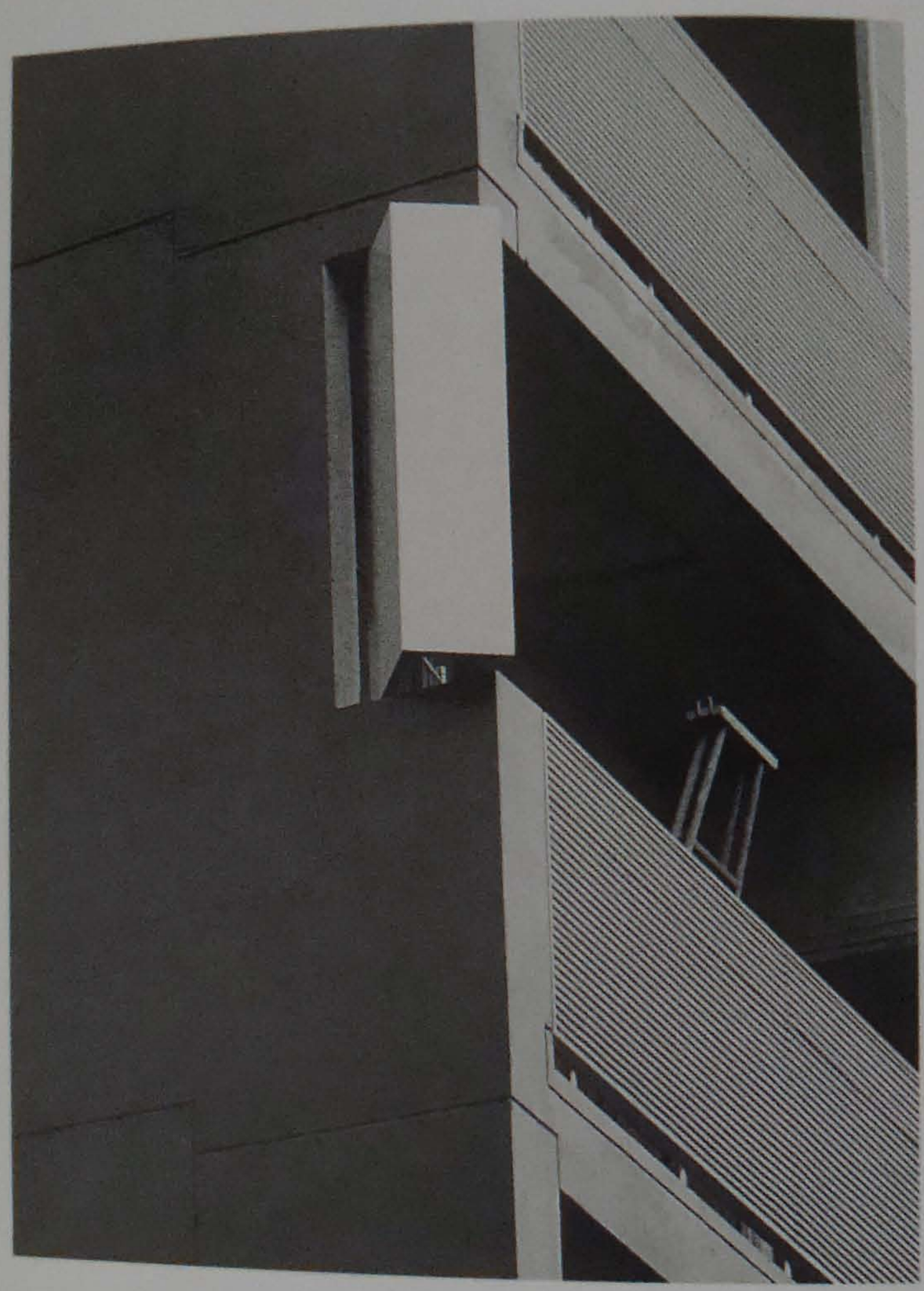


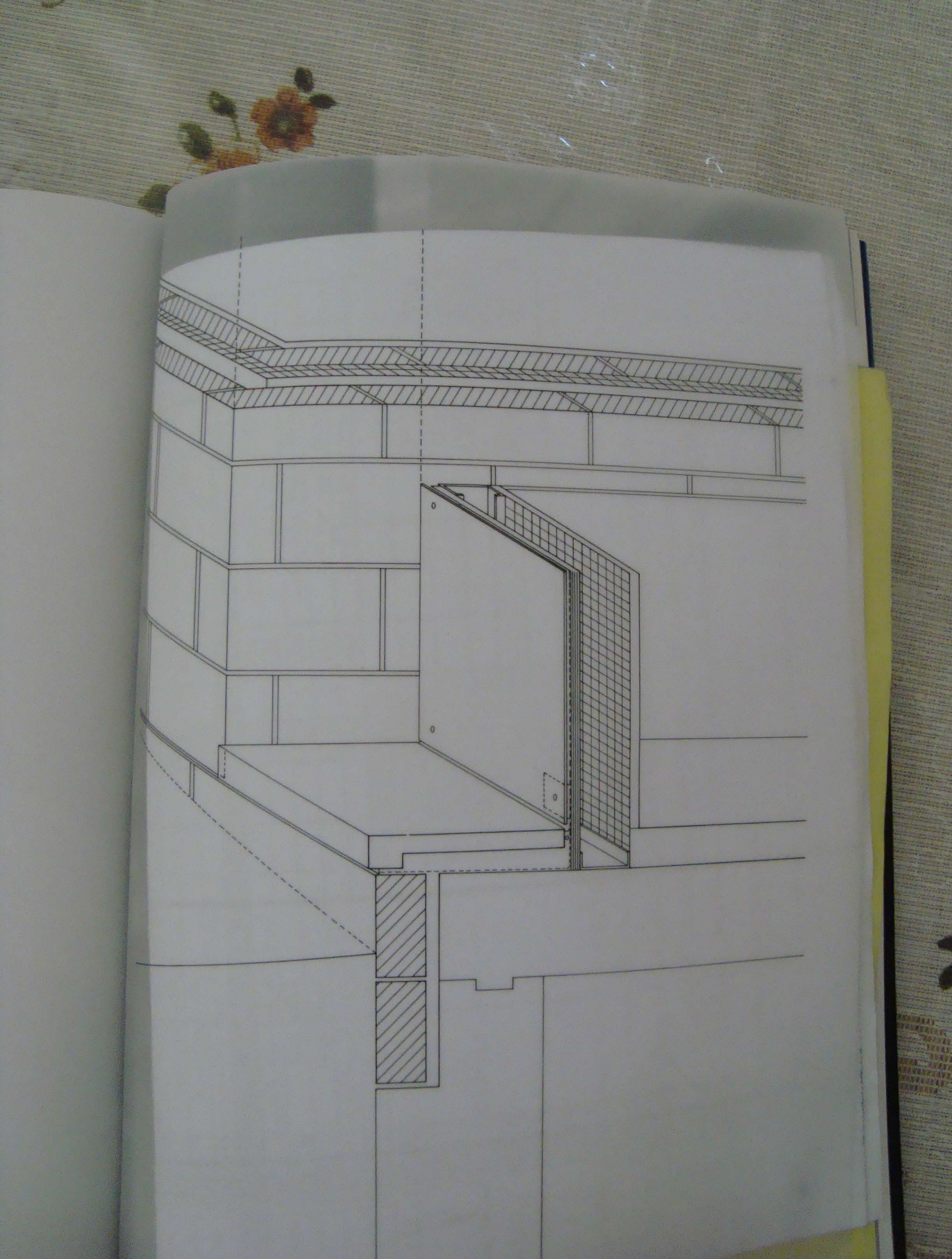


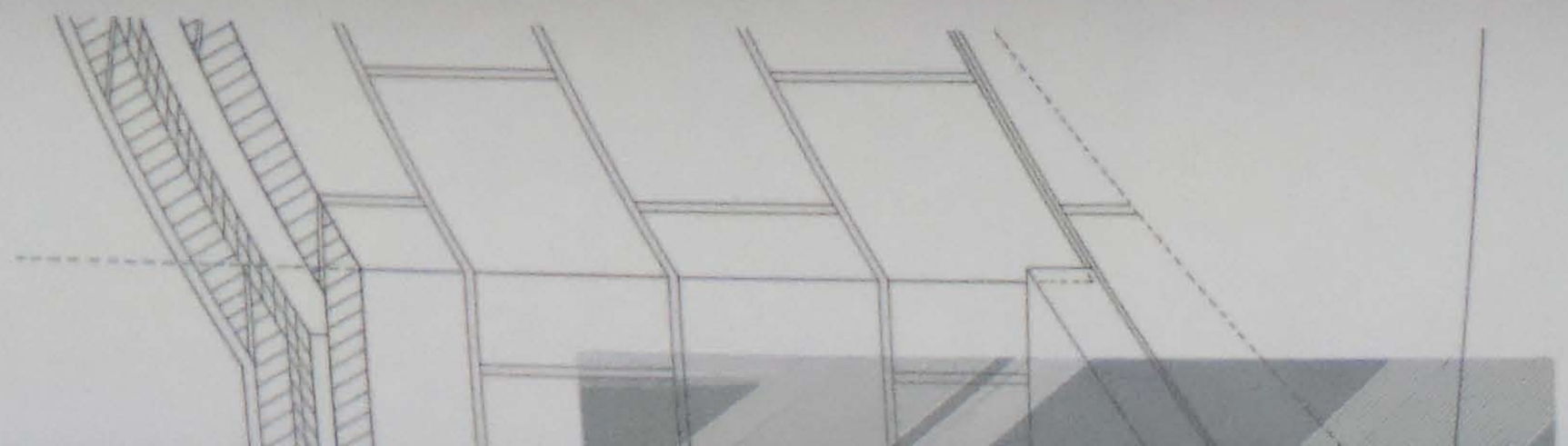


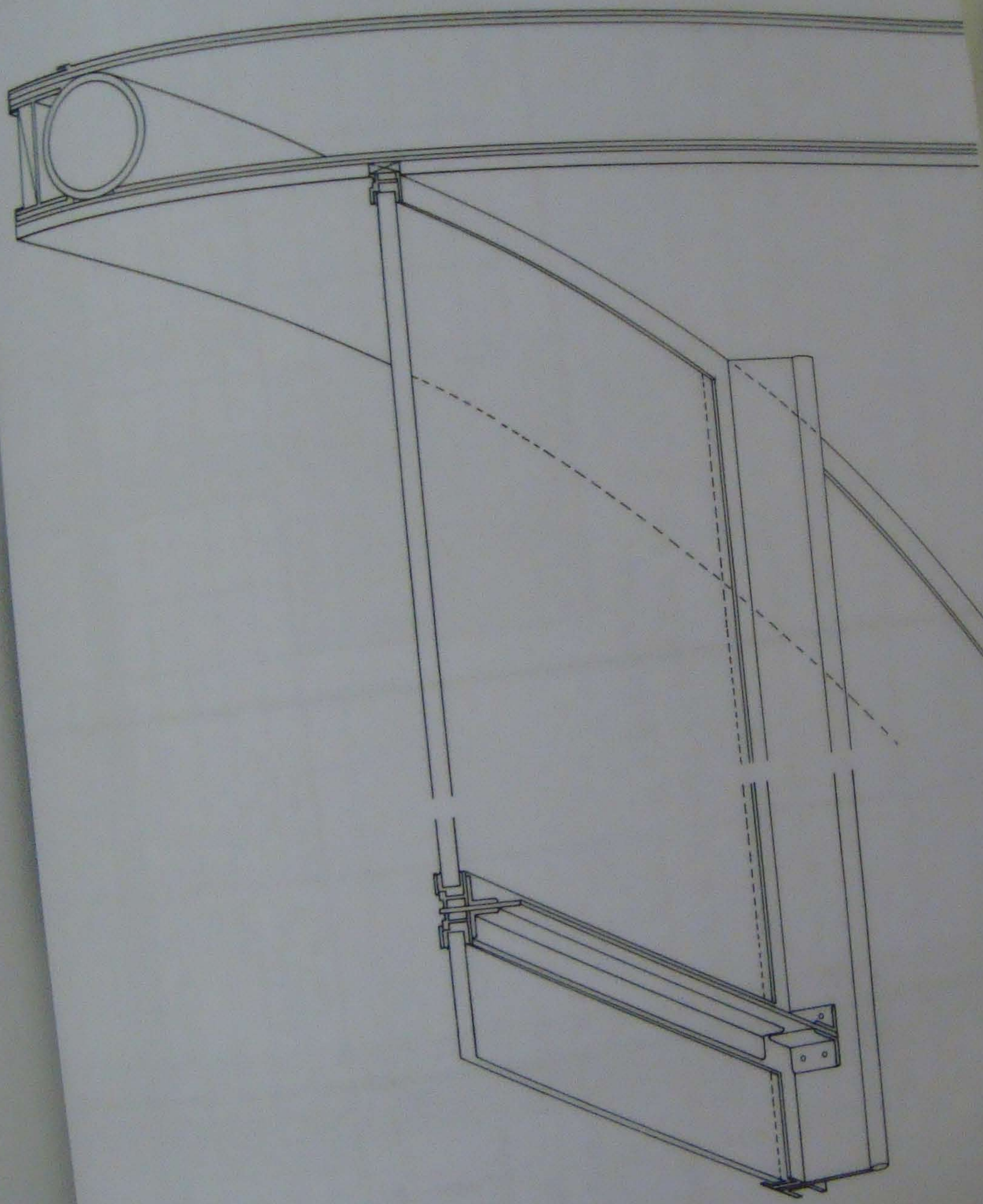


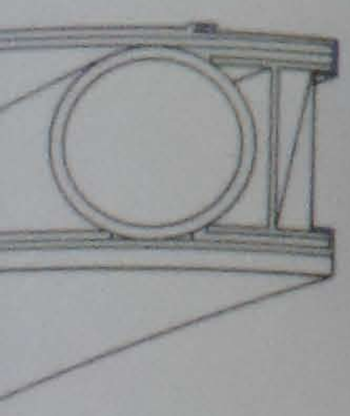


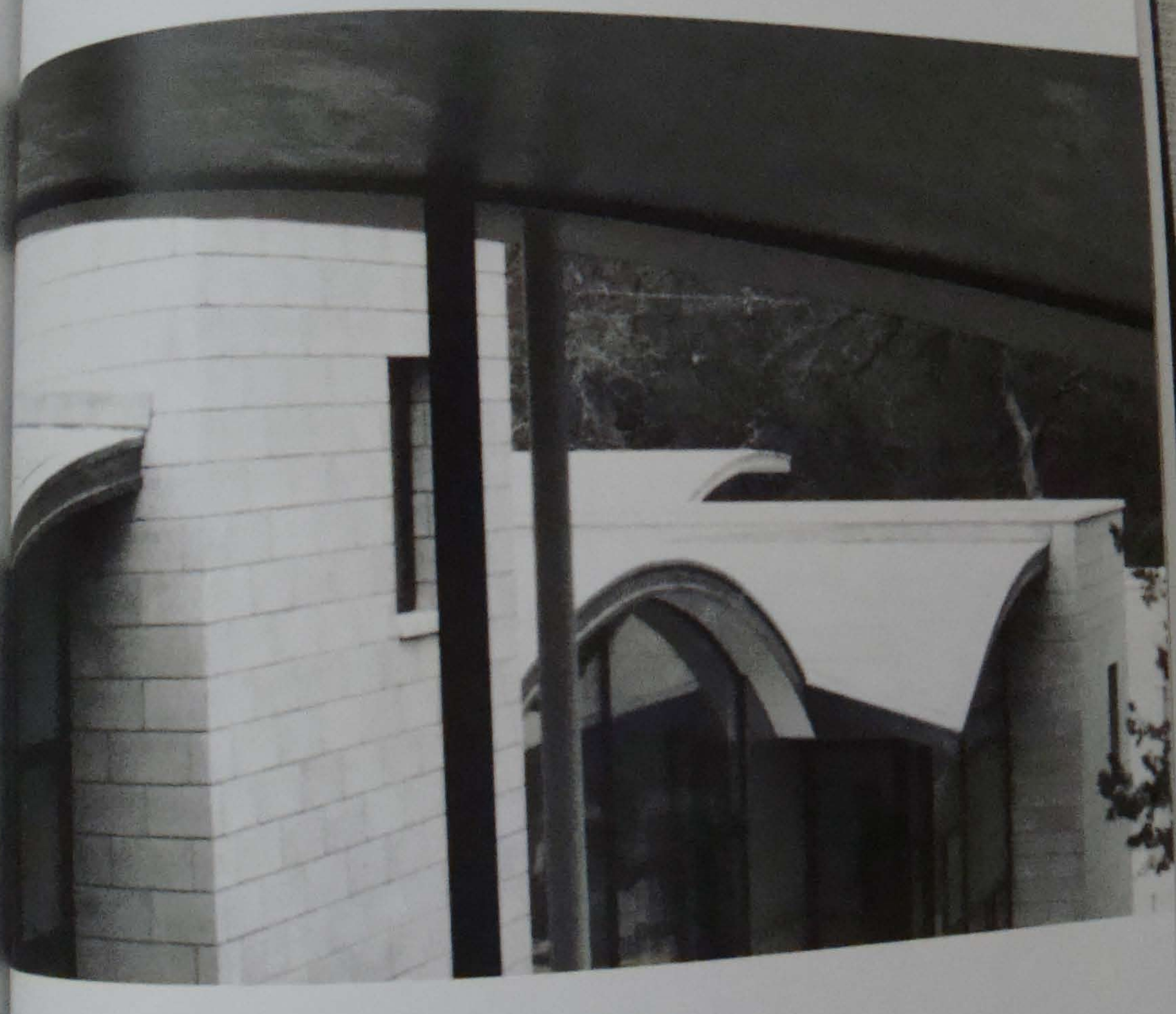


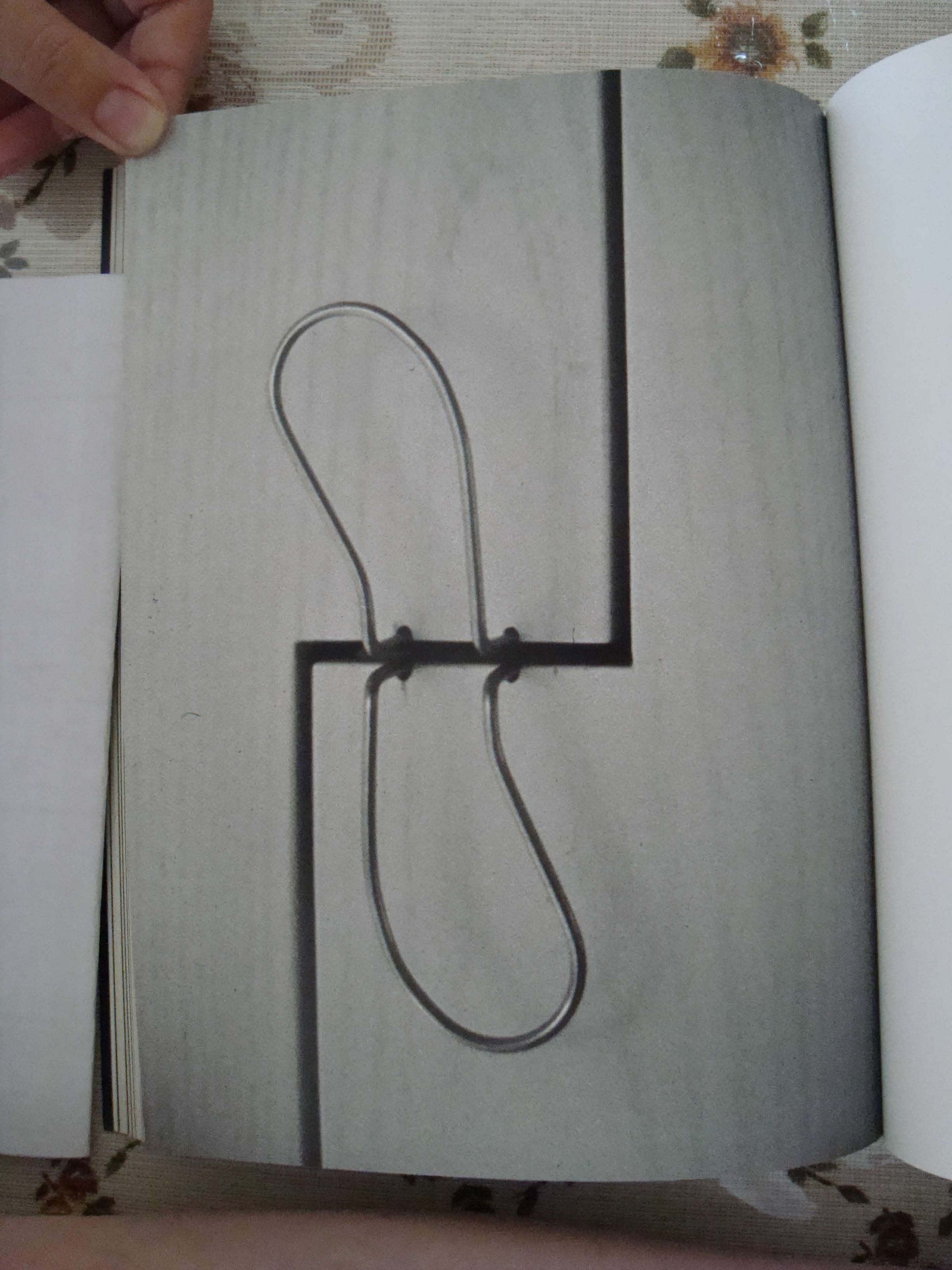


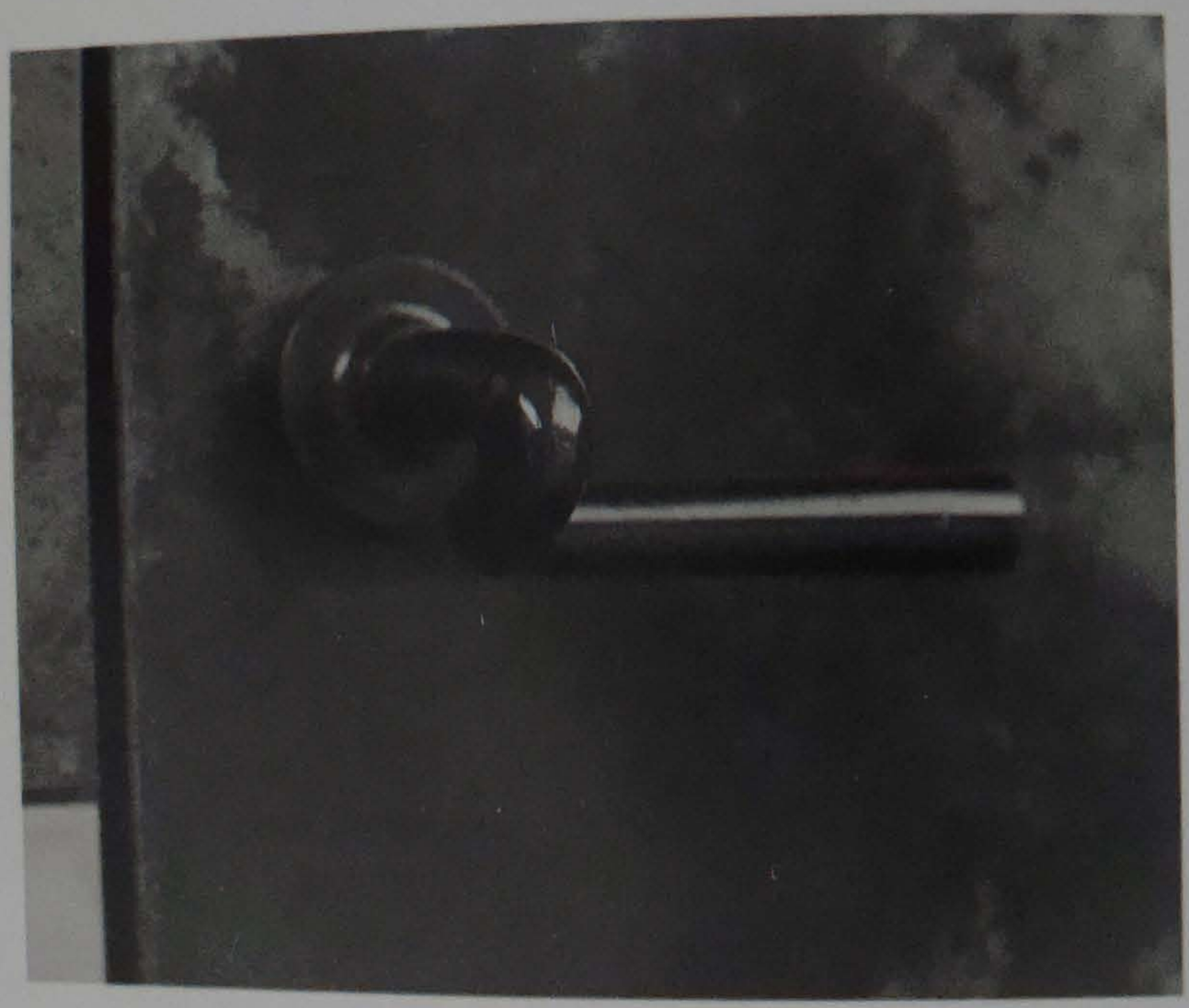






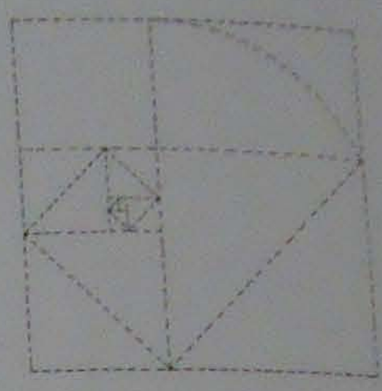




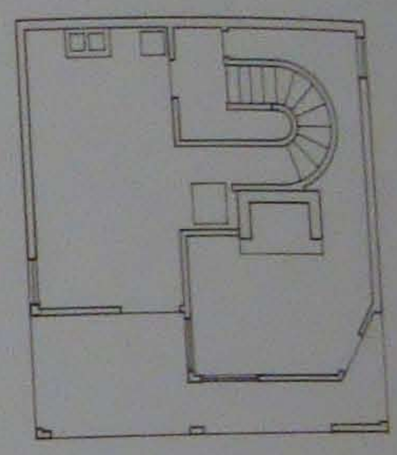


PROPORTION, SCALE, AND PERCEPTION

Matila Ghyka in his seminal book The Geometry of Art and Life, puts forth an argument for proportion based on mathematical principles found in nature. Ghyka's arguments go beyond a simple understanding of the mysteries of nature, demonstrating that the Golden Section ratio 1:1.618 is the key ratio in organic, "gnomonic, homothetic, growth..." This magic irrational number may have its only omnipresent equivalent in π or 3.1412...

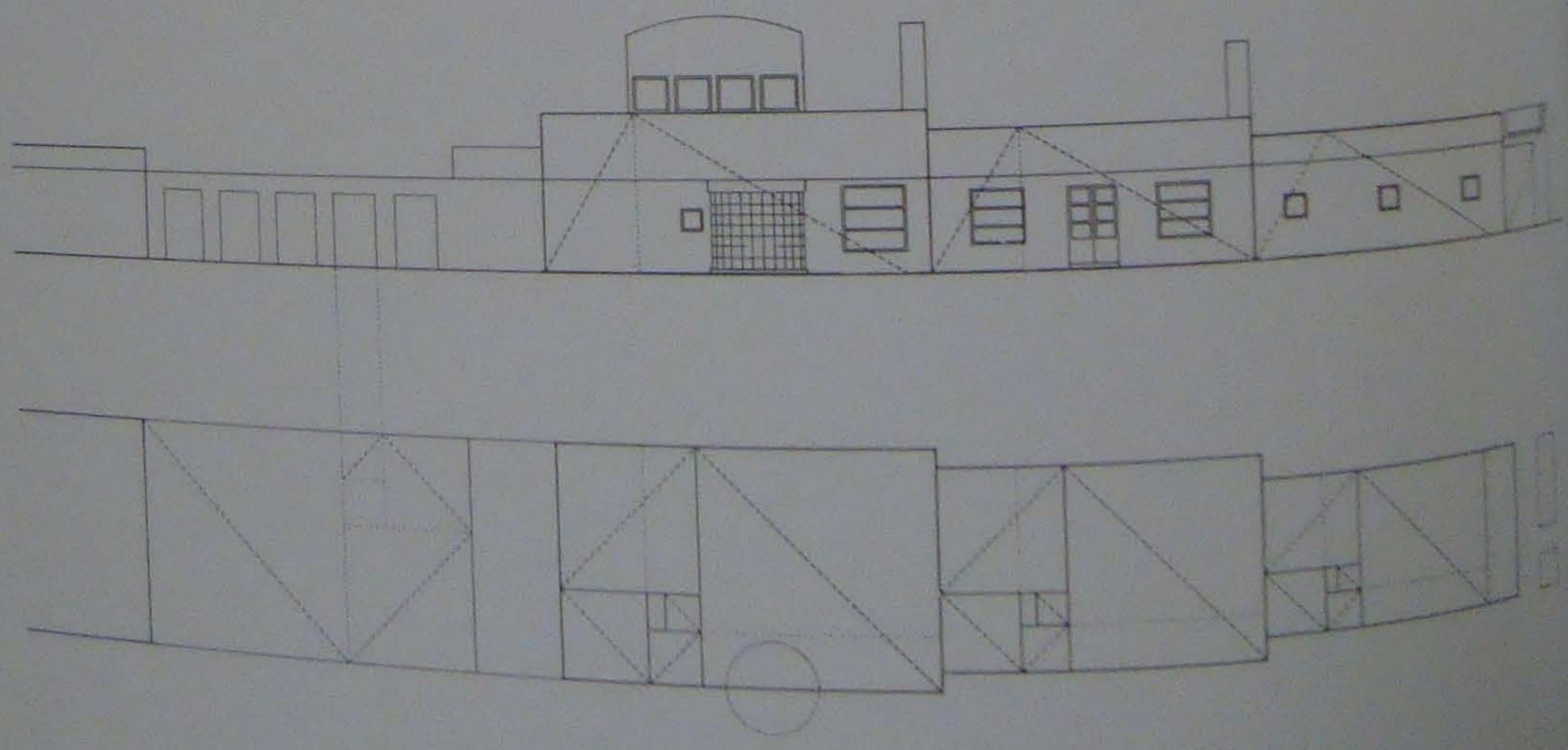


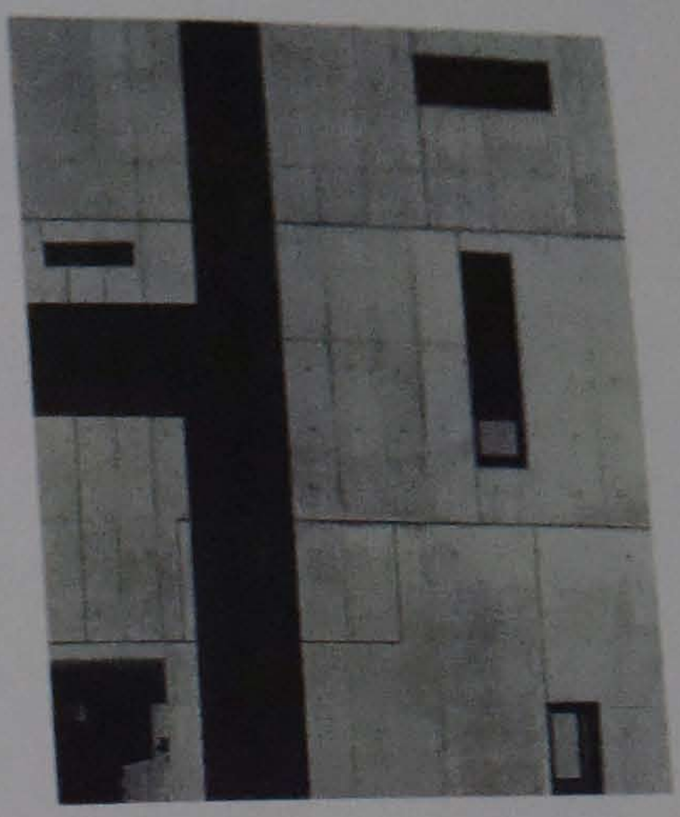
Throughout Architecture's history the Golden Section and its related Fibonacci Series have continuously reappeared in the most visually pleasing and intense works of architecture. The Fibonacci series appears in the Ancient Egyptian Canon of Proportions and throughout the great works of Greek Architecture. The Plan of the Parthenon corresponds to two reciprocal golden rectangles while the facade fits into a golden rectangle of the ration 21:13.



But the Greeks were concerned with perception, not just geometrical mathematical precision. The paradox of a work such as the Parthenon is that the adjustments to counter distorted perceptions in the luminous Greek light yield a building made almost wholly of curves. The entiasis of the columns as well as the inclinations from the vertical, the curve of the stylobate echoed in the entablature, the accentuated effect of the tapering lines of the walls enclosing the cella, are all deliberately curved adjustments.

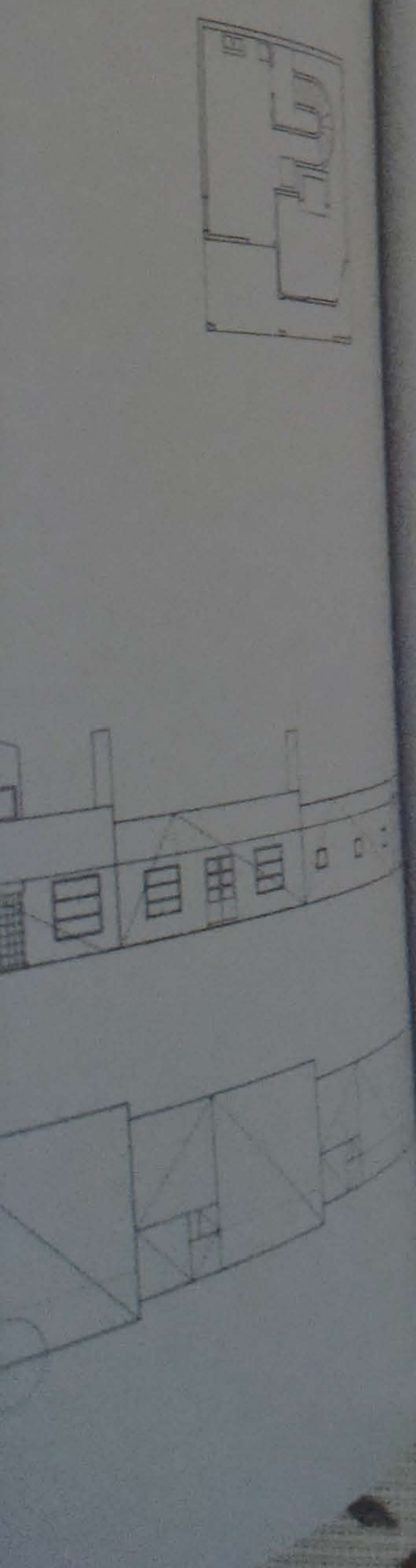
For the Greeks proportion was at the center of architectural creation; the organizing principle for spaces, surfaces, volumes and lines. Every structure grew from Euclid's geometrical theorem $x^2-x-1=0$ or $x=(1+\sqrt{5})/2$ or 1.618033 which, like the basics of harmony in music, reappear in consecutive civilizations and generations.

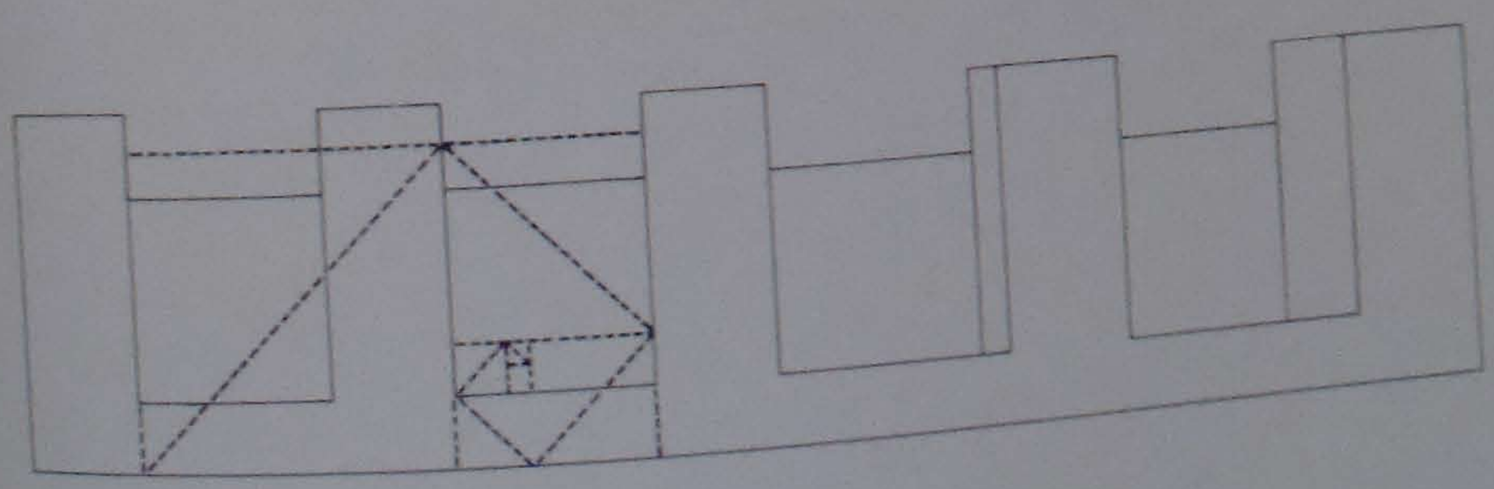




Do not teach theories of proportions. They only disturb the sense for proportion.

-Eliel Saarinen
AIA Speech,
San Antonio, Texas, 1931



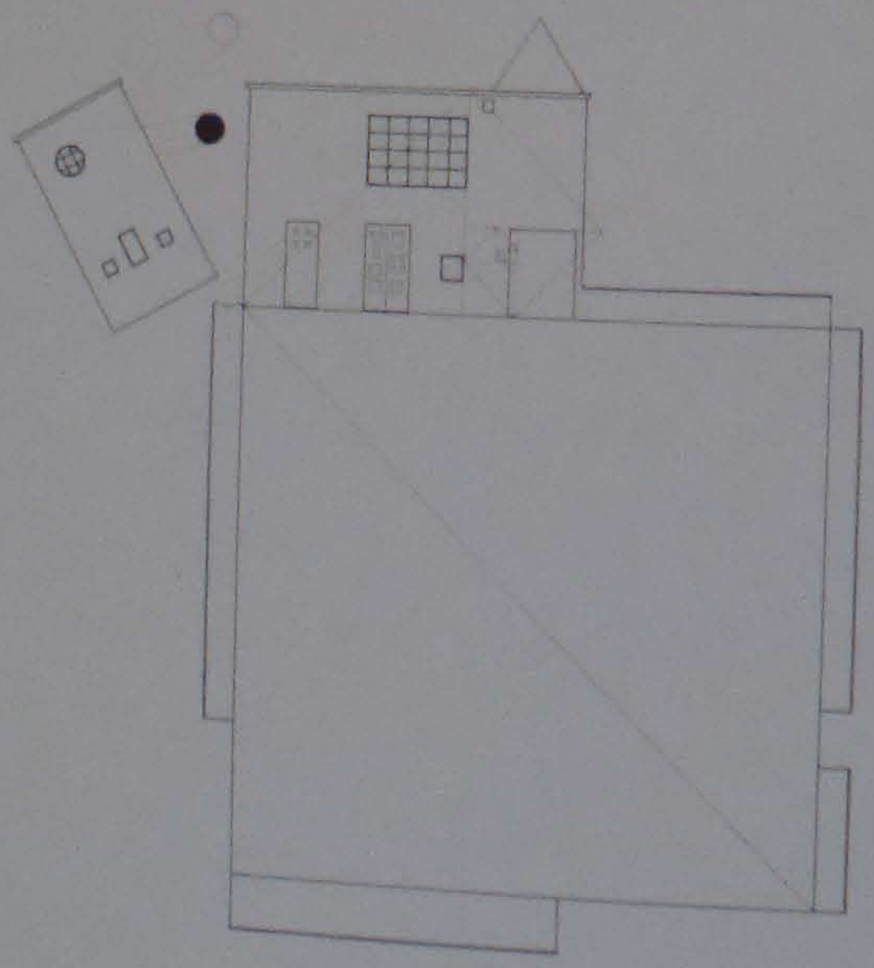


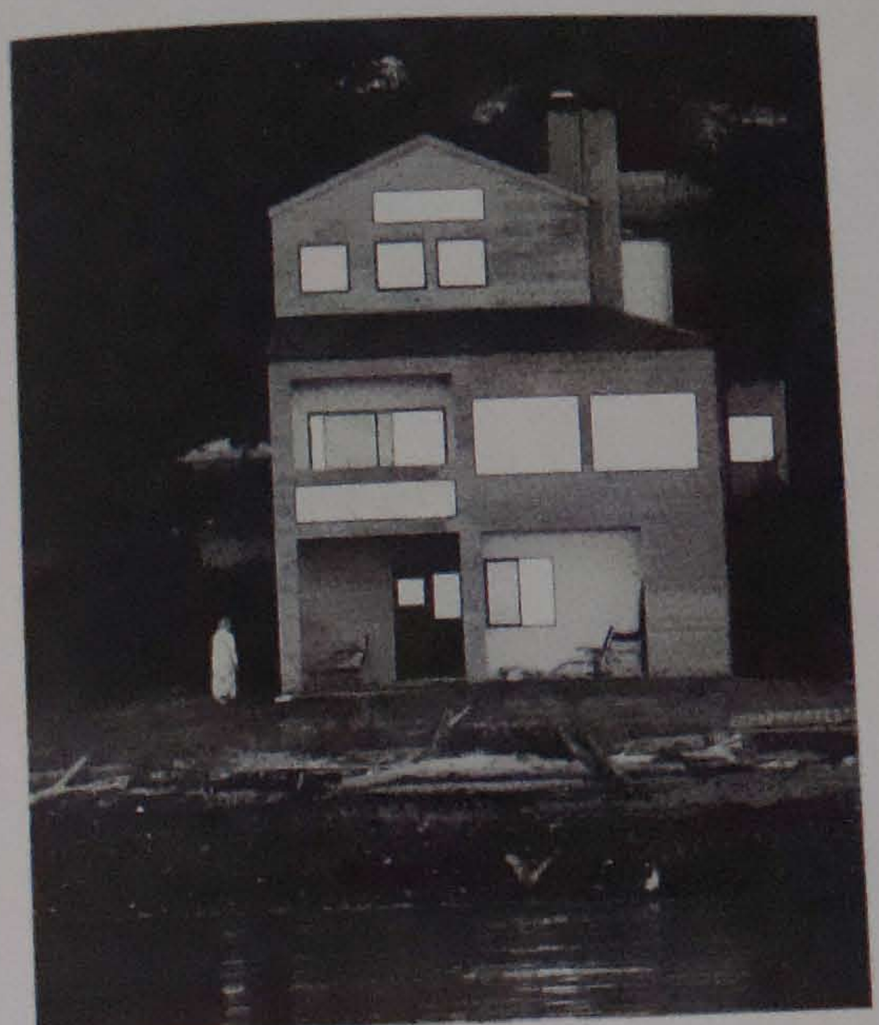
One of the intuitive powers of humans is the perception of subtle mathematical proportions in the physical world. Just as we can tune musical instruments with a minuteness of proportional adjustment to produce harmonies, so we have an analogous ability to appreciate visual and spatial proportional relations. In music, as in architecture and any of the visual arts, these sensibilities must be cultivated.

Historically a culture's particular building tradition often came with inherent balance. For example the Japanese Tatami mat building tradition sets the plan of rooms in a house two, three, four, eight, twelve, fourteen, etc. mat rooms, making up all proportional relations of room sizes according to the 3'x6' human-scaled Tatami. Building was automatically scaled to the human in a proportional series.

Human scale, relative proportional scale and urban scale, all extremely important in architecture have been especially neglected in the last two decades. Free floating capital and overdevelopment in cities are not completely to blame.

A re-assertion of the human body as the locus of experience (whether on the street or from the 50th floor) as well as a firm aim to re-establish roots in the perceptual world with its inherent ambiguity presents us with new questions of proportion and scale in the development of future architectures.





Since building a wooden house in 1974 in Manchester Washington, we have explored the operative working of 1:1.618. The Golden Section is not a beginning point, but a "fine tuner" for proportion and scale after the design has emerged.

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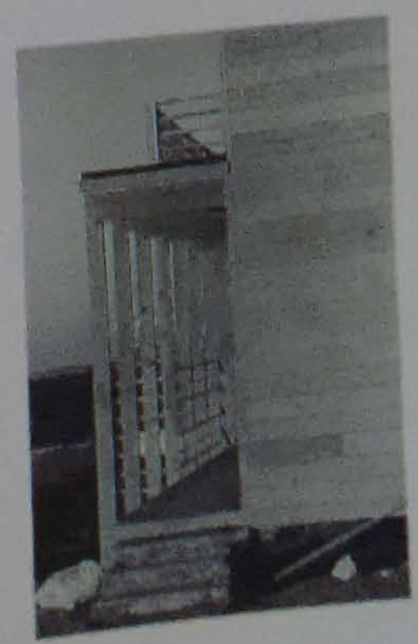
The above 'phenomenal zones" function like a manifold of parts, presenting the question of a whole more substantial than any of its components. Each challenge in architecture is unique; each has a particular site and circumstance or program; and for each, to fuse site, circumstance, and a multiplicity of phenomena, an organizing idea ... a driving concept ... is required. The unity of the whole emerges from the thread that runs through the variety of parts; whether it be one discrete idea or the interrelation of several concepts.

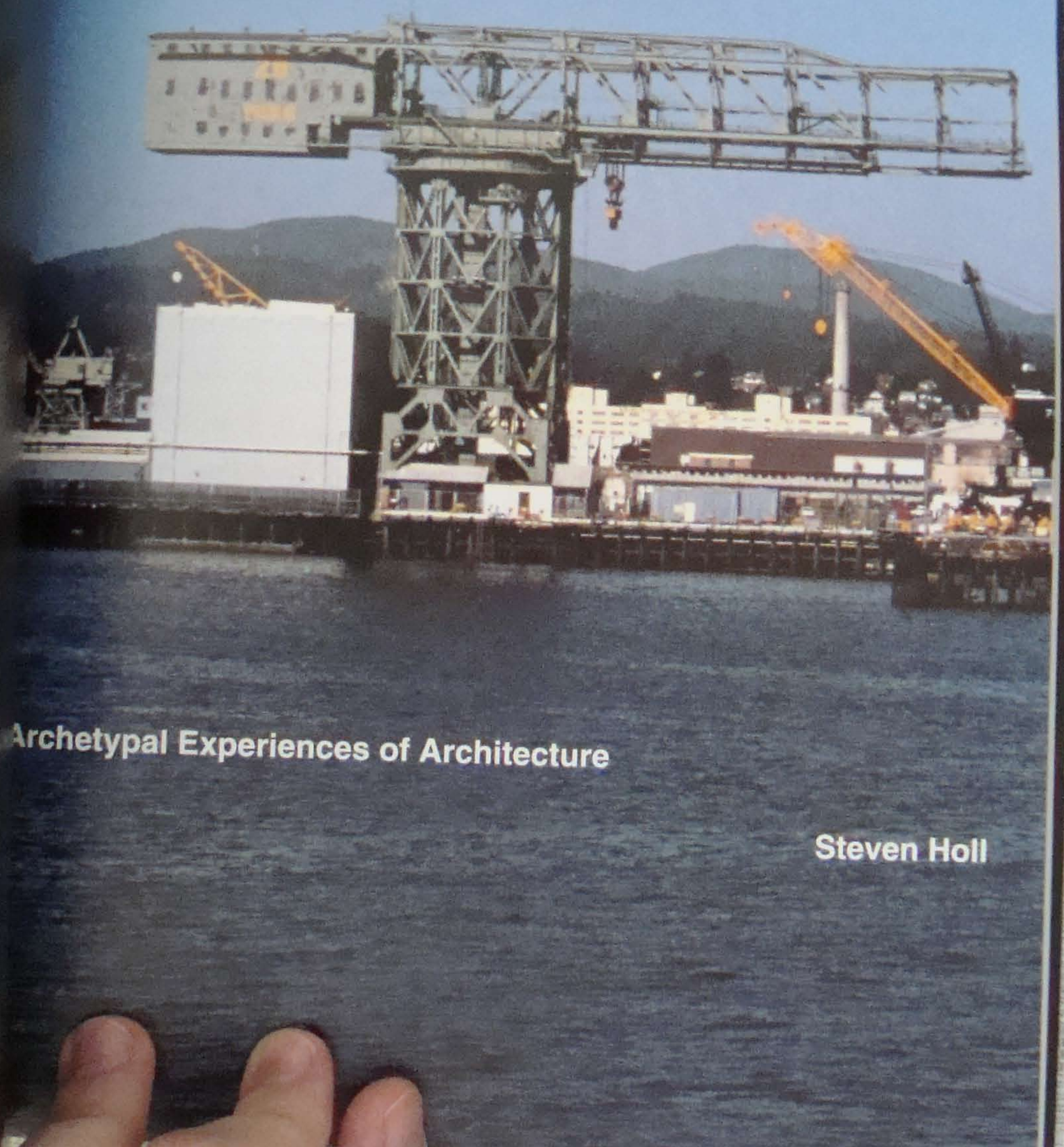
The complexity of buildings today with their everlarger areas and combinations of different programmatic requirements often mandates an organizing concept not derived from the practical program ... an extra-architectural idea. A metaphoric or symbolic parallel proves meaningful in a given situation. The act of juxtaposing two incongruous things together: a literary metaphor and an architectural program and structure— yields a dynamic tension. A unique meaning and intensity can evolve in the effort to hold these together and work within that tension.

Another cohesive strategy might be the condensation of an important programmatic element into a symbolic aim running through the entire structure. In a different circumstance a heuristic device, such as a musical score, might be an organizing structure.

In this sense, ideas are not abstractions - but become fused with architectural programs and emerge as the working principles of a building. In the last few years of the twentieth and the beginning of the twenty-first century urgent and very large architectural challenges must be given order in a meaningful and direct way. It is in the realm of ideas that the final perceptual measure of architecture's contributions will be extended.

Architecture then differs with every circumstance and site. It is at once difficult to make and also infinitely open and free. An attitude reaching toward the full extension of those earliest freedoms of modern architectural thought could take architecture beyond neo-modernities and post-modernities into a realm where ideas have no boundaries - and the final measure of architecture lies in its perceptual essences, changing the experience of our lives.





Archetypal Experiences of Architecture

Steven Holl

The following descriptions detail my direct experiences with architecture, illustrating the type of phenomenological nuances on which the foregoing argument relies.

Without adhering to a strict chronology, I begin with my experience in Rome in February 1970 with the astoundingly powerful interior of the Pantheon. While my native Seattle/Pacific Northwest region offered such compelling vistas as massive, snow-covered mountains, reflected in glass-smooth water, the architecture was never as forceful as the landscape. My strongest early impressions of architectural space came from the expanse of huge, gray aircraft carriers in dry dock at the Puget Sound Naval Shipyard. A four-story "house" (the crane operator's office) balanced on the back of the enormous hammerhead crane perched over a shadowy dry dock cavern. Everything was painted military blue-grey, blending exactly with the inland sea on a cloudy day.

In 1970, I won a position to study abroad and was suddenly air-lifted from the sleepy, shingled regionalism of Seattle to Rome, where I shared a small apartment behind the Pantheon.

In the tremendous space of the Pantheon, I first felt the passion, the forceful capacity, of architecture to engage all the senses. Nearly every morning for months, I passed through the huge double doors and stepped into the spherical silence of this 2,000 year-old work. Each day, its appearance varied with the dramatically changing shaft of light that passed through the open occulus. On rainy mornings, the cylinder of downpouring light contained flashes of raindrops reflected as they slowly fell to the floor and drained into the ingenious marble pavement grooves, which led into the ancient drainage system. The guard would rope off the circular area where rain fell to keep back distracted tourists. A hazy day rendered the light from the great round orifice more visible, like a solid cylinder of morning sunlight.

The surrounding city fabric, with its various buildings crumbling stone walls, and haphazard, moat-like spaces filled with sleeping cats, stood in astonishing contrast to the pure, hollow interior. Its silent clarity, ordered by light and darkness, embraced my imagination with its abstract inversion of interior and exterior space. Simple Roman brick arches, embedded in thin, flat exterior brickwork opposed the complex, curvilinear stone coffering of the dome's interior.

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Visiting the great space again, twenty years later, I lay my head on the cool, expansive marble floor and, near the perimeter, noticed (for the first time!) its mysterious, extremely shallow convex form rising dome-like to a height of one meter. As if the force of history could change time to weight, this sloping floor seemed to express the gravity around the drum, slowly pushing into the earth; a phenomenal intertwining of material structure and time.

After leaving Rome in 1970, I travelled with a fellow student to works of modern architecture across Europe. Arriving at the foot of the hill where the Chapel of Ronchamp stands, we decided to sleep beside the car in order to visit the building at sunrise.

Walking up the long, curving forested path the next morning, we arrived at the chapel to find its large pivoted door open. The monks had already finished their morning ritual, and we stepped into the empty space along a wash of sunlight. It was completely silent inside, except for the crackling of can-

dles, all of which were mysteriously aglow. Above contrasting textures (extremely rough plaster against concrete) the concave ceiling appeared molded by light, space, and the upward thrust of the thick walls, in counterpoint of curve-reverse curve. I remember the joy of stepping into a rough plaster niche and reading the words "la mer" freely painted in black on the thick, green cast glass. The red light that filtered down from the vertical shaft above one of the three small chapels seemed alive, almost fluid. Each of the three chapels, which stood distinct from the nave, had a different type of light captured by 22m half-dome scoops. On a recent visit, I noticed in each chapel a large, open bible in a different language: English, French, German. But, this time, the tour-bus crowds milling about diminished the personalized experience that had revealed itself on that dawn visit in 1970.

The inclined floors, following the natural slope of the hillside, engaged body movements, as well as the bulging curvilinearity of this warped space. And the extremely thick walls — actually large boxes holding rubble from the war-bombed chapel which formerly occupied the site — seemed to haunt the massive, sculpted form.

Ronchamp's paradigm of light and space is nearly the inverse of the Pantheon. While one has a mysterious, asymmetrical rhythm in a concave, curvilinear space scattered with color (from the thick blue and yellow cast glass to the enamelled steel door mural), the other is a symmetrical abyss, a hollow purity in black and white. In the Pantheon, a disk of white light is cast as the sun travels along its interior in slow, celestial rhythm. The discontinuous, curvilinear spaces of Ronchamp still seem to point in an optimistically new direction, while the authoritarian purity of the Pantheon remains sublimely ancient. If one refers to the future, the other speaks of the time before time; an empty time or at least a prodigious stone instant that keeps questions of time open. In each building, thought and perception seemed balanced; here phenomena felt equal to the power of the ideas.

In Kyoto, Japan, the poetic strength of paper and wood architecture can be as compelling as the masonry architecture of Ronchamp or Rome. On two occasions, several years apart, I had the good fortune to visit the Zen Gardens of the Ryoanji Temple. My first encounter was on a cold January morning. Upon entering the temple grounds, we placed our shoes, as required, in a wooden shoe rack and stepped onto the well-worn floorboards of the temple. I realized how cold it was as I moved through the paper-screened walkway and felt the cold boards through my thin cotton socks with two icy holes. At the edge of the main garden, with its seventeen upright stones in a field of immaculately raked white gravel, only the vapor of our breath broke the stillness. The wide-boarded platform was perfectly proportioned for sitting cross-legged in the upright posture of monks. From our central position at the garden's edge, we could visually measure the distance between the upright stones, each separated by the length of an outstretched arm and hand according to perspective and foreshortening. The abstraction of this place, with its extreme minimalism and horizontal orthogonality, seemed to transcend culture, history, and the limits of time.

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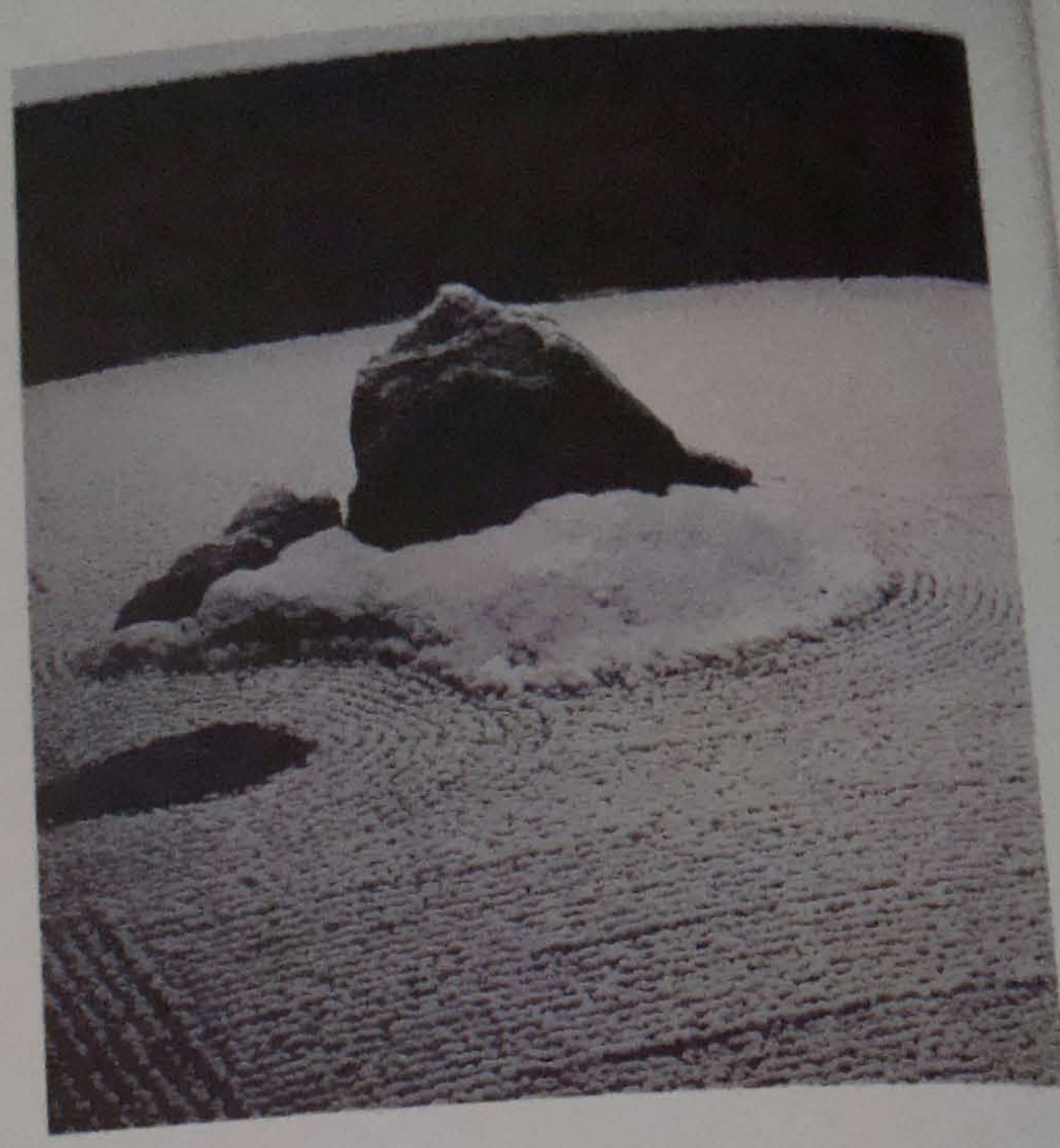
The inclined floors, following the natural slope of the [illegible] body movements, as well as the bulging curvilinearity of the [illegible] And the extremely thick walls — actually large boxes [illegible] the war-bombed chapel which formerly occupied the site — [illegible] haunt the massive, sculpted form.

Ronchamp's paradigm of light and space is [illegible] Pantheon. While one has a mysterious, asymmetrical rhythm [illegible] curvilinear space scattered with color (from the thick [illegible] glass to the enamelled steel door mural), the other is a [illegible] hollow purity in black and white. In the Pantheon, a disk of [illegible] cast as the sun travels along its interior in slow, celestial rhythm. [illegible] continuous, curvilinear spaces of Ronchamp still seem to point [illegible] mistically new direction, while the authoritarian purity of the Pantheon [illegible] remains sublimely ancient. If one refers to the future, the other [illegible] the time before time; an empty time or at least a prodigious [illegible] that keeps questions of time open. In each building, though [illegible] tion seemed balanced; here phenomena felt equal to the [illegible]

In Kyoto, Japan, the poetic strength of paper and wood [illegible] as compelling as the masonry architecture of Ronchamp or Rome. [illegible] occasions, several years apart, I had the good fortune to visit the [illegible] Gardens of the Ryoanji Temple. My first encounter was on a cold, [illegible] morning. Upon entering the temple grounds, we placed our shoes, as [illegible] required, in a wooden shoe rack and stepped onto the cold wooden [illegible] boards of the temple. I realized how cold it was as I moved through the [illegible] paper-screened walkway and felt the cold boards through my thin cotton [illegible] socks with two icy holes. At the edge of the main garden, which is [illegible] teen upright stones in a field of immaculately raked white gravel, [illegible] vapor of our breath broke the stillness. The wide-boarded platform [illegible] perfectly proportioned for sitting cross-legged in the upright position of [illegible] monks. From our central position at the garden's edge, we could [illegible] measure the distance between the upright stones, each apparently [illegible] length of an outstretched arm and hand according to perspective and [illegible] shortening. The abstraction of this place, with its extreme [illegible] and horizontal orthogonality, seemed to transcend culture, history and the [illegible] limits of time.



The rock garden was framed by a low rectangular wall of "boiled clay," which had a wonderful uneven pattern like clouds in a watercolor. The wooden decking was so old that time had raised its grain, and these wrinkled ridges could be felt, like an ancient, shrivelled monk whose bones showed through his skin.

Although the paper screens in the temple were pulled shut, the dim glow of light filtering through them illuminated black and white sumi ink paintings, which covered some of the interior walls. Inside, I remember wonderful smells from the freshly woven tatami mats.

After spending the morning there, we visited a nearby restaurant which, like the entire temple district, dated from the 1500's. Here, in keeping with the traditional temple diet, only tofu was served - but prepared in many different ways. A clay pot and burner were placed at the center of our table. As women in kimonos boiled the tofu before us, steam rose toward the ceiling in the winter cold.

Six years later, I was fortunate enough to return to Kyoto and revisit the Ryoanji temple. I remember my excitement and anticipation in approaching these spaces again; I felt possessed by their subtle power. But now it was late August, and the visit could only be arranged in the very hot, humid afternoon. Superficially Ryoanji was the same place, but my experience was extremely different. This time, all the paper screens were opened to allow breezes through the buildings. The interior spaces adjacent to the

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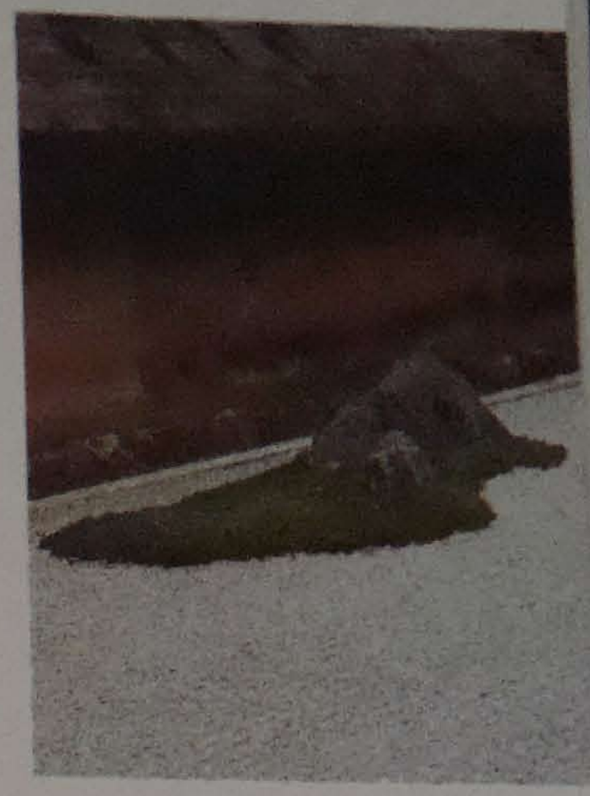
gravel Zen gardens now offered overlapping views. As I walked past the open rooms, the views shifted [orthogonally] in an unfolding parallax of spaces — much like Mies van der Rohe's Barcelona Pavillion. The sumi ink paintings, which were now exposed, seemed part of the breeze blowing through the building and cooling the spaces in the August heat. Their cool blue-black curving brush strokes came alive.

I noticed many sounds — the roaring cicada and ringing gongs — which had not revealed themselves during my winter visit, six years earlier. Like a projective lens, the hypnotically abstract spaces of Ryoangi magnified seasonal changes. The spatial-material seasonal connection seemed so intense and subtle as if it were revealing some hidden, vital force: a life-principle illuminated through the phenomenology of architecture. Merging and shifting perspectival views, details of joinery, the textures, smells and sounds all combined and expressed in this architecture of gravel, paper, and wood.

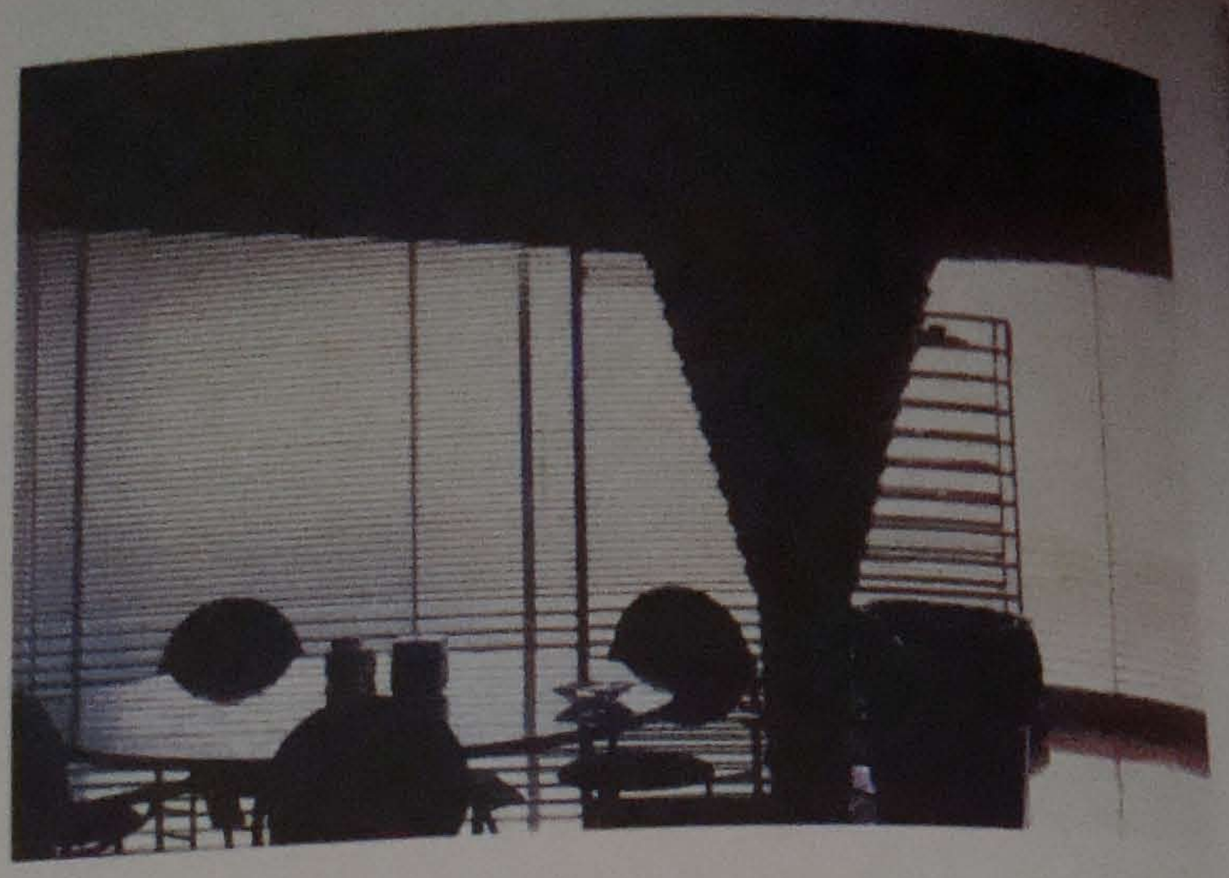
The temple and gardens of Ryoanji stand as a perpetual testament to the poetic intensity which — through subtle and inspired composition — can invoke mesmerizing and uplifting experience without excessive monetary or material means.



After the August visit, we returned to the tofu restaurant. Now we sat outside in the summer heat, and the tofu was served on a block of ice. In a green pond beside us, huge, orange carp stared silently, their mouths agape. The sesame tofu, which was the green color of fresh tatami mats, was delicious. I sensed the same poetry of the simple paper and wood architecture in this modest material of tofu, so carefully and inventively transformed.

In Racine, Wisconsin, Frank Lloyd Wright, an architect deeply impressed with the nuances of Japanese culture, built a great modern workspace for the Johnson Wax Company. Visiting this fifty year-old complex, I was struck by the impeccable maintenance of the buildings, still functioning as workplaces according to the original design. With rapid shifts in modern society, technological and commercial changes have boxed most workplaces into the callous expedience of "square footage." At Johnson Wax, the architectural impact is so positive; and the local economy so depressed that the company has a waiting list of eager applicants, even for its most menial assignments. There is very little staff turn-over.

Sited in an otherwise characterless part of town, the building facades inventively incorporate smooth brick and glass tubing. (While Wright's



houses, following his theoretical essays, organically extend outward into the gardens, Johnson Wax, like many of his public buildings, focuses inward.)

Entering from below, through a low — characteristically Wrightean — space, I suddenly emerged, feeling an emotional outburst, into the large, luminous central work area. The dramatic contrasts of low/high and dark/light, however, are muted in the details. Translucent light filtering through the bends of glass tubing wash all sides of the delicately tapered mushroom, "tap root" columns. Instead of the conventional beam/slab/column relationship, these wonderfully strange columns with their round, broad capitals support a sky of glass tubes. In the tiny, brass, cage-like elevator, I was amazed by the delicacy of detail. Once inside it, you enter the spirit of this cylindrical bird cage, which rises with a view to the grand space.

The furniture also bears the evocative, rounded geometry, as expressed in the rhythmic repetition of its curved horizontal bars. The rotating desk drawers — which I discovered with delight — and the round-backed chairs carry the inventive energy that inhabits all the spaces of this building. In the cafeteria, the quality of light, filtering through an immense glass-tube wall, was clear and shimmering with horizontal reflections. Here I felt the building had not merely turned inward, but actually created an new type of inner space between outside and inside.

The Johnson Wax complex, an exhilarating work of architecture, transferred high ideals of a new workplace to the workaday world of Racine, Wisconsin. Unlike the typical office building, with executives on the perimeter by the windows and secretarial workers in the dark center, all work activity enjoys the central area transformed by space and light.

During the same time period as Johnson Wax, the poet William Carlos Williams began his epic poem Paterson, in which he claimed "a man is himself is a city, beginning, seeking, achieving and concluding his life in ways which the various aspects of a city may embody." In this restless epic, Paterson became both a symbolic figure of Everyman and the crumbling city of Paterson, New Jersey. Williams' poem argued for locale as the only universal on which art can build. As a master of phenomenological nuance himself, Williams wrote, "no ideas but in things."

A city, like a work of architecture, can be powerfully inspirational when its spaces, materials, and geometries form a whole more stimulating than its individual parts. My personal experience in Ferrara, Italy, was charged with the same strange emotions I sensed in the metaphysical paintings of Carra and DeChirico, which often depict enigmatic fragments of this city.

As soon as I left the station area and penetrated the old city, fantastic qualities of urban perspective began to reveal themselves. The surreal quality of light and multiplicity of vistas seemed mysterious and ambiguous. DeChirico's painting and Ferrara reminded me of Gaudi's architecture and the city of Barcelona, which are metaphysically inseparable, phenomenologically intertwined.

In Ferrara, I even sensed the strange undertones in the hotel room, where yellow and brown floral wallpaper covered the four walls from floor to ceiling. The little mirror over the sink reflected the pattern from the opposite wall — but at fifty-percent reduction. The single picture on the wall was a small, strange image of a woman placing a vase of flowers on a ledge. Only one eye showed behind the flowers.

I spent a restless night in this room. The economy of the hotel showed itself at 5:30 AM with noises of a whorish kind in the hallways. A mosquito buzzed by my ear for hours. At 4:45 AM, a bird in the courtyard began to sing, but this bird could not really sing. Its awkward, but enthusiastic, sound reminded me of an old man whistling in imitation of a bird. A few minutes later, the light of dawn roused a regiment of birds of every pitch and cadence, accompanied by the low "whoo-whoo" of pigeons playing bass.

I got out of bed and sat down at the small table in this wallpaper-sheathed room. Even this wooden table had a piece of wallpaper under its glass top. In the repeating pattern, I noticed, among thousands of flowers, two birds perched together. As I began a watercolor in the twilight dawn, an old man in suspenders opened the courtyard gate and shuffled out with a small orange dish. A grey and white cat bounced behind him.

Outside, the huge clock on the Castello Estense (c. 1385) struck 6:00 AM, and long streaks of sunlight cast dark, curved shadows beneath the buttressed arches of the umber stone wall. From the castle moat, still water projected wavering sunlight on the underside of arches, as the adjacent spaces received their first wash of morning sunlight. Slightly absurd local traditions, such as the rowboat race in the castle moat seemed to fit perfectly in this puzzling, but contented, place.

When the city awakened fully, by 9:00 AM, I noticed the tremendous number of bicycles. (Ferrara sits on a nearly flat site near the Po River.) Old, semi-rusted bikes moved in every direction, carrying people of all ages. At one point, two nuns in black led a priest, who leaned back and smiled as he peddled.

The Palazzo Diamonte, with its huge diamond-shaped stones, and other buildings unique to the fabric of this city still fit within an urban geometry split between modern and ancient sections. Exploring this remarkable city, I encountered hidden vistas and discovered such curiosities as the large, covered stair winding up from Piazza Municipio. As I moved down this stair, with its huge open arcaded side, diagonal views unfolded in descending variations, continuous with the light and space of the rectangular piazza below. Although I spent only a few days in Ferrara, I remember it as if it were a single work of architecture with a mesmerizing array of vistas and perspectives, all created, through human effort, on a flat, featureless site.

A city is never seen as a totality, but as an aggregate of experiences, animated by use, by overlapping perspectives, changing, light, sounds and smells. Similarly, a single work of architecture is rarely experienced in its totality (except in graphic or model form) but as a series of partial views and synthesized experiences. Questions of meaning and understanding lie between the generating ideas, forms and the nature and quality of perception.

Several structures, which form a whole quite different from Ferrara, exist in the abandoned city of Uxmal on the Yucatan Peninsula in Mexico. Here the hilly landscape — with vistas and alignments framed by the architecture — plays a major role in the experience of the place. After a short flight from New York City to the town of Merida, I drove a rental car southwest toward Uxmal. Within twenty minutes, I had entered a wilderness of low shrubs, surrounding the two-lane road. I tried to turn on the radio, but there were no stations. En route to Uxmal, I passed through sev-

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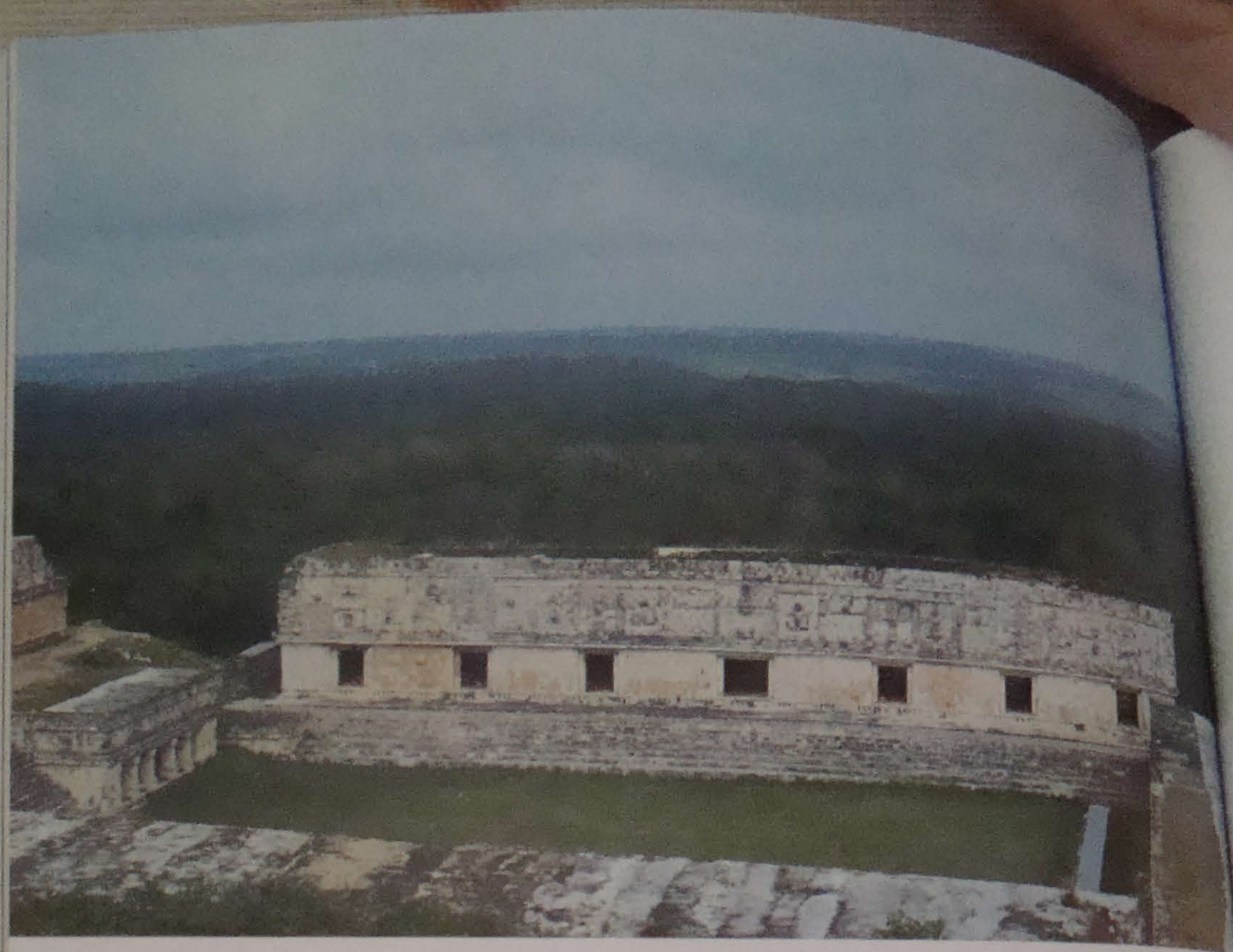
eral ragged villages and small, marginal towns. Sad-faced children approached the car with outstretched hands. To give them change, I realized, would be a signal for many more to come running. Driving on, I noticed a recurrent house-type: a one story lozenge-shaped structure with rounded ends and a thatched roof. The same hut-form reappeared in varying materials, including corrugated metal and concrete block, as if an ancient primitive hut were repeatedly reconfigured for modern contexts of concrete and glass.

After leaving the car at "Hotel Uxmal," the only accommodation in this desolate town, I walked towards the ancient city. As I approached it, high constructions including the "Pyramid of the Magician" towered above the surrounding trees. Since it was off-season, no tourists were in sight as I reached the first flat, open area between buildings. Everything here was constructed to conform with horizontal geometrical alignments, even where the ground drops away into small valleys. As I stood in the clearing, the structures hauntingly faced each other in silence. The topographical undulations appeared punctuated by these ceremonial stone constructions, which orchestrated a continuity of views and passages in alignment with solar positions. Here architecture and site were phenomenologically linked.

I began one walk at the "House of Turtles," the highest point in the city, from which I could see the great "Courtyard of the Nunnery" in the distance. Moving towards it, I followed the wall down into the valley and through a stone ball court on axis with the path. Then, as I ascended the facing hill, one side of the courtyard elevation came into view from a low angle.

A shadowy triangular arch in shadow, the main entrance to the great courtyard offered passage through its thick wall. As I rose on a slope within this passage, wind and shadows seemed to meld. Abruptly I emerged into white sunlight, which illuminated a huge square court surrounded by golden-yellow stone buildings. On three sides of the court, the buildings appeared long and low with almost no openings; on the fourth side, facing south, a structure of the same type sat on a rise of stone steps.

As I walked into this square, simply proportioned courtyard, storm clouds formed overhead, creating an ominous, blue-black background to the light yellow stone. Suddenly the storm broke overhead, and rain crashed down as I ducked through one of the doorways into a dark cell. The aligned stone cells, each with a single doorway, faced the courtyard. Inside, they were cool and dark with a musty smell. As I took cover from the downpour, I heard a strange rustling from the stone vault overhead. In an



instant, a flock of bats flew out the doorway, and I followed since the rain had nearly stopped. The screeching and quivering of these bats seemed to speak as souls of the Mayans. The precise function of these buildings, much studied and debated, is still unknown. (It is lost in a network of "functions" as deep as time.) But, in the following detail, I sensed a trace of this unique place up to the present inhabitants of the Yucatan Peninsula. On stone lintels over the repeating rectangular doorways, I noticed carved bas-reliefs of the same lozenge-shaped house type of the present-day villages. When I saw this form again, now monumentalized as a motif over a doorway of "unknown" function, I thought of the inner space of this "vanished" people and the world's inner space - the persistence of origins.

In these temples no longer fully understood, deities no longer worshipped, and cities no longer inhabited, we have lost a vital connection. I am most interested in those transcendent principles through which today space, light, and matter engage the body and imagination. A twentieth, instead of fourteenth, century example of a place where the architecture and landscape also merge is the Säynätsalo Town Hall, designed by Alvar Aalto. Here the synthesis is similarly mediated by a horizon line, which shifts with ascending and descending paths.

In 1991 I was invited by Christian Gullichsen to the Aalto Symposium, an event held every three years for debate, philosophical discussions, and special visits to the works of Aalto. Before going, I remember Kenneth Frampton's words: "You must attend, it will change your life."

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We visited many Aalto buildings, all of which seemed extremely well maintained. Traveling by boat up a vast lake from Lahti to Jyväskylä in central Finland, we stopped for an afternoon reception at Aalto's experimental summer house.

Mrs. Aalto, still vibrant, received us at this remarkable, little courtyard house on the edge of the lake. The collage of different brickwork of the courtyard interior, the white-painted exterior, and strange trail of out-buildings, which ended with a traditional rough-log sauna, were very moving. This modern composition, set in the cool lake breeze, stepped back chronologically, building by building, to Finnish origins. For me, however, the most impressive Aalto work was the small government complex for the island town of Säynätsalo.

The Säynätsalo Town Hall, built in 1952, is extraordinary for its modesty of means and largeness of effects. With brick and wood structures grouped around a grassy courtyard, Aalto instantly created a social center with the symbolic power and experiential gentleness of small towns, which evolved elsewhere over hundreds of years. Clearly he envisioned the primary purpose (to provide the town officials with offices, administrative facilities, a council chamber, and meeting room) with hundreds of "secondary effects" in mind. In architecture, one might argue, secondary effects may be more experientially important than primary effects. Nonetheless, the primary purpose — the building program — had to be balanced against a multitude of secondary considerations, the phenomena of material, space, detail, etc.

A series of grassy, wood-edged steps, spilling freely from the courtyard, led up to the complex. The perspective of this approach initially denied me a view of the grassy courtyard floor, which hovered above the horizon line. As I ascended, the spatial perspective simultaneously unfolded horizontally and vertically. The courtyard could be entered, on one side, along the nearly windowless, yet plastic, brick form of the main meeting room and, on the opposite side, by a low wing of offices. This experience of arrival was intensified by the sunny day with its play of shadows on the green grass.

My walk from the enclosed elevated courtyard — effectively an "inside" space — into the public interior passage revealed an array of simple materials, exquisitely detailed. The transition from the brick-walled exterior to the brick-flooted interior affirmed the wholeness of this sculpted form. Throughout the complex, carefully designed, wooden fittings and furniture reinforced the primary materials and massing.

The council chamber, the main meeting room, was washed in dim, rather mysterious light, but the wooden fittings against the brick walls made the atmosphere warm and inviting. The famous fanned wooden trusses, supporting the roof boards, spread overhead like a peacock feathers in a joyous, almost humorous, gesture.

Everywhere small details, filled with vitality, reinforced the initial commitment behind this architecture. I heard from a guide the story of the niche, made expressly for the Braque sculpture; but, since this impoverished island town could not afford the piece, Aalto donated it himself. And there were other stories, which detailed the commitment of Aalto's young apprenticed architects and affirmed the soulful nature of this modest project.

For me these "Archetypal Experiences" are not simply emotional encounters; nor are they strictly intellectual or academic...they are three and four dimensional pure "perceptions." By taking perception as a model for architectural thought, a student of architecture (which I strive to be) struggles to become a seer. The art of seeing brings a certain joy in engaging the revealing of the world. Yet it remains in our "perspective" from which we form our own visions.

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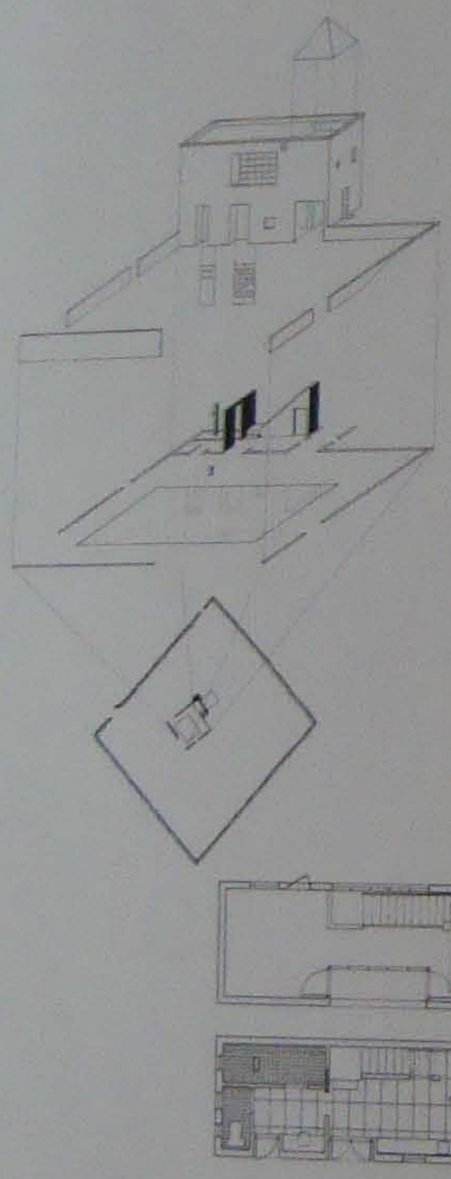
APPENDIX CONTENTS

POOL HOUSE AND SCULPTURE STUDIO
SCARSDALE, NEW YORK

1978-80

Program: A sculpture studio and bathhouse are sited next to an existing pool; the bathhouse provides an area for changing and refreshing; the sculpture studio that doubles as a guest room
Client: L. Rosen
Project team: Mark Janson, James Rosen
Major Materials: Concrete block, stucco, marble
Total floor area: 682 sq ft
Cost of construction: $80,000

CONCEPT: The project is organized with the idea of walls within walls. The site has a history that dates from the transference of property rights by King George in the early 18th century. The land is marked by stone walls that were used to define its boundaries.

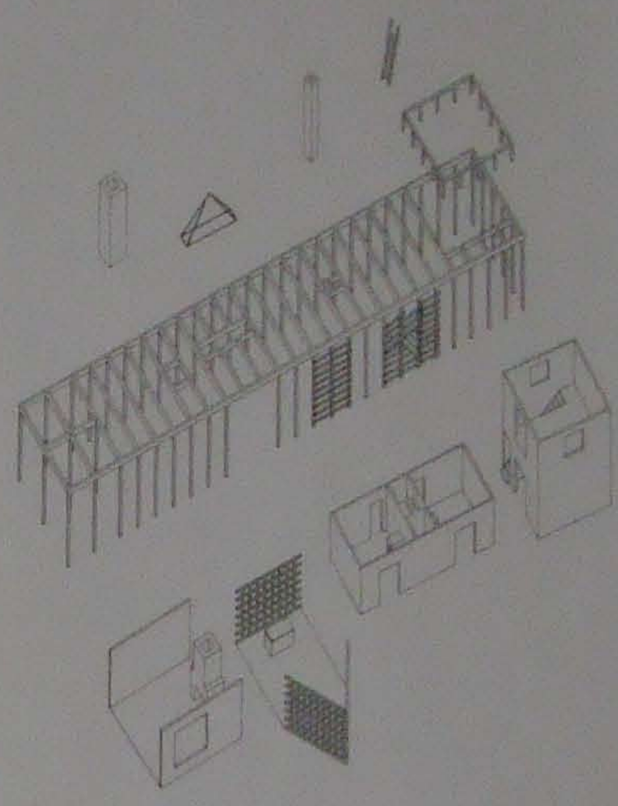


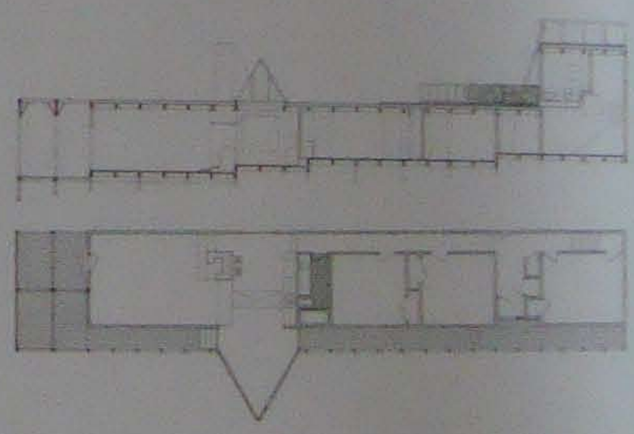
BERKOWITZ/ODGIS HOUSE
MARTHA'S VINEYARD, MASSACHUSETTS

1984-88

Program: Private residence
Client: Steven Berkowitz, Janet Odgis
Design years: 1984-88
Construction years: 1986-88
Project team: Peter Lynch, Ralph Nelson Peter Shinoda, Stephen Cassell
General Contractor: Doyle Construction Company
Major Materials: wood
Total floor area: 2,600 sq ft
Cost of construction: $275,000

CONCEPT: The concept evolved from a passage of Herman Melville's Moby Dick, which described bleached whale skeletons as frames for a primitive American house.





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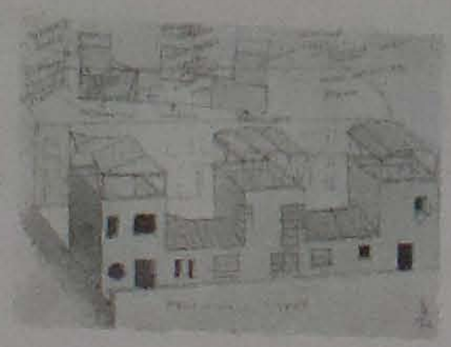
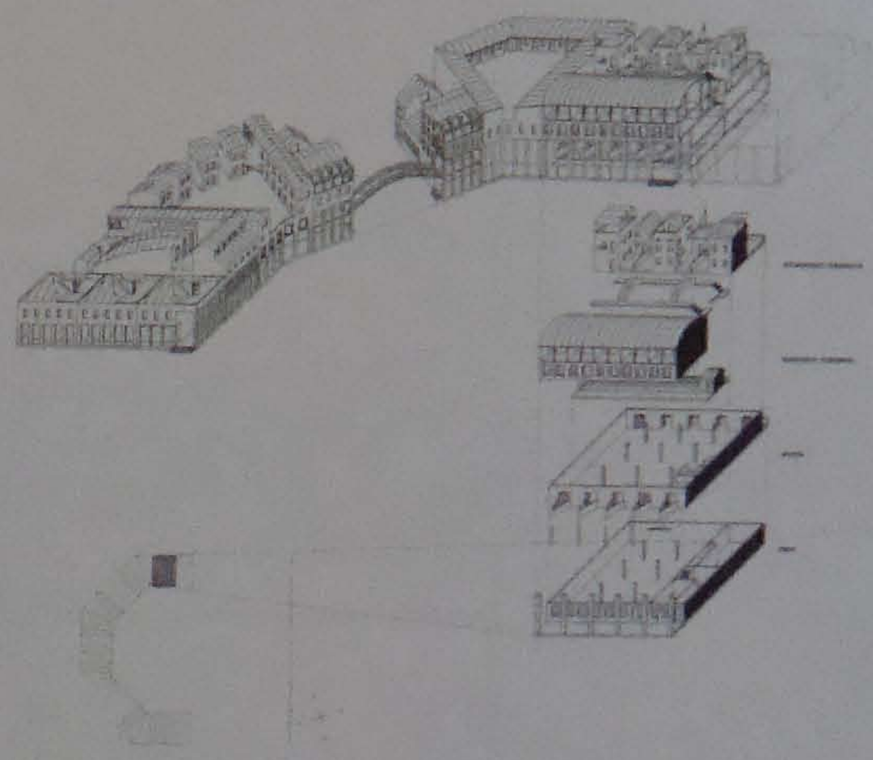
HYBRID BUILDING
SEASIDE, FLORIDA

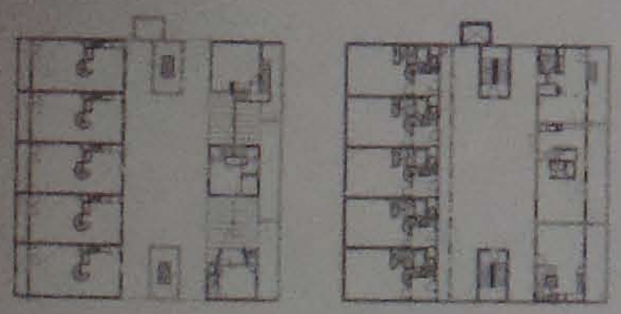
1984-88

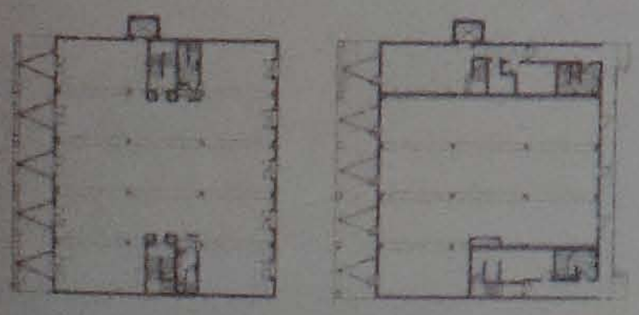
Program:	Building combining retail, office and residential uses
Client:	Robert Davis
Design years:	1984-85
Construction years:	1986-88
Principal-in-charge:	Steven Holl, Stephen Cassell, Lorcan O'Herlihy
General Contractor:	New Creation Builders
Major materials:	Concrete, stucco, metal, wood
Total floor area:	17,665 sq ft
Cost of construction:	$2 million

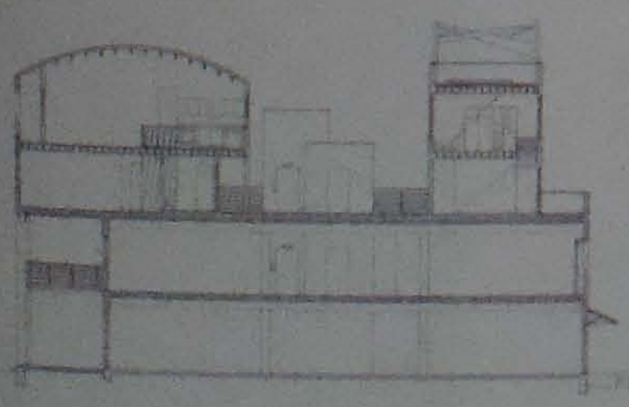
CONCEPT: The Hybrid Building expresses the idea of a "society of strangers." The building forms split at the upper levels into rooms facing the rising sun, for melancholic types, and rooms facing the setting sun, for boisterous types.

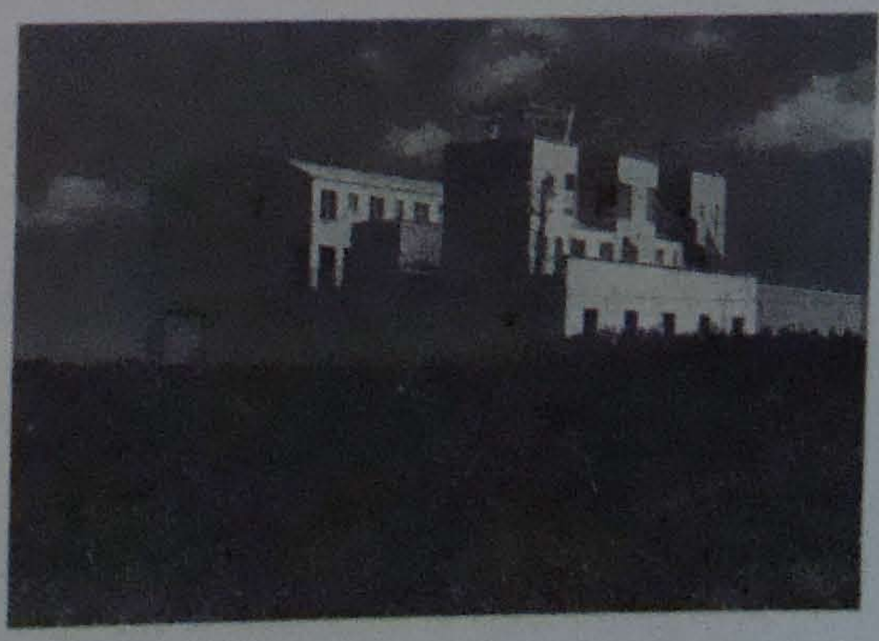










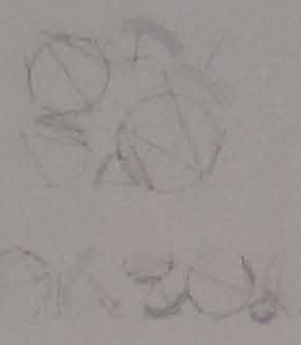


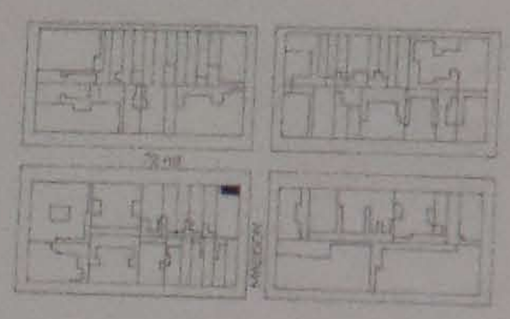
PACE COLLECTION SHOWROOM
NEW YORK, NEW YORK

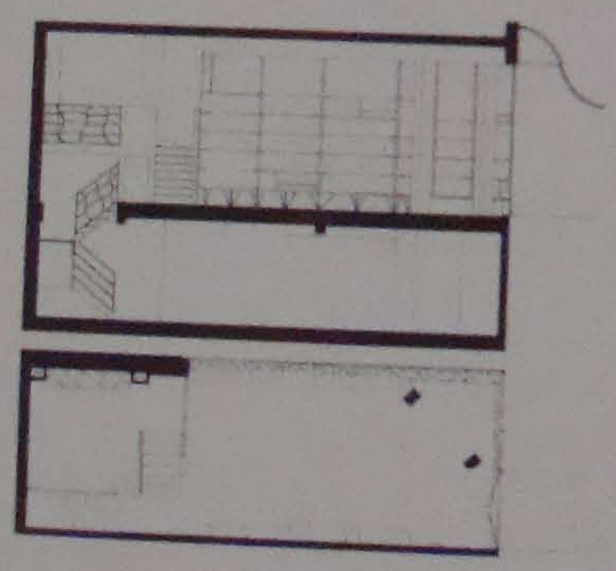
1985-86

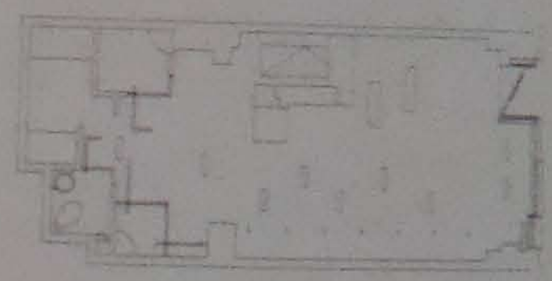
Program:	Commercial showroom
Client:	Pace Collection
Design Years:	1985-86
Construction year:	1986
Project team:	Peter Shinoda, Peter Lynch, Paola Iacucci, Donna Seftel, Tom Van Den Bout
General Contractor:	C.Clark Construction Company
Major materials:	Steel windows, integral color plaster
Total floor area:	1,200 sq ft
Cost of construction:	$110,000

CONCEPT: Intersections like Madison Avenue and 72nd street are counterpoints of fast against slow, stop against go. An idea of counterpoint characterizes the essentially linear architecture.









GIADA SHOWROOM
NEW YORK, NEW YORK

1987

Program:	Retail showroom
Client:	Giada
Design Year:	1987
Construction year:	1987
Principal-in-charge:	Steven Holl, Peter Lynch
General Contractor:	C.Clark Construction Company
Major materials:	Integral color plaster, brass, glass, terrazzo
Total floor area:	800 sq ft
Cost of construction:	$190,000

CONCEPT: The shop is situated with a large building above bearing down with more than gravitational force; economic pressure and time pressure together act as an invisible vise. The idea was to express the compression on the exterior and relieve it on the interior.

SHOWROOM
ORK, NEW YORK

1987

Retail showroom
Gisela
1987
1987
Steven Holl, Peter Lynch
C.Clark Construction Company
integral color plaster, brass, glass, terrazzo
800 sq ft
$190,000

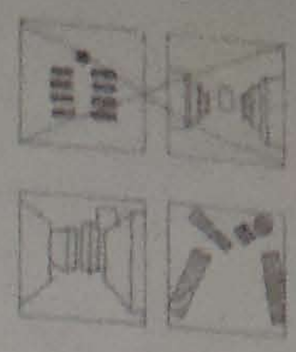
The shop is situated with a large ove bearing down with more than al force; economic pressure and ure together act as an invisible pea was to express the compres- exterior and relieve it on the interi

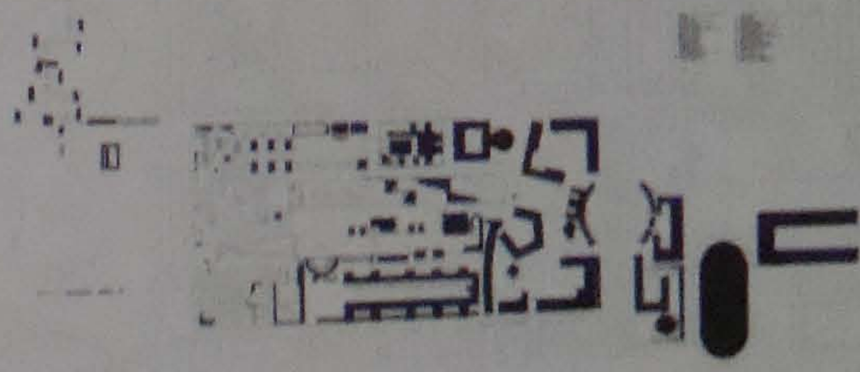
...ETA VITTORIA COMPETITION
...LAN, ITALY

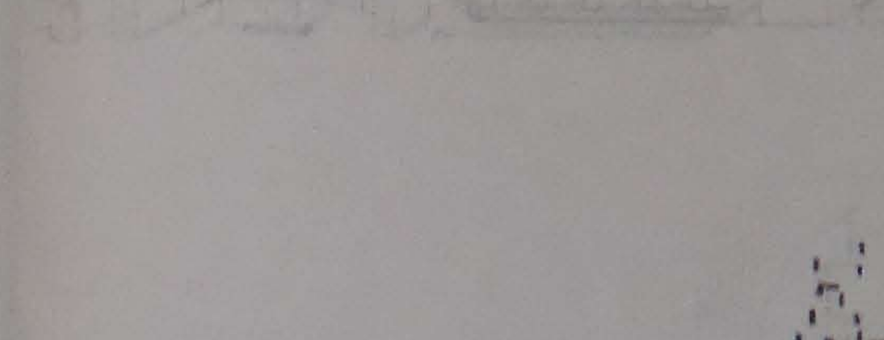
1986

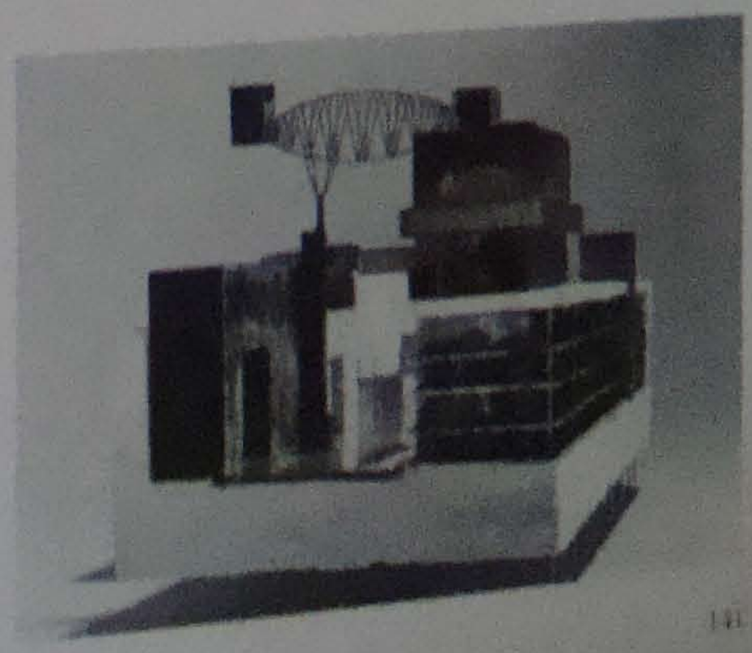
...ogram: Mixed-use buildings for ... new project that required forward-looking ...ntial urban plans.
...ors: XVII Triennale of Milan
...ge in charge: Steven Holl, Peter Lynch
...ject team: Jacob Allerdice, Laurie Beckerman, Meta Brunzema, Stephen Cassell, Gisue Hariri, Mojgan Hariri, Paola Lacucci, Ralph Nelson, Ron Peterson, Darius Sollohub, Lynnette Widder

...NCEPT: Perspective sketches of spatial con... are cast backward into plan fragments, ...ich are then reconciled in an overall layout. ...se spatial configurations are taken as evi... of a particular activity, clues for recon...ting a program.









PORTA VITTORIA COMPETITION
MILAN, ITALY

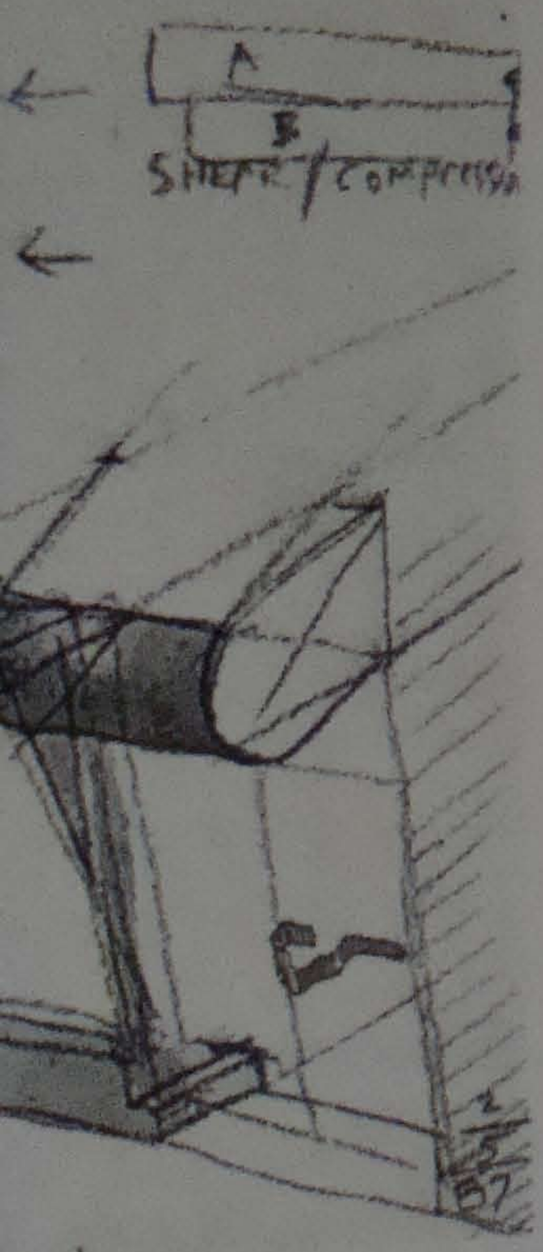
1986

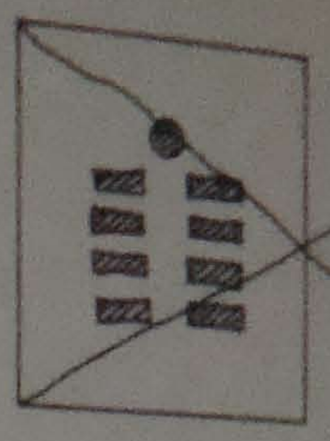
Program: Mixed-use buildings for an open project that required forward-looking, experimental urban plans.

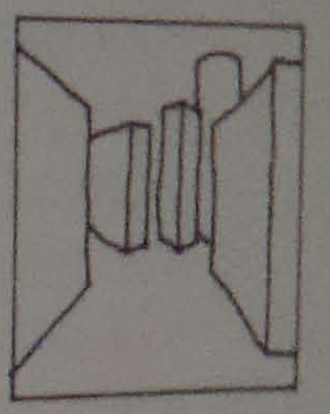
Client: XVII Triennale of Milan

Principal-in-charge: Steven Holl, Peter Lynch

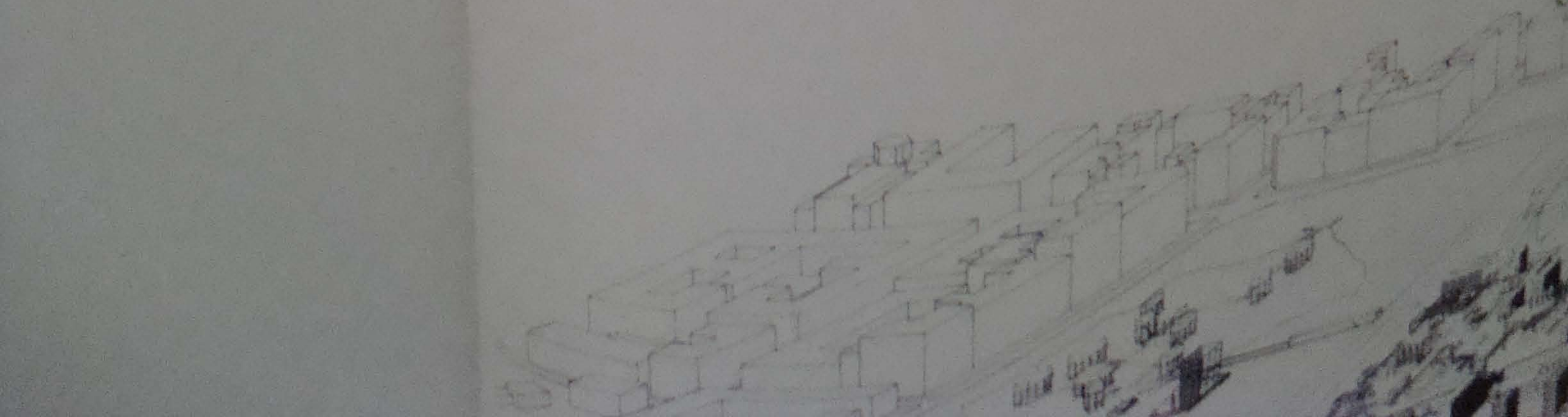
Project team: Jacob Allerdice, Laurie Beckerman, Meta Brunzema, Stephen Cassell, Gisue Hariri, Mojgan Hariri, Paola Lacucci, Ralph Nelson, Ron Peterson, Darius Sollohub, Lynnette Widder







CONCEPT: Perspective sketches of spatial conditions are cast backward into plan fragments, which are then reconciled in an overall layout. These spatial configurations are taken as evidence of a particular activity, clues for reconstructing a program.

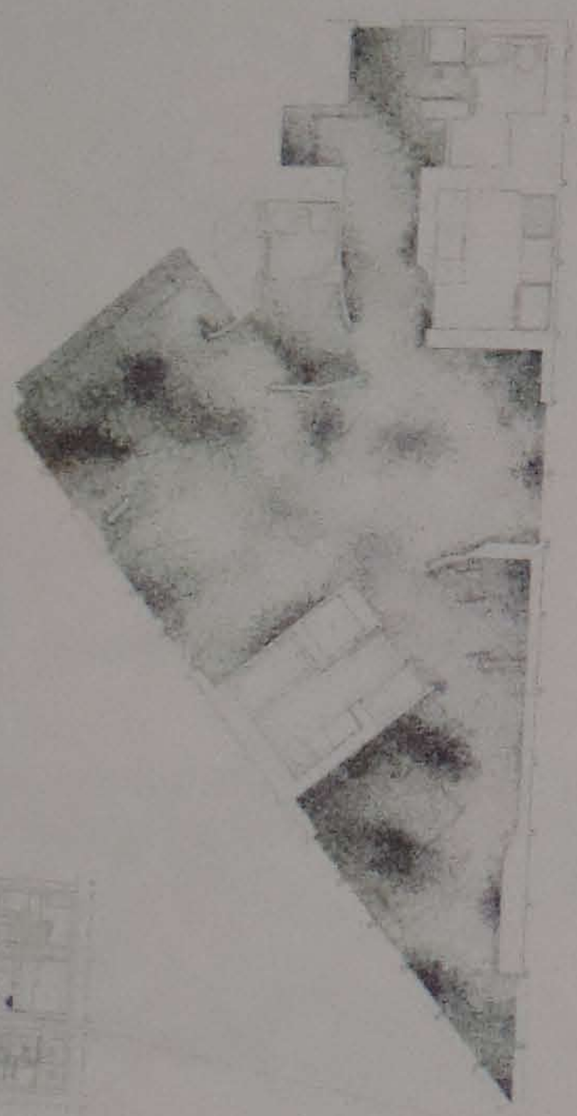


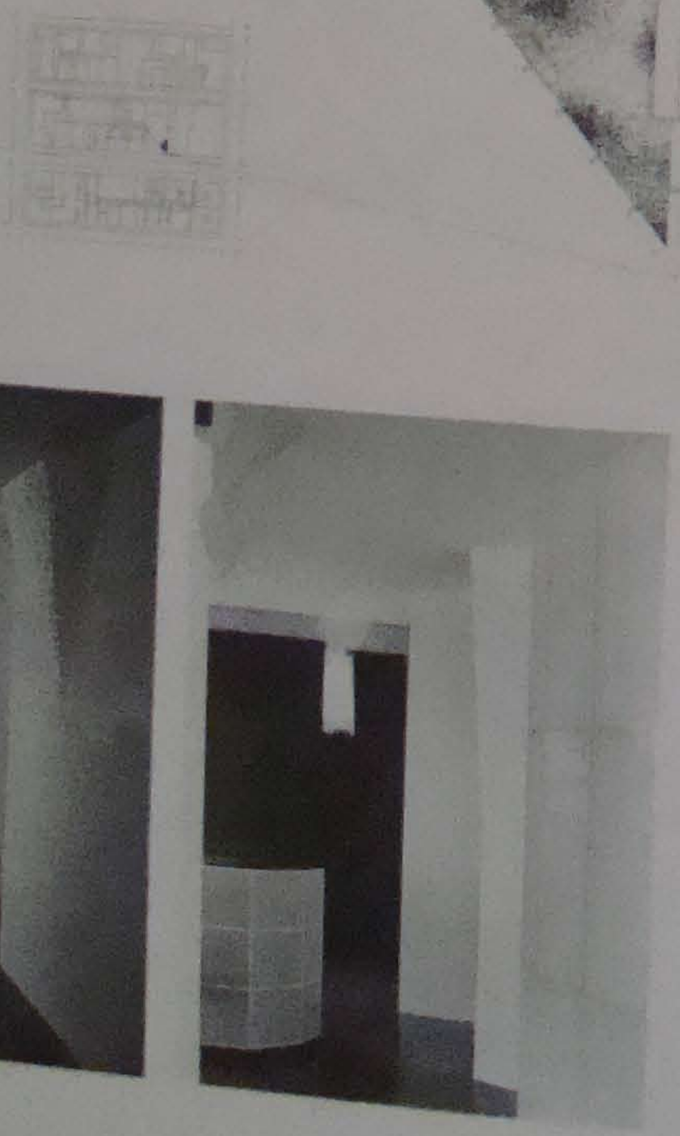
APARTMENT, METROPOLITAN TOWER
NEW YORK, NEW YORK

1987-88

Program:	Residential apartment
Design years:	1987-88
Construction years:	1987-88
Principal-in-charge:	Steven Holl, Stephen Cassell
Project team:	Lorcan O'Herlihy, Atsushi Aiba
General contractor:	Woodworks Construction
Major Materials:	Terrazzo, plaster
Total floor area:	1,200 sq ft

CONCEPT: The point that rises up between 57th and 56th street becomes the crucial character of the interior. Its shrill angle of 40° is analogous to a shrill sound high in pitch. The interior design is an intensification of this condition.





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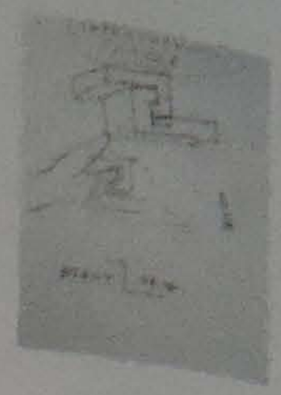
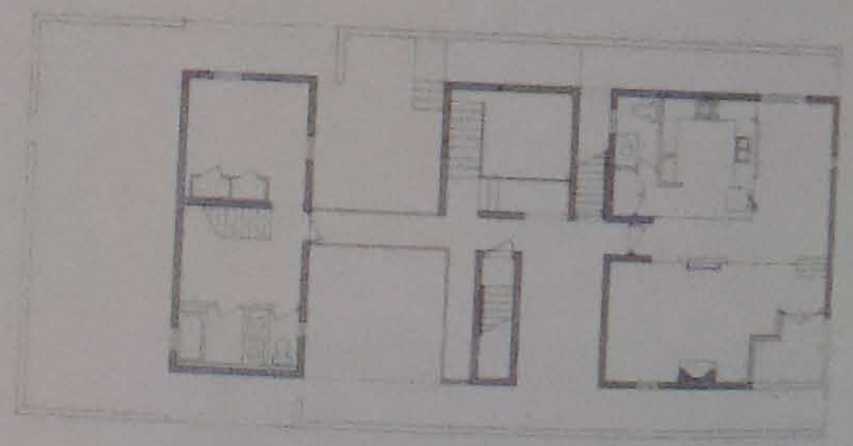
ABRAMS RESIDENCE
OXNARD, CALIFORNIA

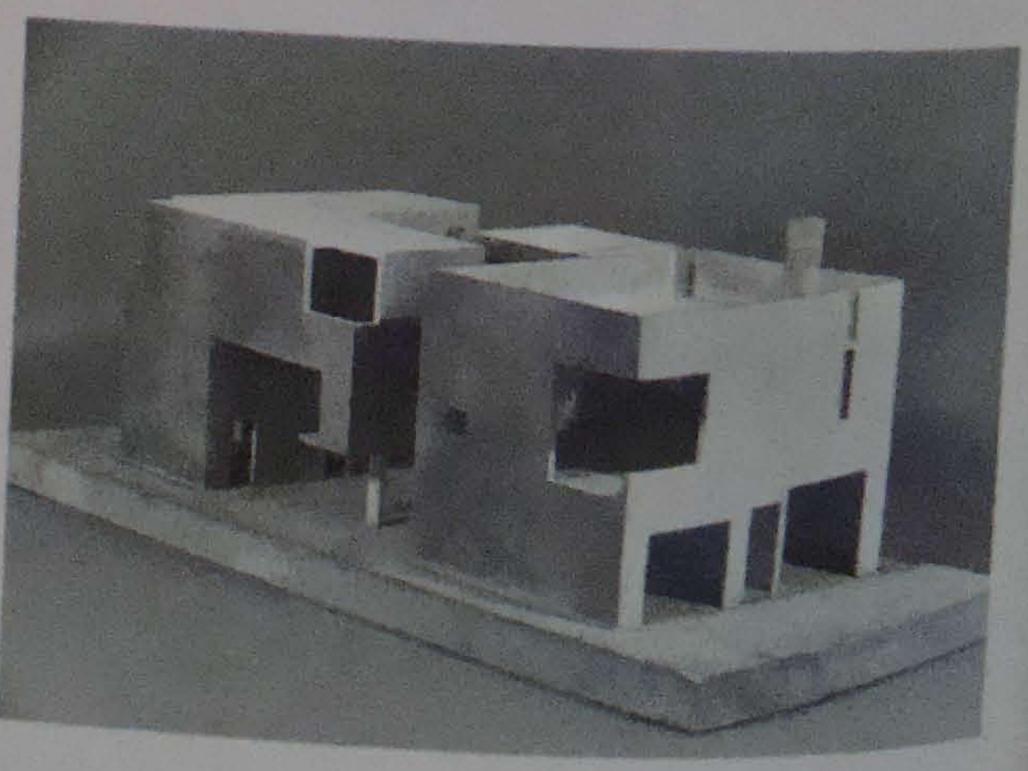
1988

Program:	Private residence
Client:	Abrams
Principal-in-charge:	Steven Holl, Lorcan O'Herlihy
Project team:	Richard Warner, Peter Lynch, Elizabeth Lerer, Pier Copat, Kent Hikida, Thomas Gardner, Patricia Bosch
Consultants:	Robert Lawson, structure
Major materials:	Concrete, steel
Total floor area:	2,000 sq ft
Cost of construction:	$250,000

CONCEPT: Interlocking solids define interlocking interior spaces in plan, and section, modulated by the passing arc of the sun.







1988

...sidence
...ll, London

...arner, Peter
...abeth Lefer,
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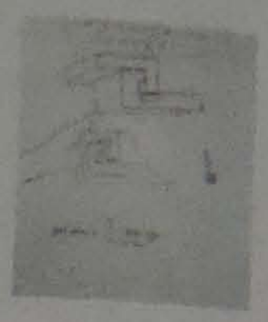


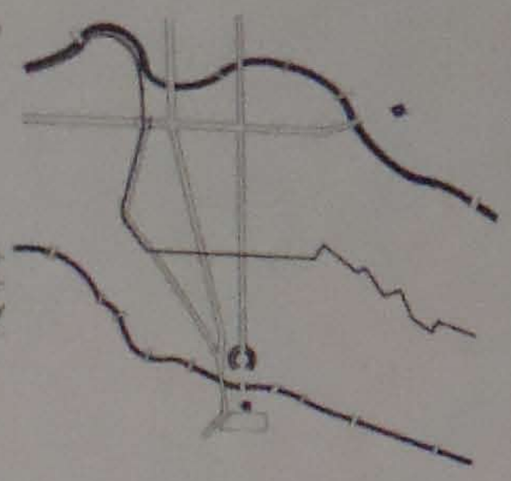
...EIN AGB LIBRARY COMPETITION
...EIN, GERMANY

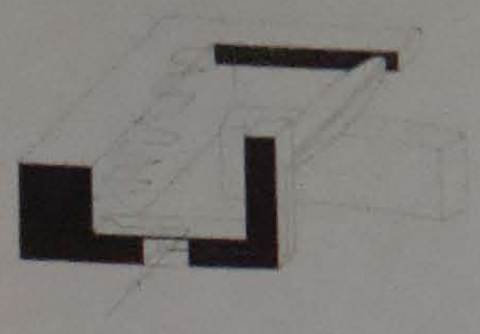
1988

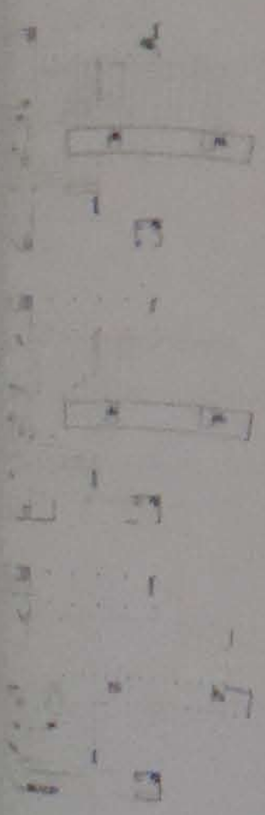
...open-
...ure:

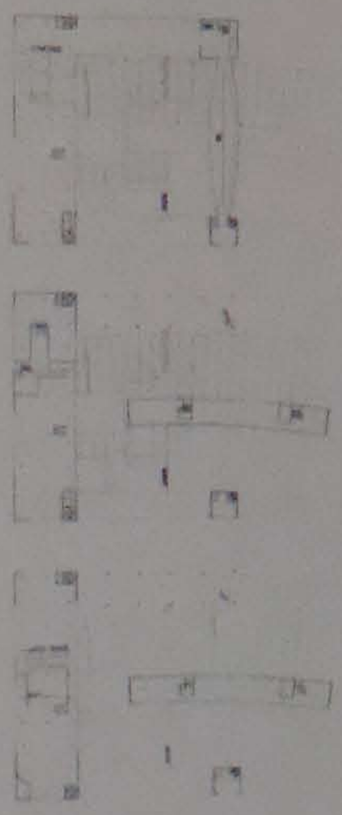
Open-stack library
Amerika Gedenk
Bibliothek
...ntects: Steven Holl, Peter Lynch
Guy Nordenson
...ctural system: Concrete frame, steel truss
...or materials: Concrete, sandblasted glass
...al floor area: 94,000 sq ft
...st of construction: $32 million

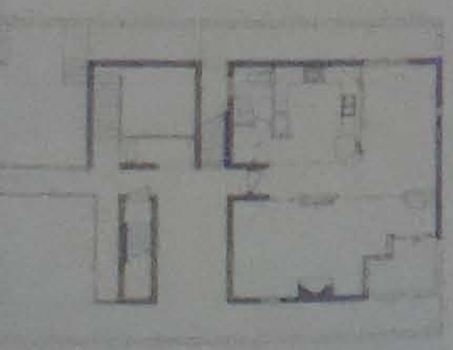
...NCEPT: The design extends the philosophi-
...position of the open stack - the unobstruct-
...meeting of the reader and the book - by
...posing the offerings along a browsing cir-
...ic.

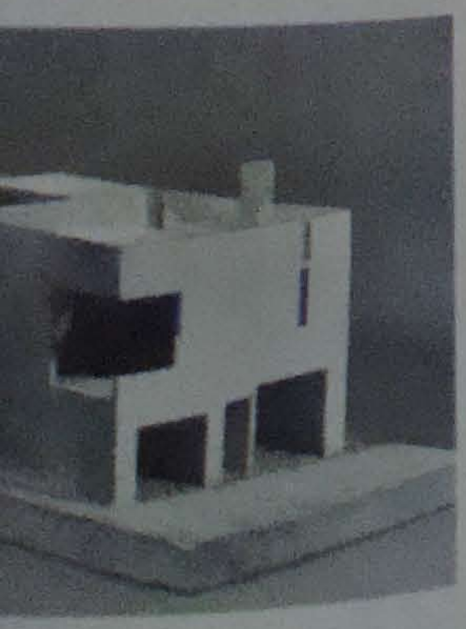


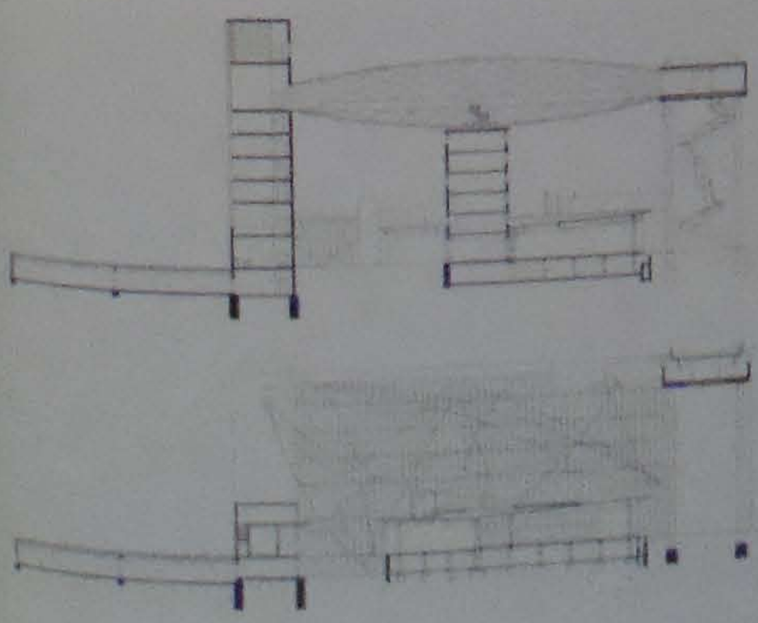


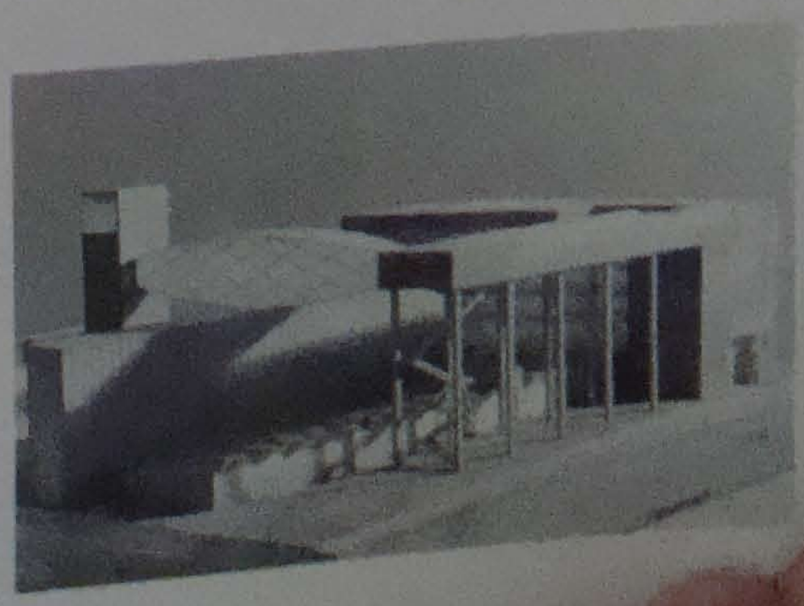










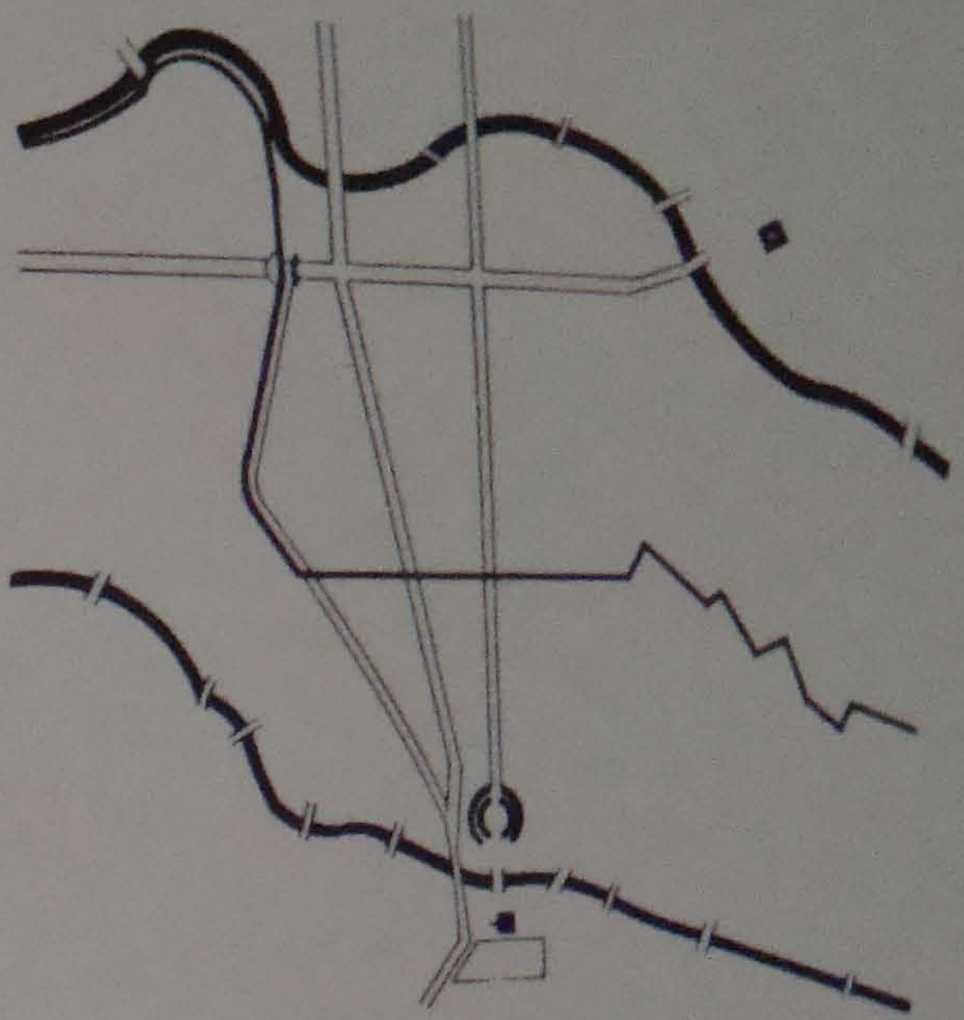


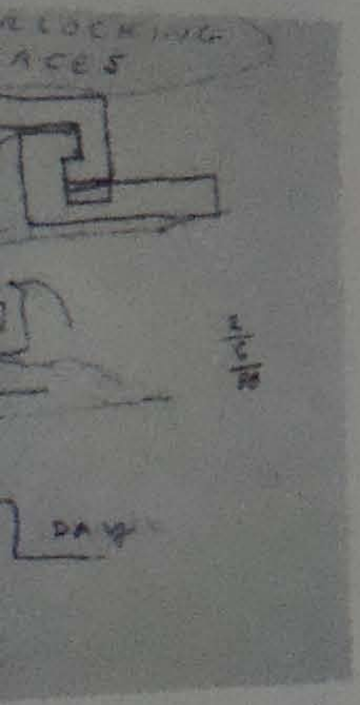
BERLIN AGB LIBRARY COMPETITION
BERLIN, GERMANY

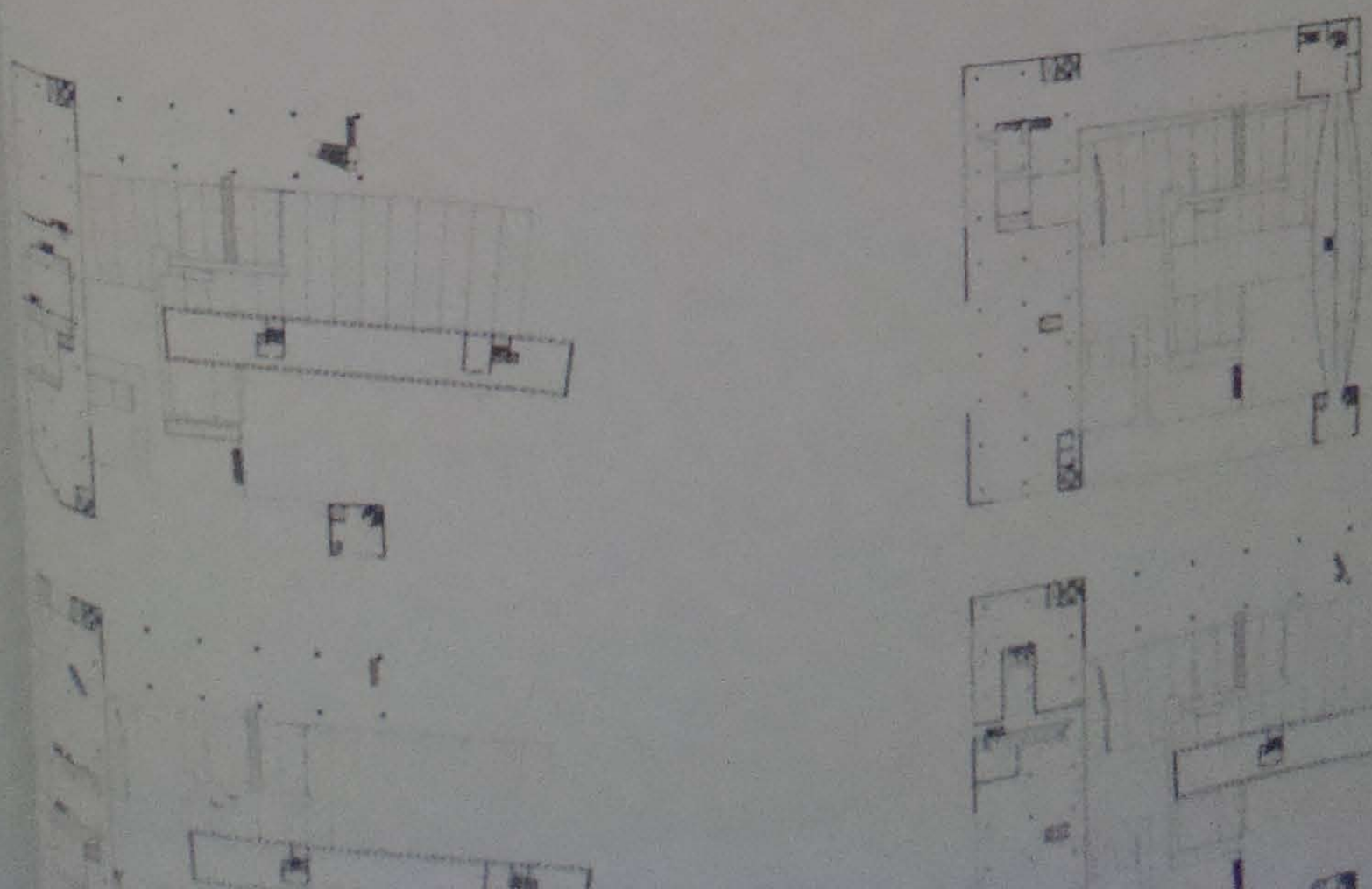
1988

Program: Open-stack library
Client: Amerika Gedenk Bibliothek
Principal-in-charge: Steven Holl, Peter Lynch
Consutants: Guy Nordenson
Structural system: Concrete frame, steel truss
Major materials: Concrete, sandblasted glass
Total floor area: 94,000 sq ft
Cost of construction: $32 million

CONCEPT: The design extends the philosophical position of the open stack - the unobstructed meeting of the reader and the book - by organizing the offerings along a browsing circuit.







COLLEGE OF ARCHITECTURE & LANDSCAPE ARCHITECTURE 1988-91
UNIVERSITY OF MINNESOTA, MINNEAPOLIS, MINNESOTA

Program: 90,000 sq ft addition to the School of Architecture University of Minnesota

Client: Steven Holl, Thomas Jenkinson, Peter Lynch, Adam Yarinsky

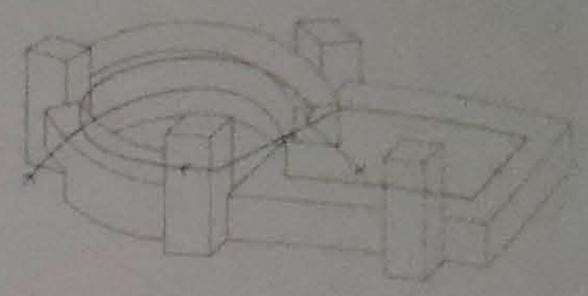
Principal-in-charge:

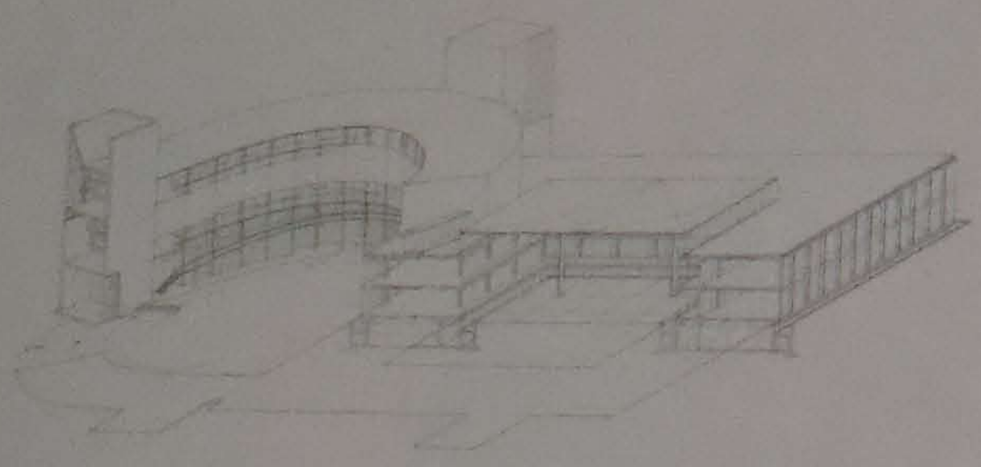
Project team: Stephen Cassell, Kent Hikida, Micheal Dant, Bryan Bell, Anne Marx, Hideaki Arizumi, Ben Frombgen

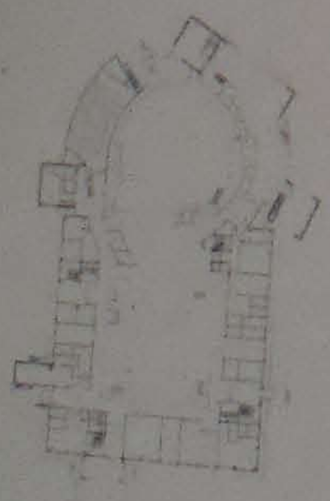
Consultants: Ellerbe Beckett, Inc. structural and HVAC

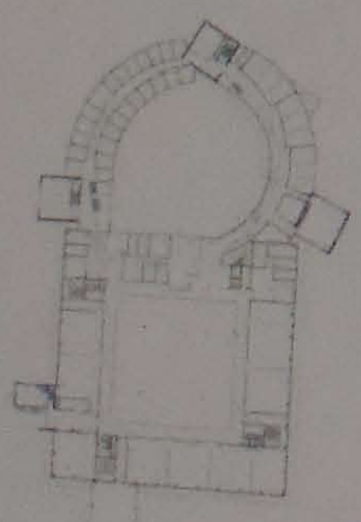
Major materials: Concrete, steel, aluminum

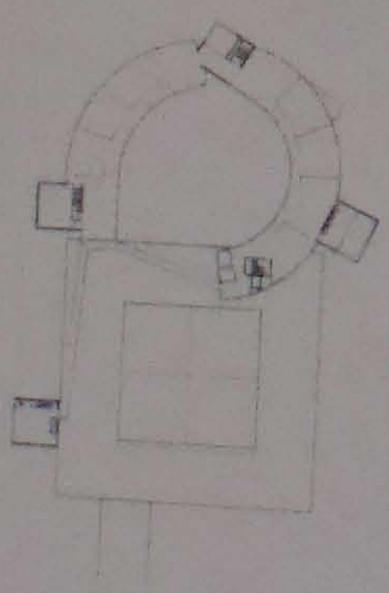
CONCEPT: Analogous to the joining of the Architecture and the Landscape Architecture programs, the new building is formed around two centers: the existing center is a static interior space, the new center is an elastic exterior space.

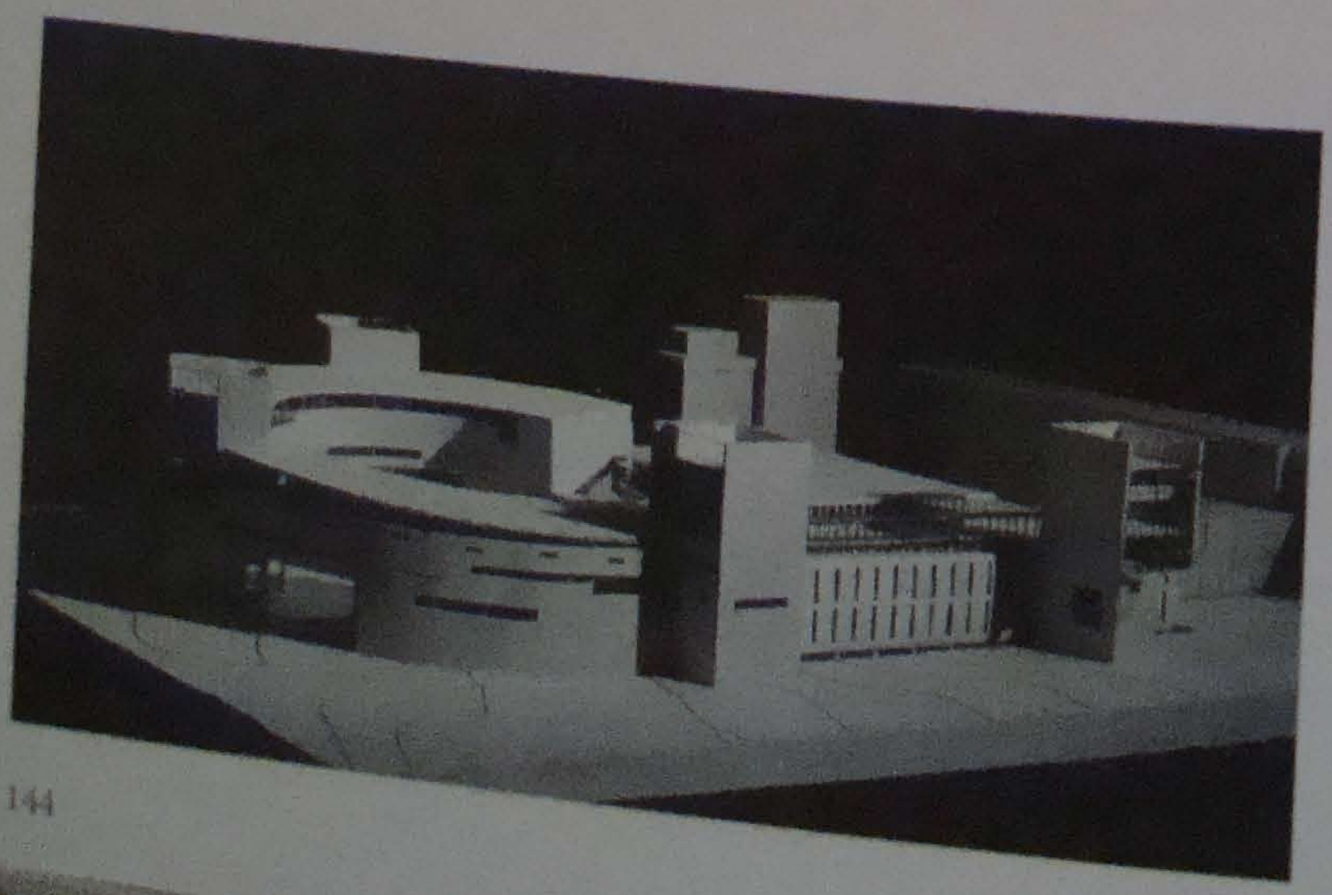


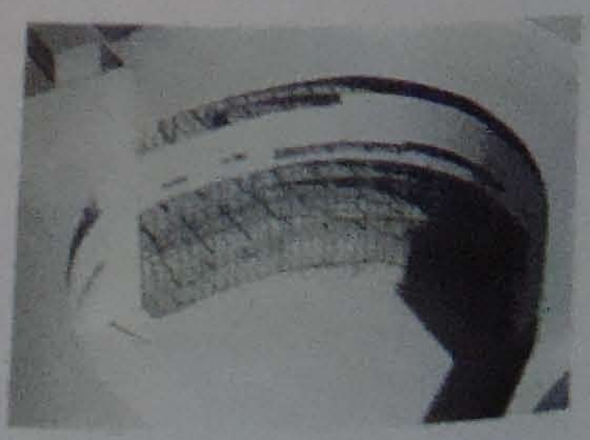


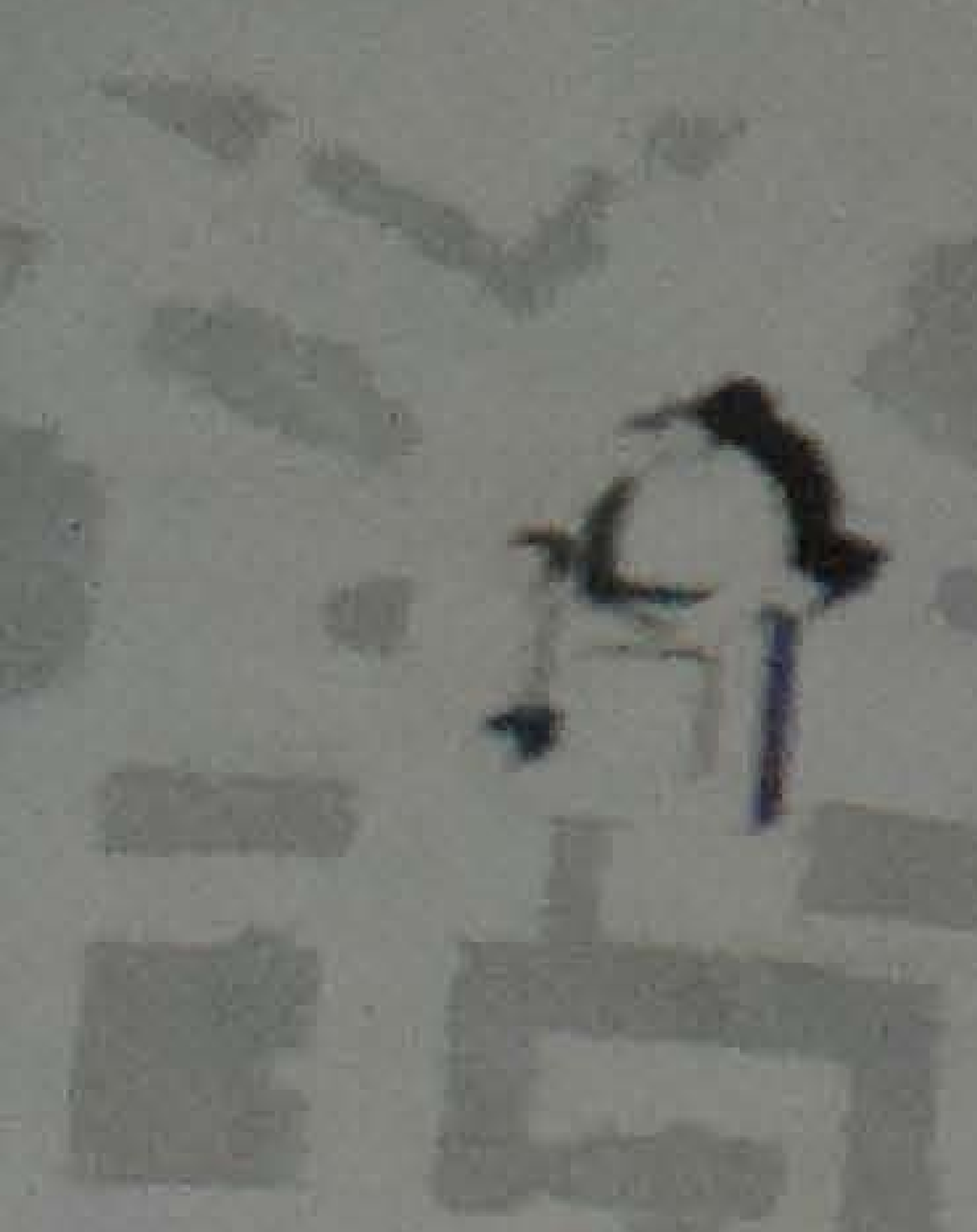








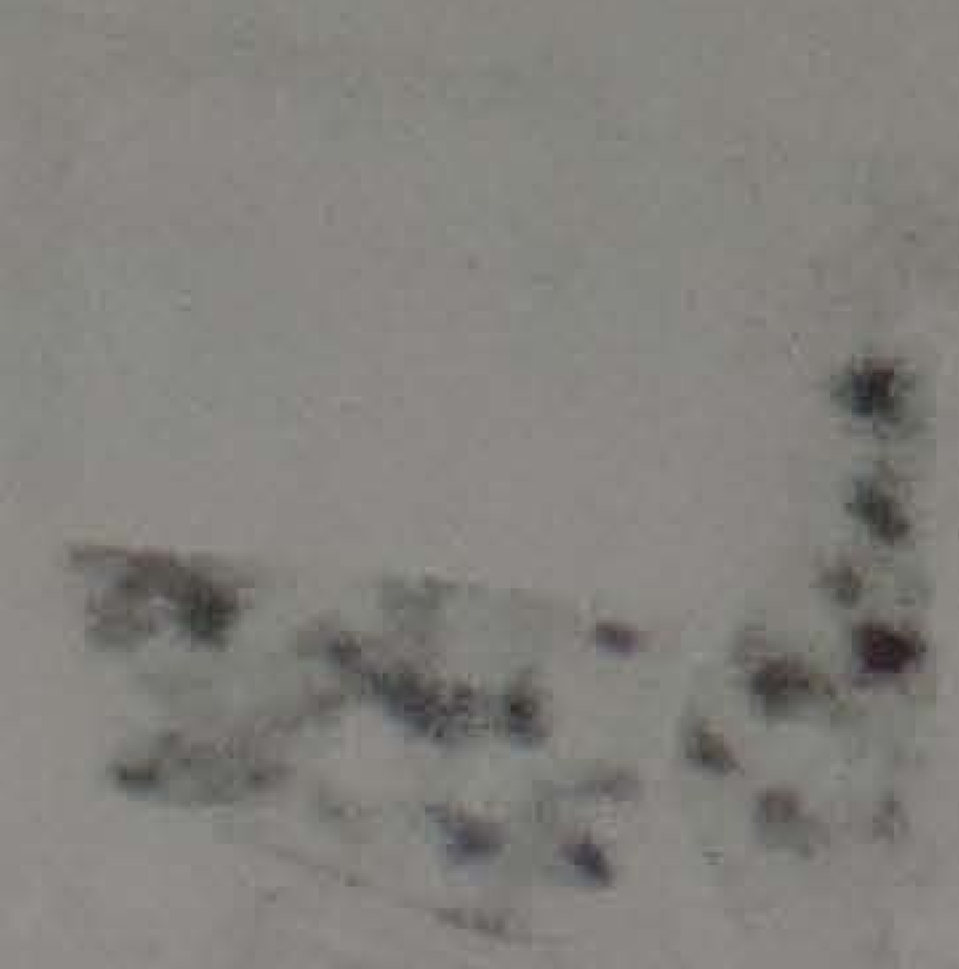


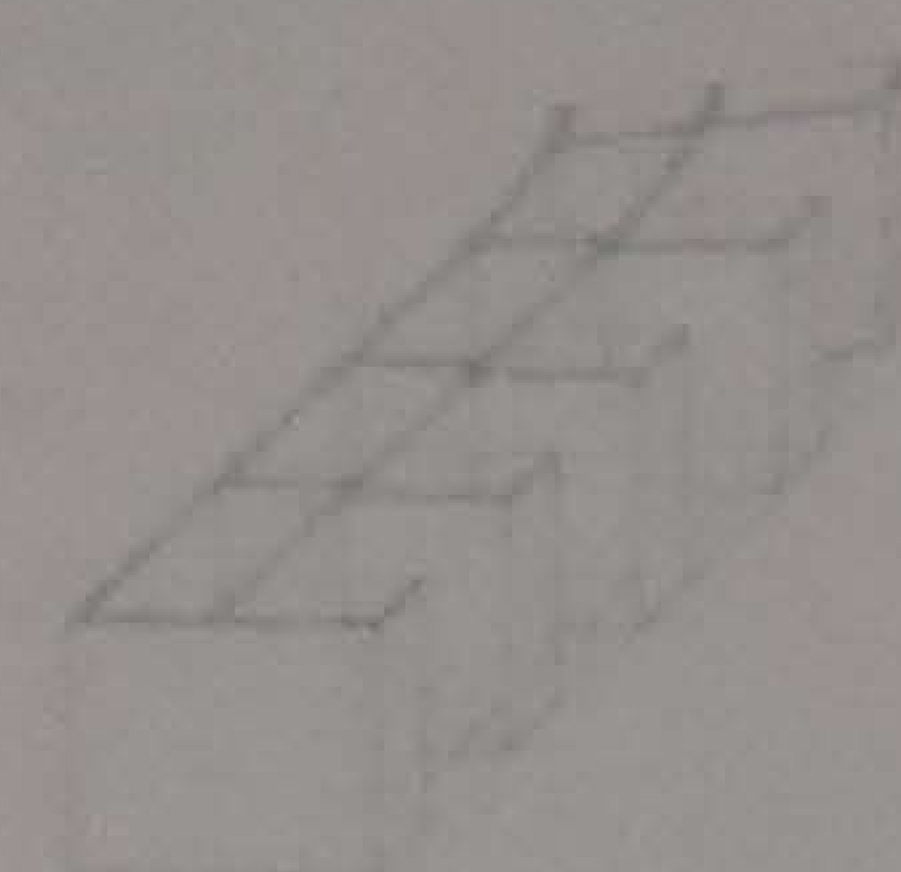


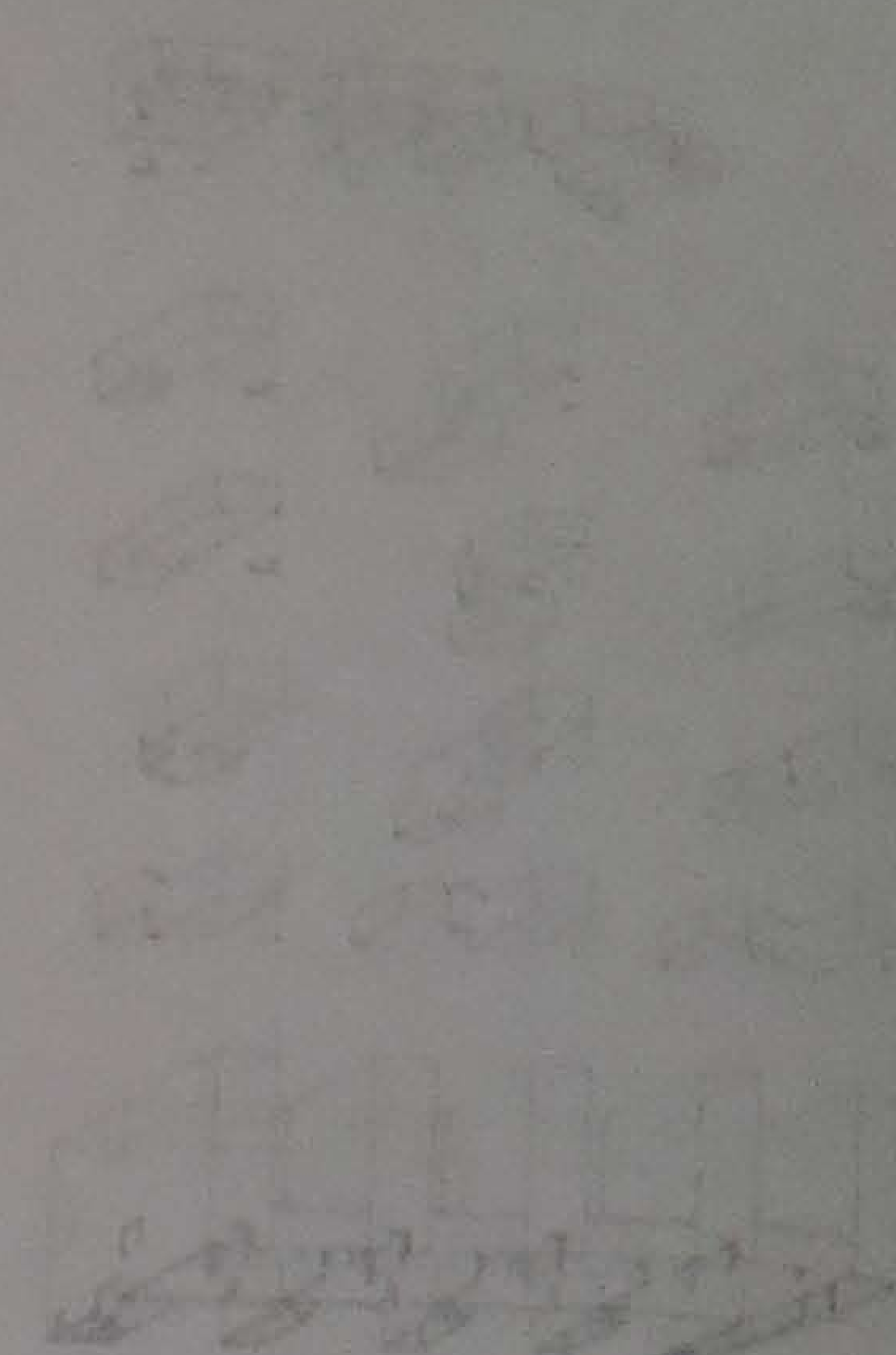
…SPACE/HINGED SPACE HOUSING 1989-91
…UOKA, JAPAN

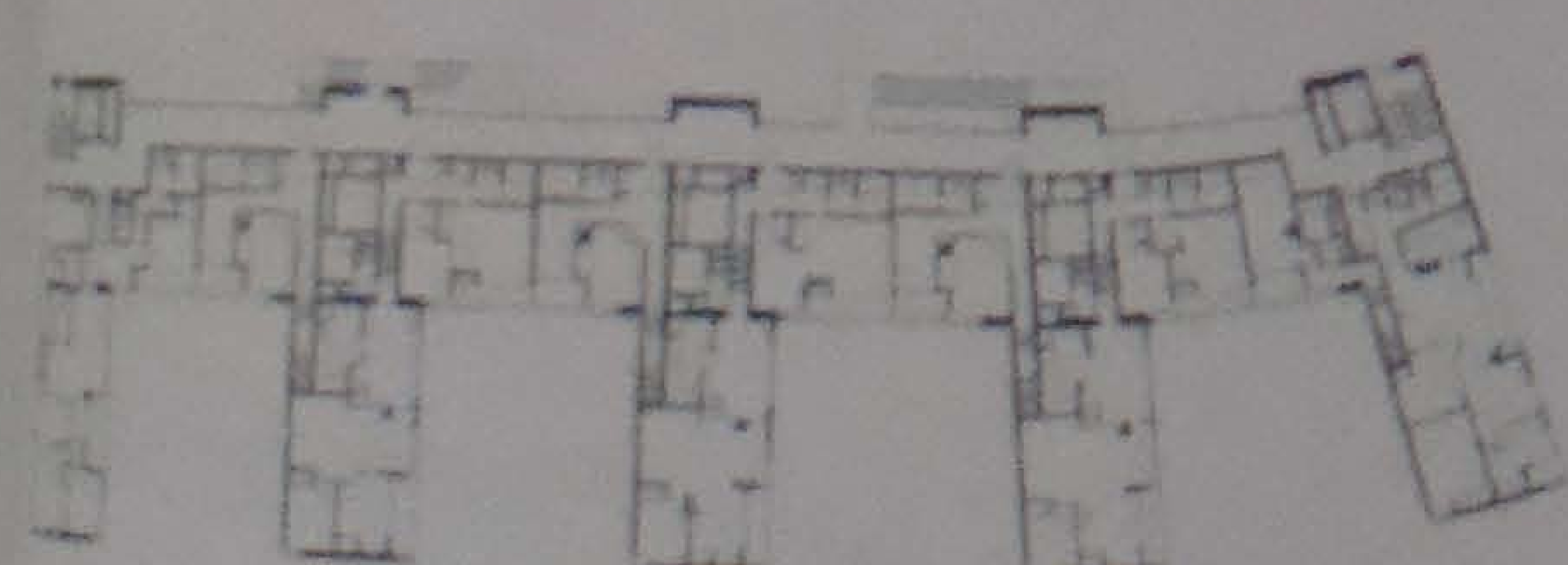
…gram:	Mixed-use complex with 28 residential apartments
	Fukuoka Jisho Co.
	1989-91
…n years:	1990-91
…onstruction years:	Steven Holl, Hideaki Ariizumi
…ociate in charge:	
…al Contractor:	Shimizu Corp.
…ucture system:	Concrete
…or materials:	Concrete, aluminum
…al floor area:	4,234 m²
…t of construction:	$7.8 million

…oncept: From hinged space to the silence …d space. Four active north-facing voids …with four quiet south-facing voids to …g a sense of the sacred into direct contact …everyday, domestic life.



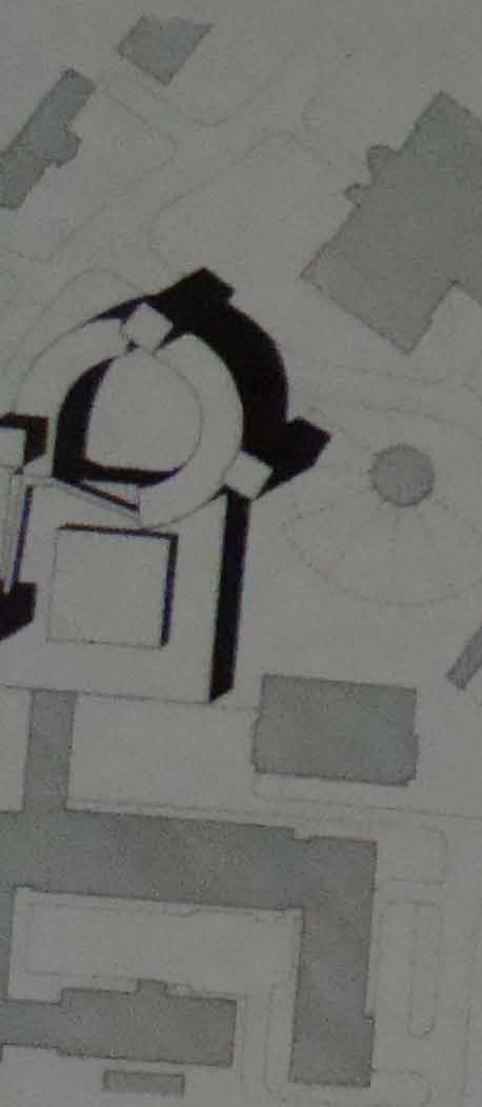






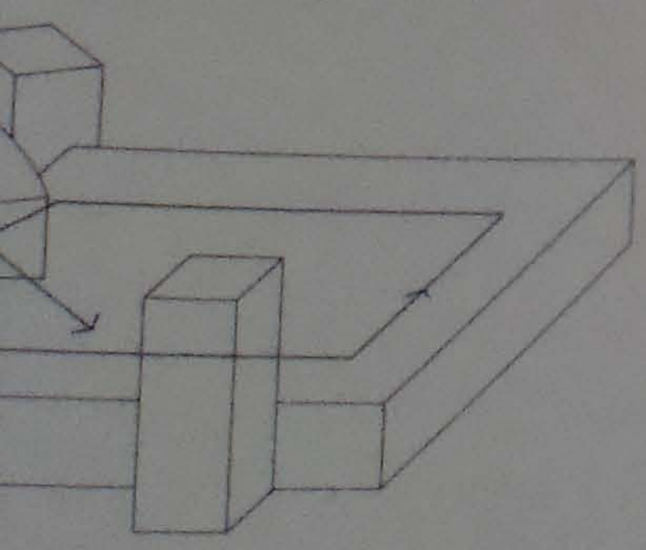
VOID SPACE/HINGED SPACE HOUSING
FUKUOKA, JAPAN

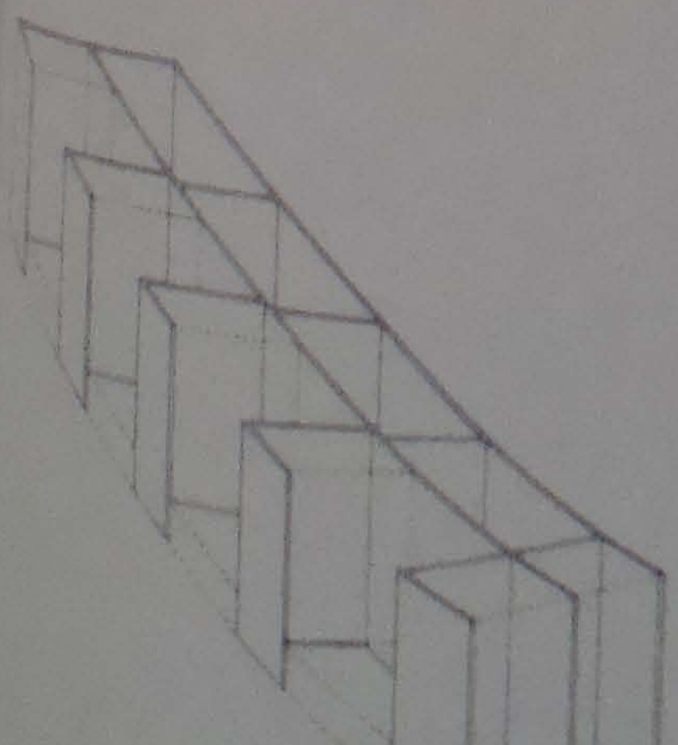
1989-91

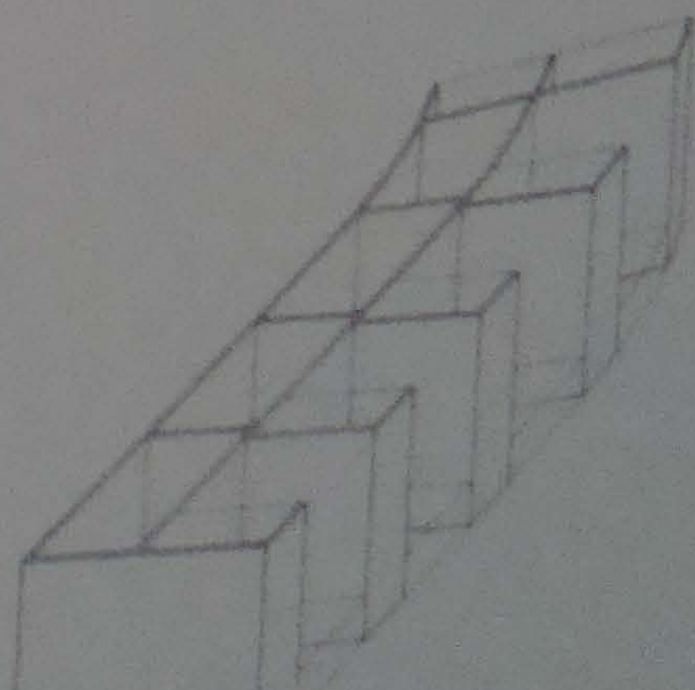


Program: Mixed-use complex with 28 residential apartments
Client: Fukuoka Jisho Co.
Design years: 1989-91
Construction years: 1990-91
Principal-in-charge: Steven Holl, Hideaki Ariizumi
General Contractor: Shimizu Corp.
Structural system: Concrete
Major materials: Concrete, aluminum
Total floor area: 4,234 m²
Cost of construction: $7.8 million

CONCEPT: From hinged space to the silence of void space. Four active north-facing voids interlock with four quiet south-facing voids to bring a sense of the sacred into direct contact with everyday, domestic life.





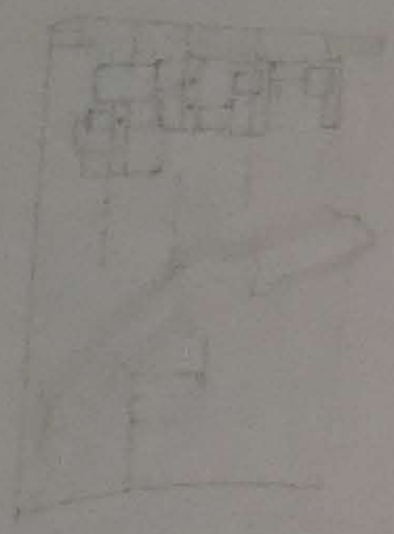


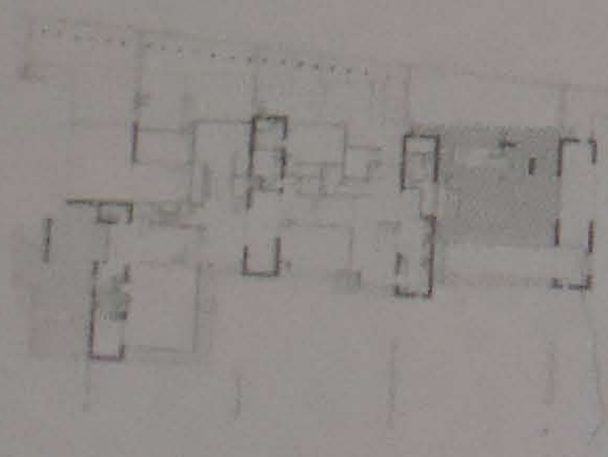
1989-92

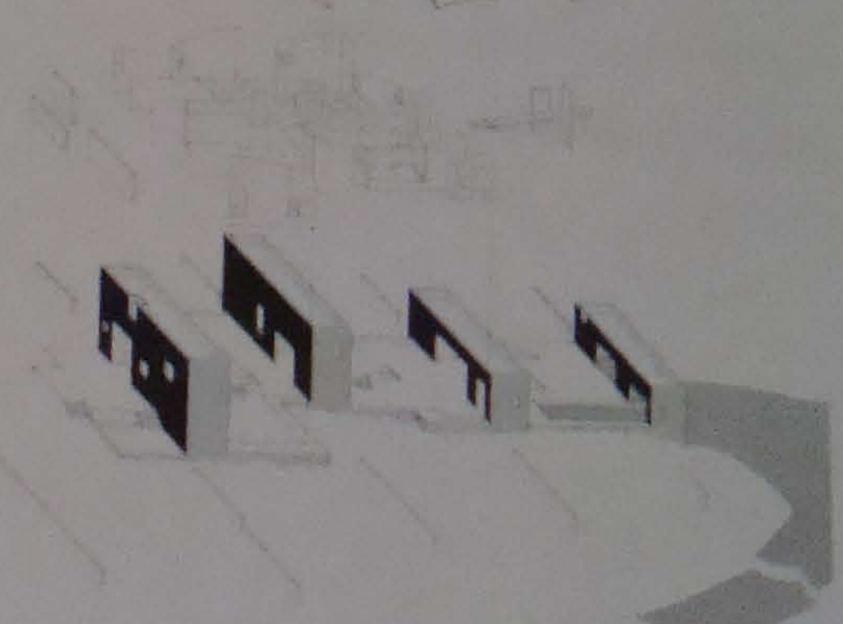
STRETTO HOUSE
DALLAS, TEXAS

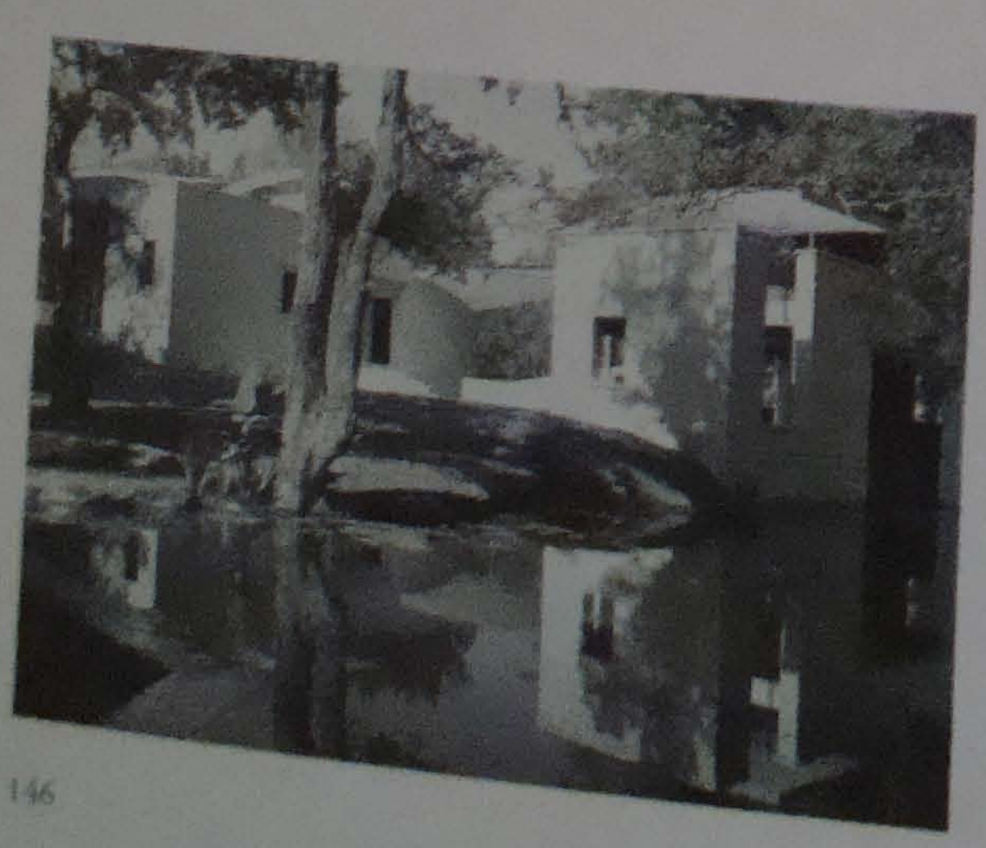
Program:	Private residence
Local architect:	Max Levy
Design years:	1989-91
Construction years:	1991-92
Principal-in-charge:	Steven Holl, Adam Yarinsky
Consultants:	Datum Engineering
General Contractor:	Thomas S. Byrne Co.
Structural system:	concrete block, steel pipe
Major materials:	concrete, metal,
Site area:	1 acre
Total floor area:	6,500 sq ft
Construction cost:	$3 million

CONCEPT: Bartok's *Music for Strings, Percussion and Celeste*, was a parallel on which the house form was made. Where music has a materiality in instrumentation and sound, this architecture attempts an analog in light and space.







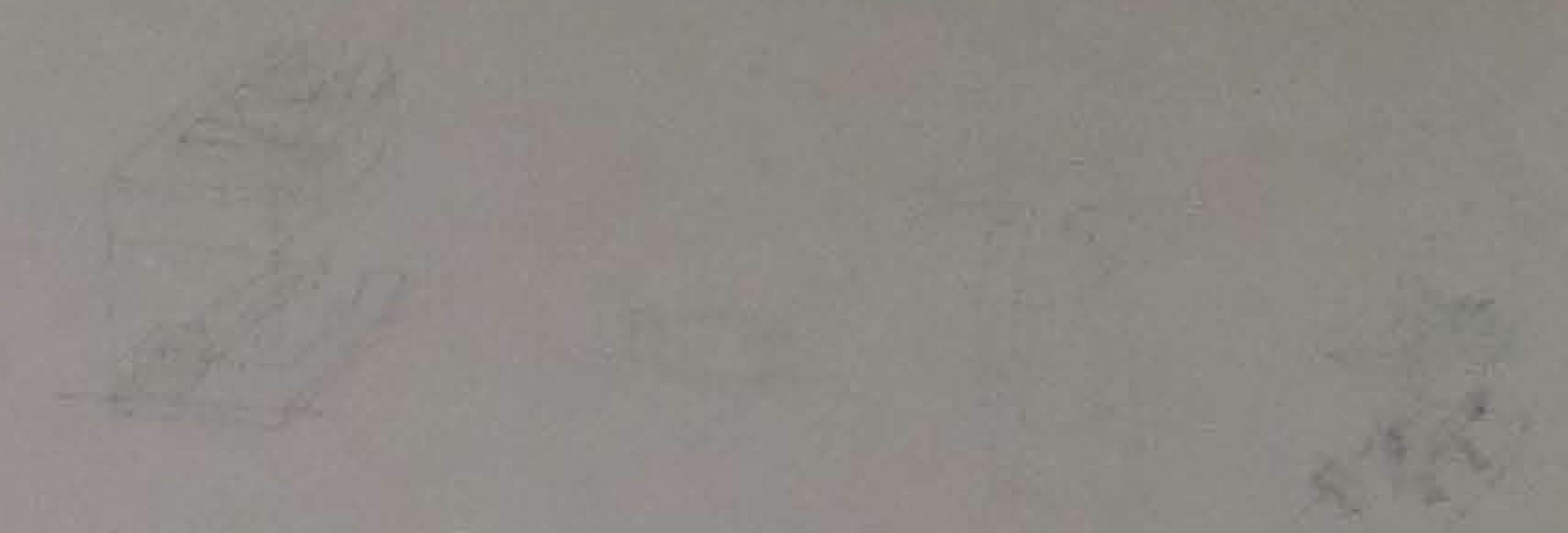


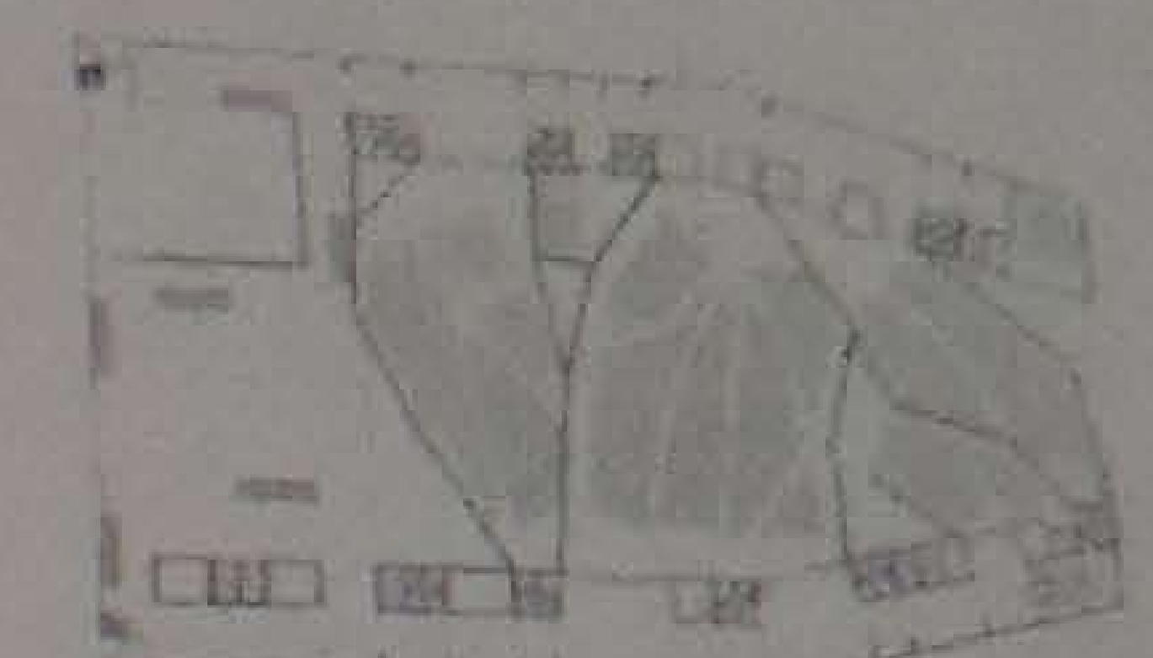
…AZZO DEL CINEMA COMPETITION 1990-91

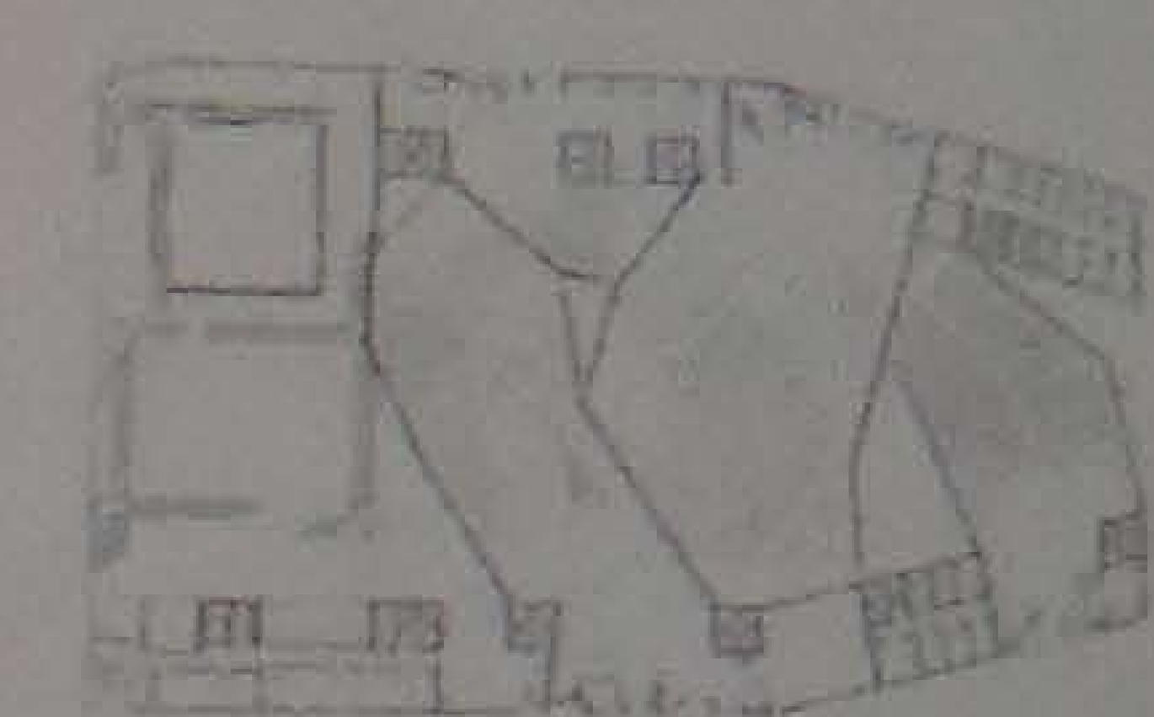
…NICE, ITALY

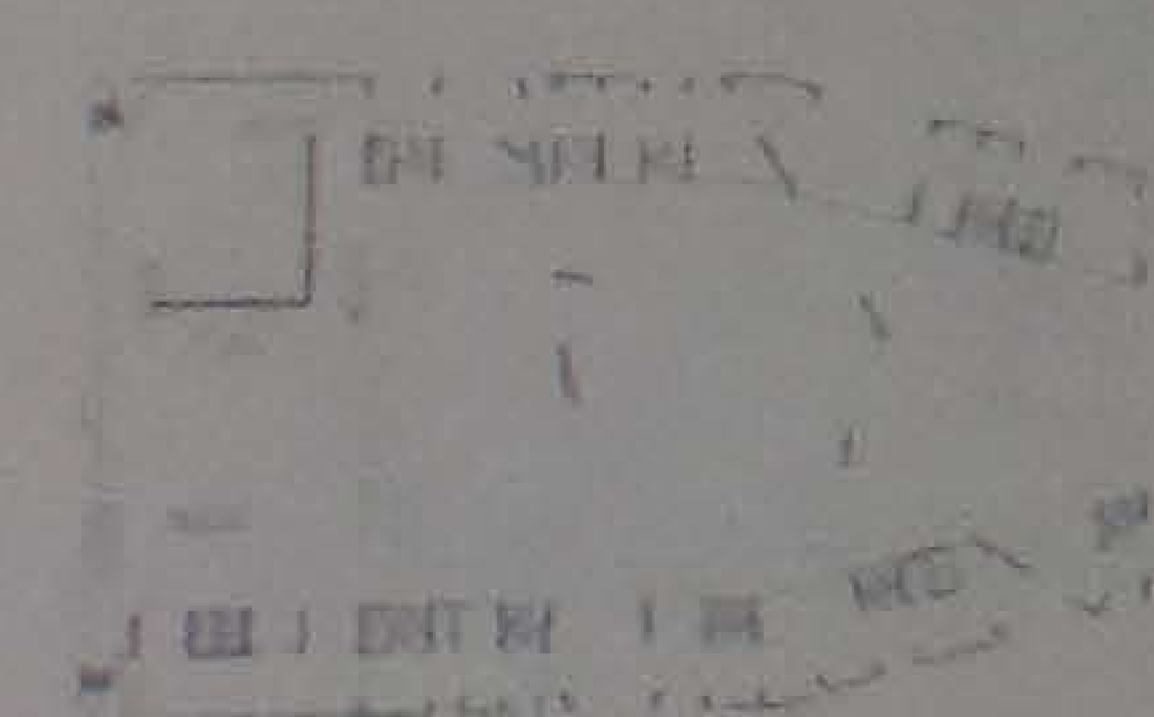
…gram:	Competition for cinema complex
…ent:	City of Vienna
…ject team:	Peter Lynch, Stephen Cassell, William Wilson, Thomas Jenkinson, Janet Cross, Jun Kim, Lucinda Knox
…sultants:	Guy Nordenson
…ctural system:	Concrete
…r Materials:	Concrete, metal alloy, sandblasted acrylic, cork, plaster metal fabric
…al floor area:	25,200 m²
…t of construction:	$28 million

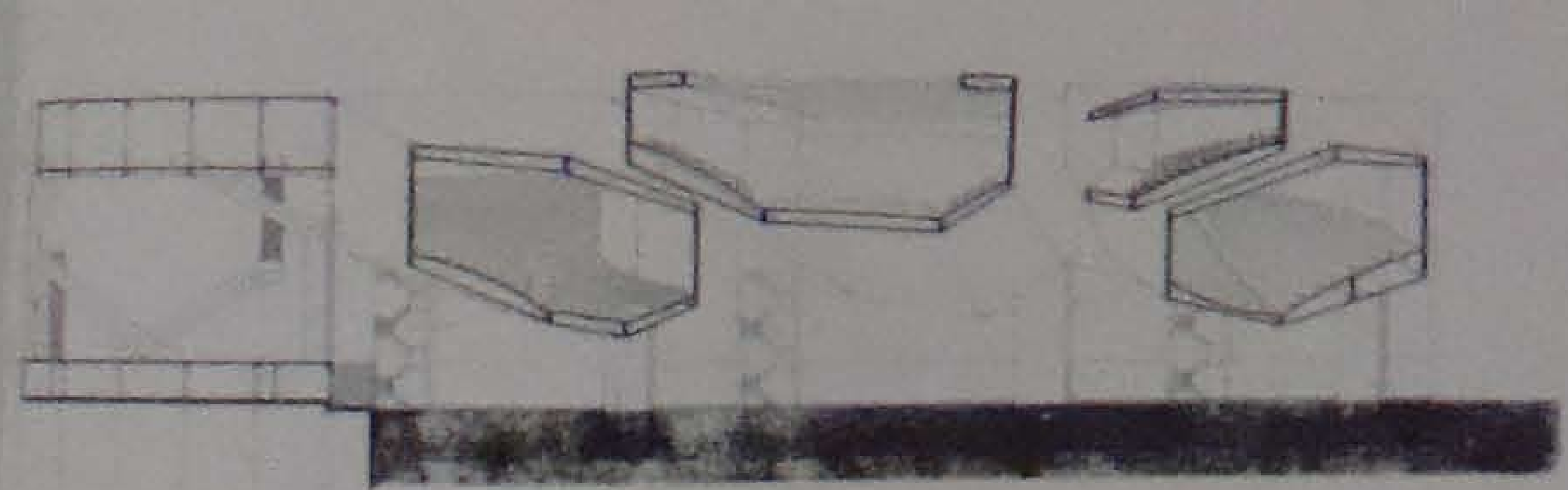
…NCEPT: The projection of light in space, …ht in reflection, and light in shade and shad…e are seen as programs to be achieved paral…l to solving functional aspects.

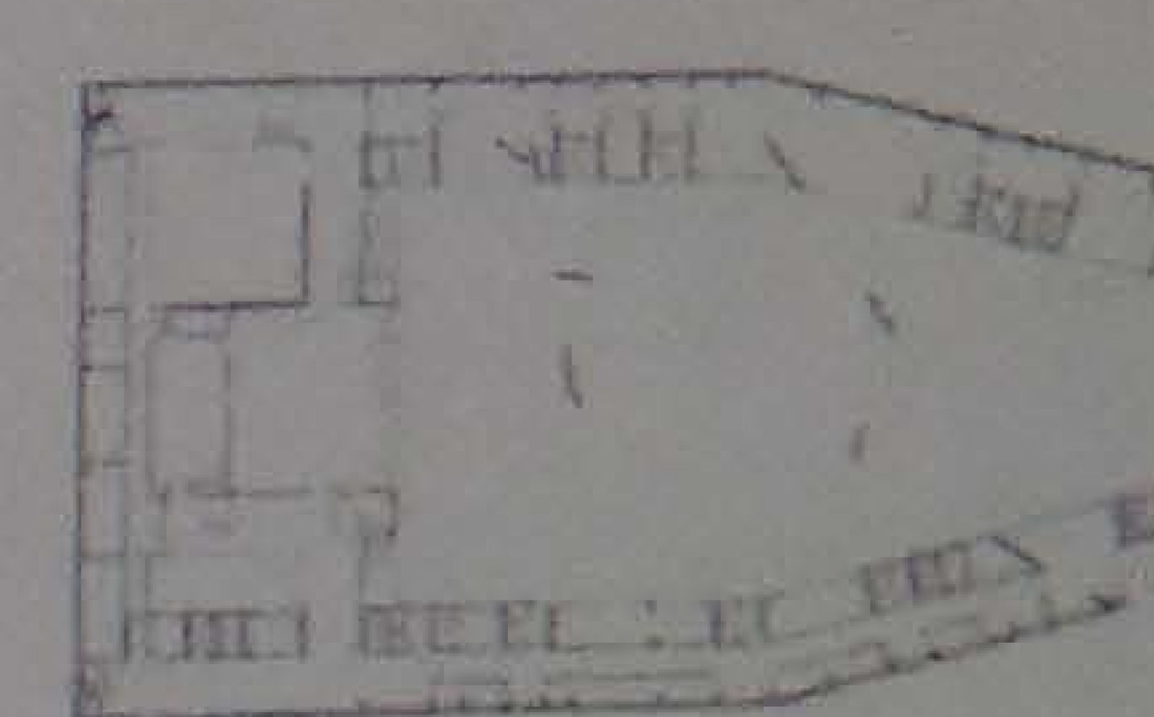


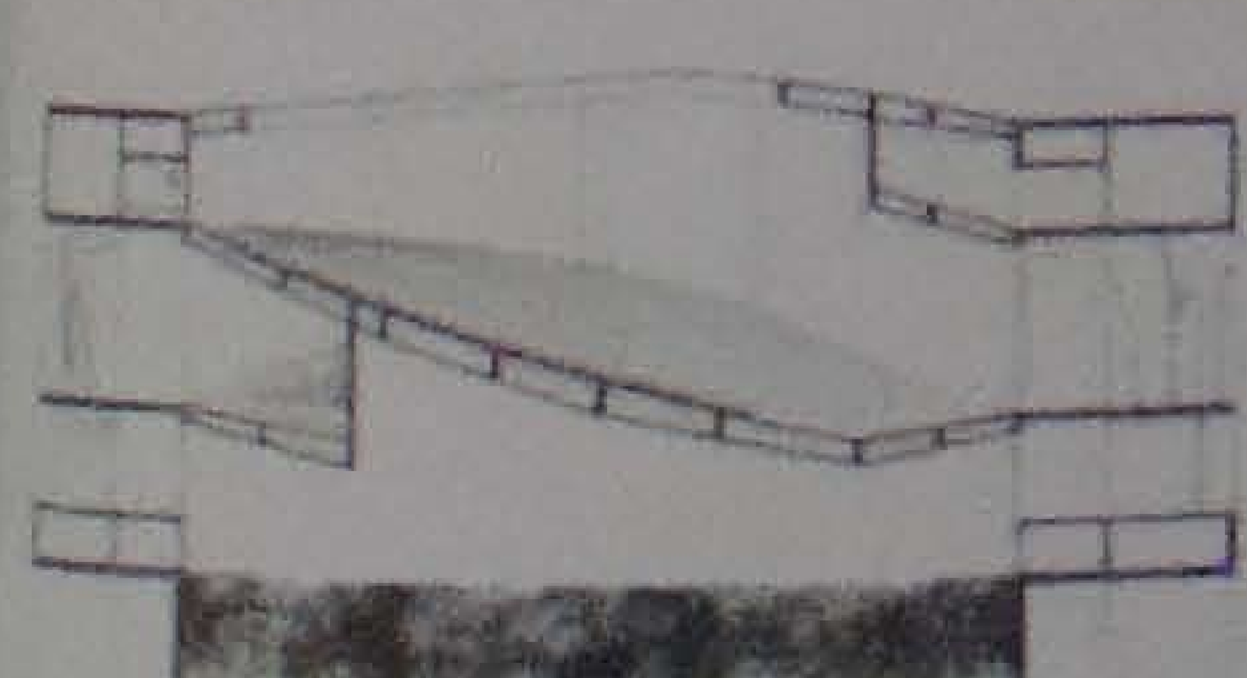


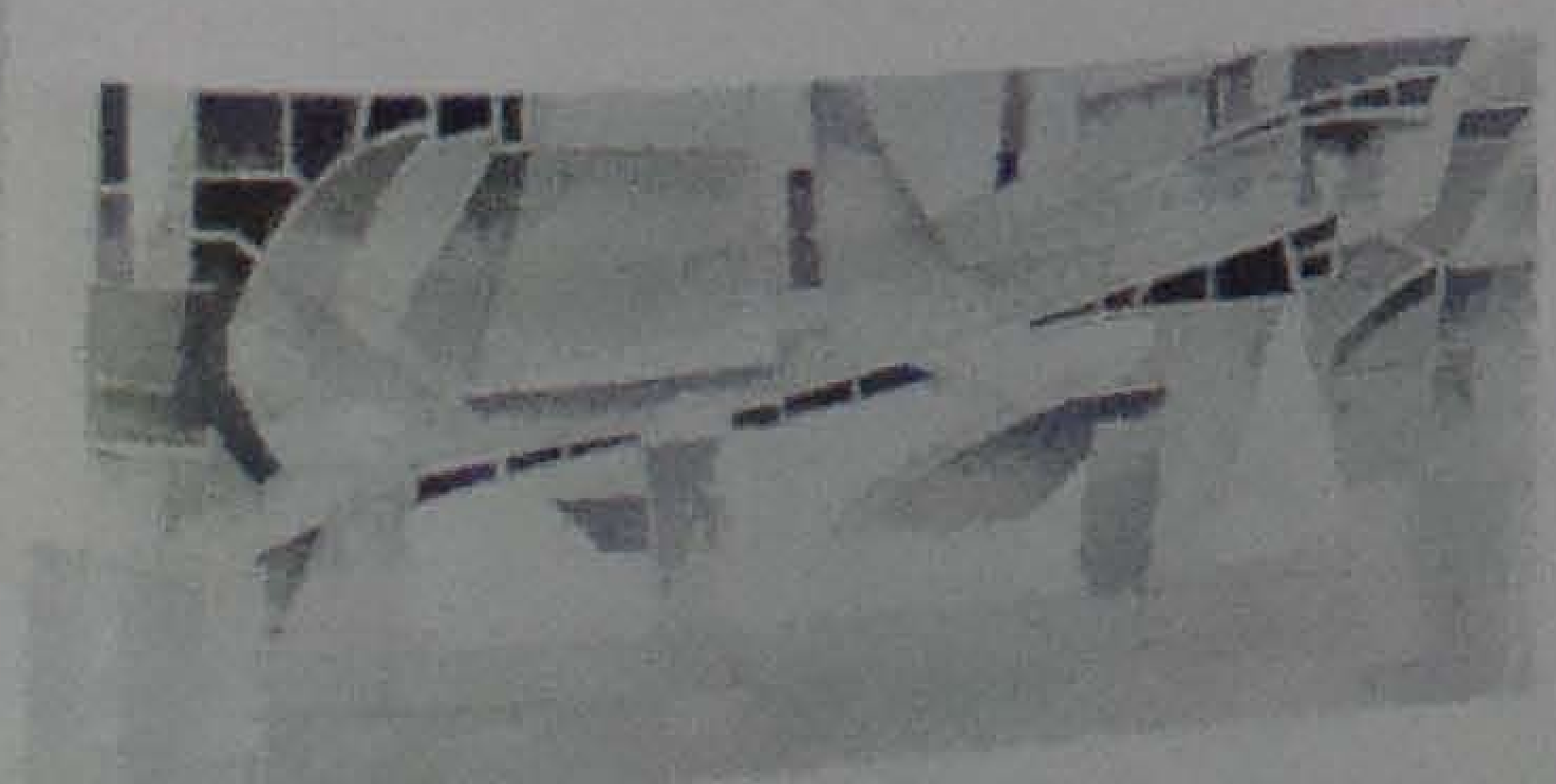


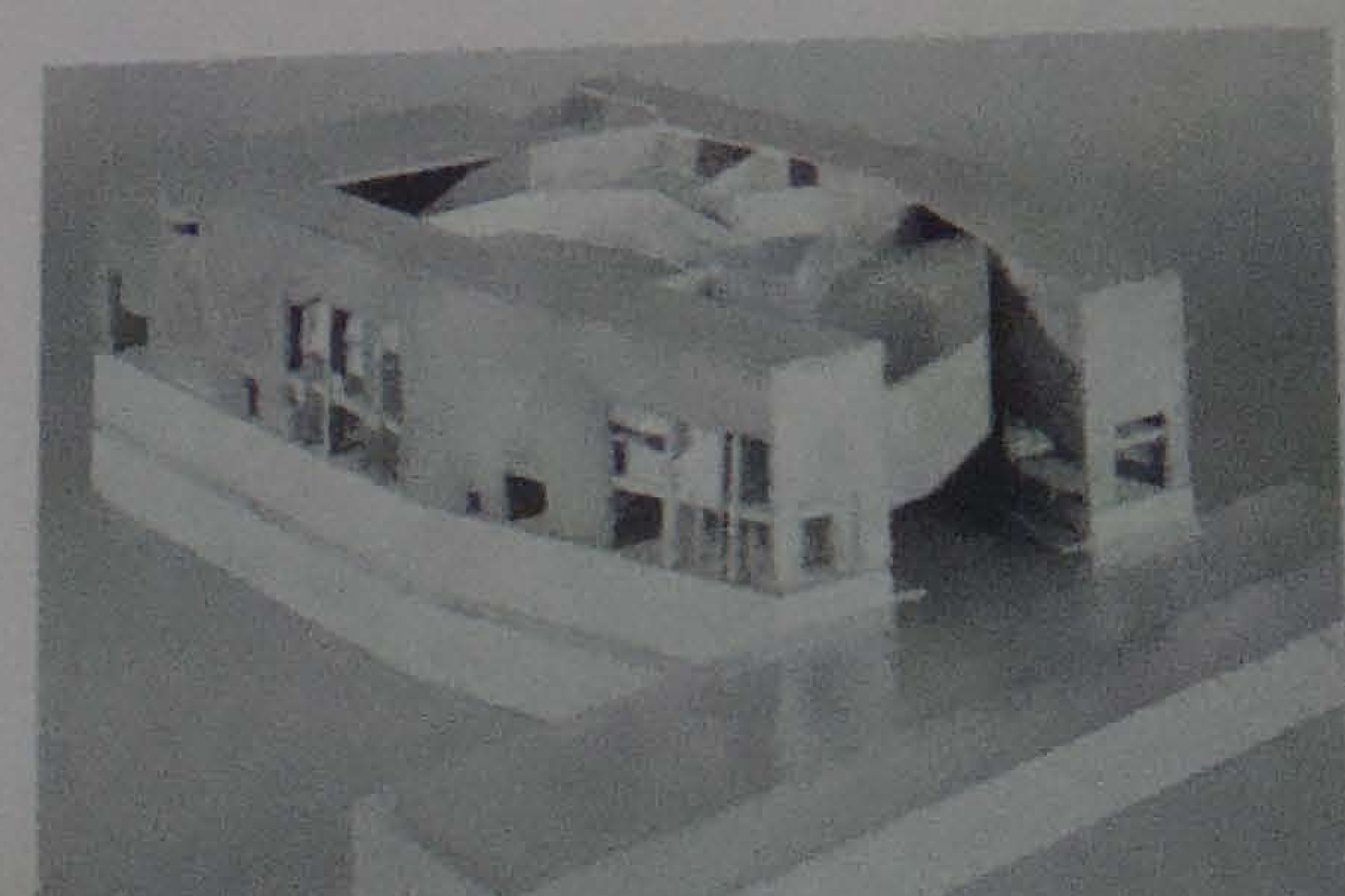












...LAZZO DEL CINEMA COMPETITION ...ENICE, ITALY

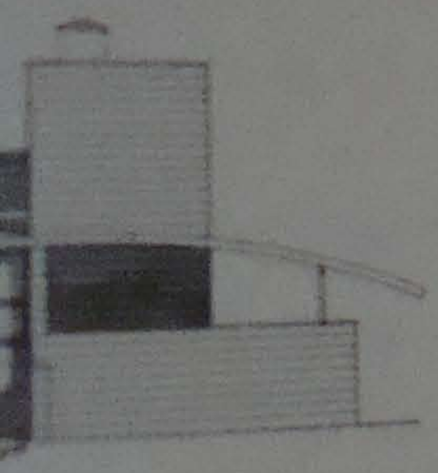
1990-91

...ogram: Competition for cinema complex
...ient: City of Vienna
...oject team: Peter Lynch, Stephen Cassell, William Wilson, Thomas Jenkinson, Janet Cross, Jun Kim, Lucinda Knox
...onsultants: Guy Nordenson
...tructural system: Concrete
...lajor Materials: Concrete, metal alloy, sandblasted acrylic, cork, plaster metal fabric
...otal floor area: 25,200 m²
...ost of construction: $28 million

...ONCEPT: The projection of light in space, ...ght in reflection, and light in shade and shad...ow are seen as programs to be achieved paral...el to solving functional aspects.

PALAZZO DEL CINEMA COMPETITION
VENICE, ITALY

1990-91



Program:	Competition for cinema complex
Client:	City of Vienna
Project team:	Peter Lynch, Stephen Cassell, William Wilson, Thomas Jenkinson, Janet Cross, Jun Kim, Lucinda Knox
Consultants:	Guy Nordenson
Structural system:	Concrete
Major Materials:	Concrete, metal alloy, sandblasted acrylic, cork, plaster metal fabric
Total floor area:	25,200 m^2
Cost of construction:	$28 million

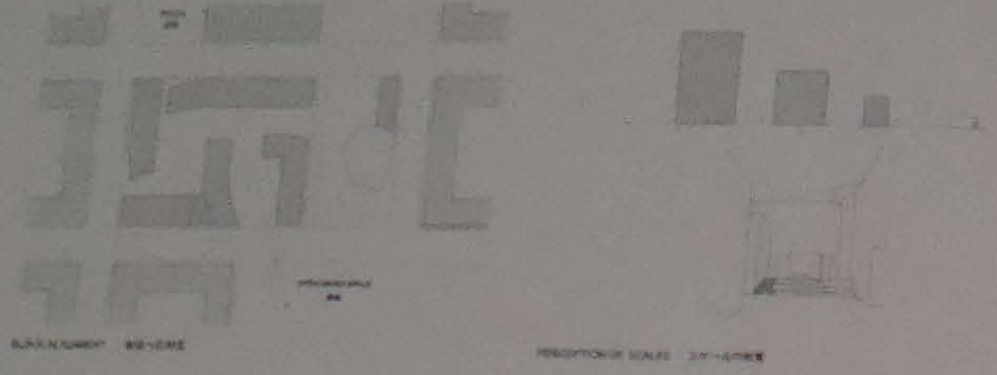
CONCEPT: The projection of light in space, light in reflection, and light in shade and shadow are seen as programs to be achieved parallel to solving functional aspects.

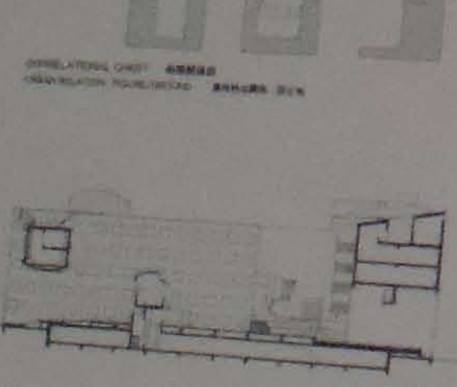
MAKUHARI HOUSING
CHIBA, JAPAN

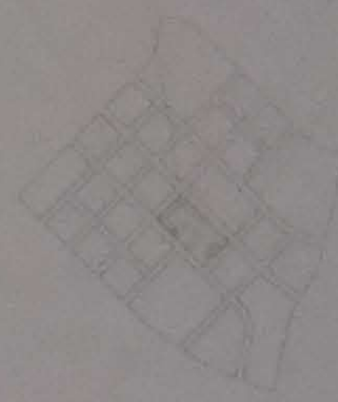
1992

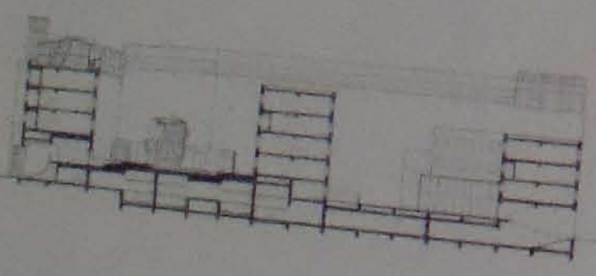
Program:	180 units of housing and retail shops
Client:	Mitsui Group
Project architect:	Tomoaki Tanaka
Project team:	Mario Gooden, Tom Jenkinson, Janet Cross
Site Area:	8,415 m²

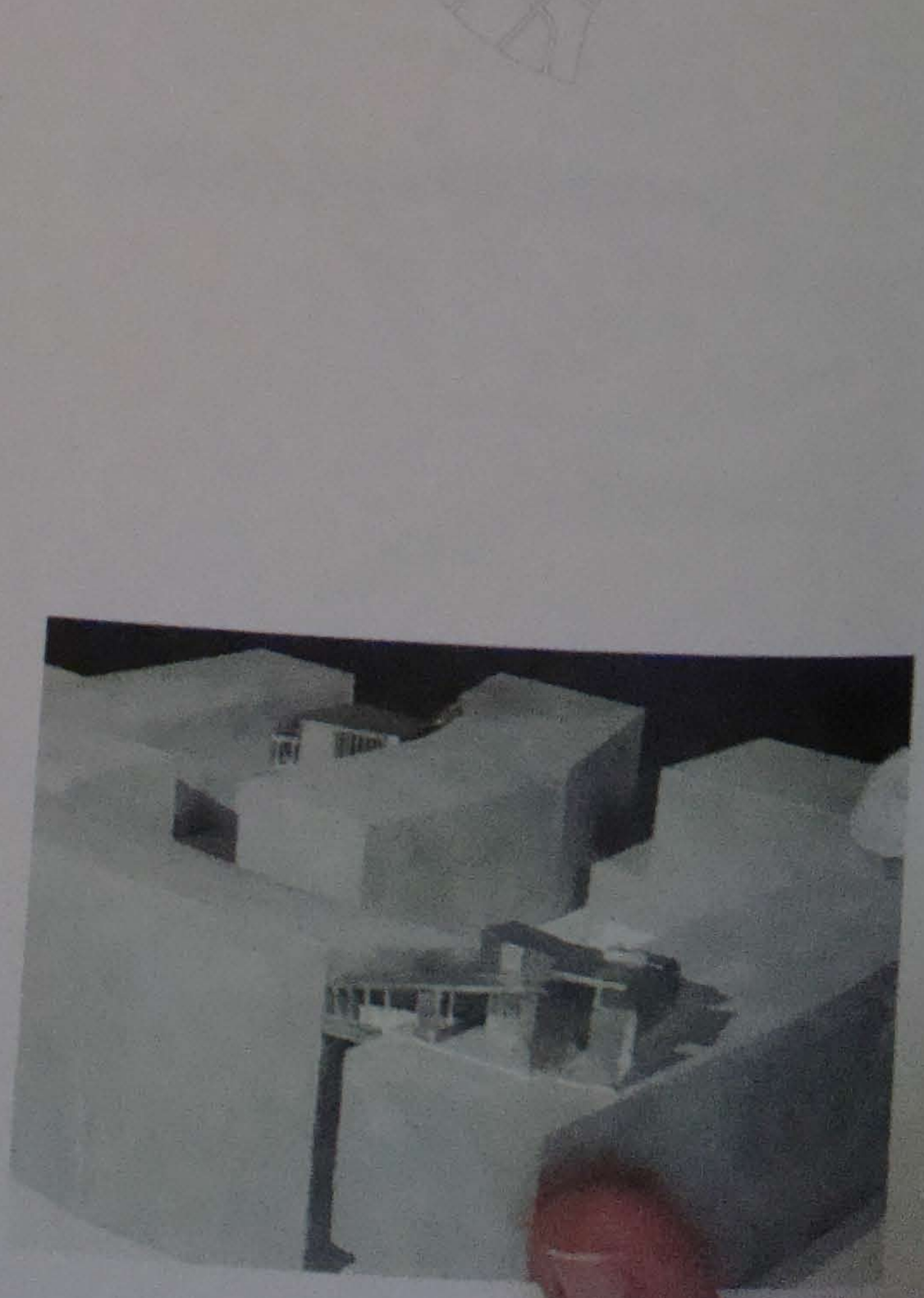
CONCEPT:
Lightweight = Activists = Sounds
Heavyweight = Silent Blocks









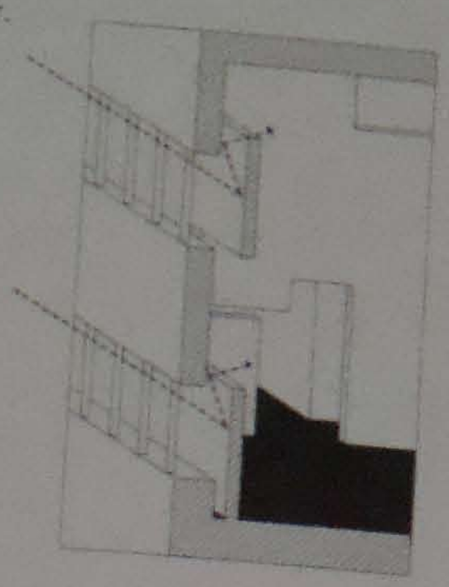


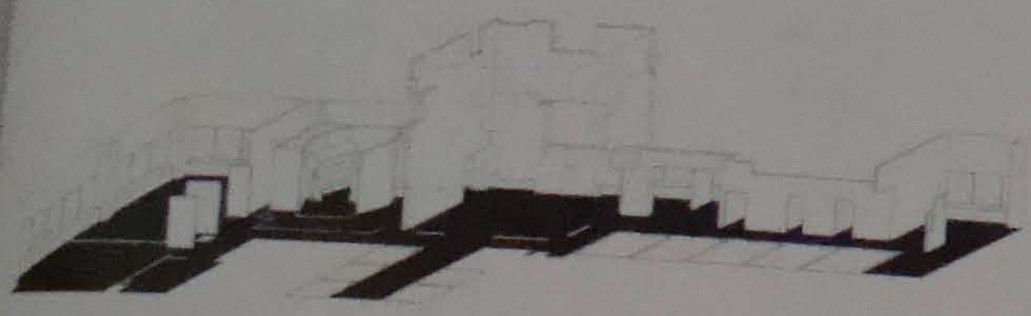
D.E. SHAW & CO. OFFICES
NEW YORK, NEW YORK

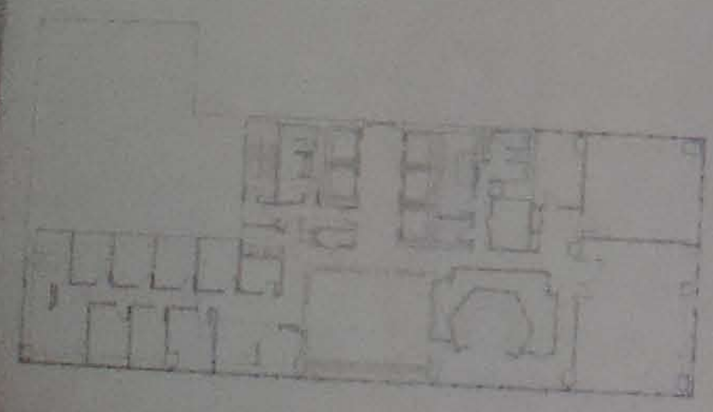
1991

Program: Offices and trading floor.
Client: D.E. Shaw & Co.
Principal-in-charge: Steven Holl, Thomas Jenkinson
Consultants: Robert Director Associates(MEP), Scott Fenton
General contractor: Clark Construction Company
Major Materials: Drywall on metal studs, paint
Total floor area: 16,000 sq ft

CONCEPT: The top two floors of a skyscraper, mid-block between 6th and 7th avenue on 45th street, are the site of an experimental project exploring the phenomena of spatial color reflection or "projected color".





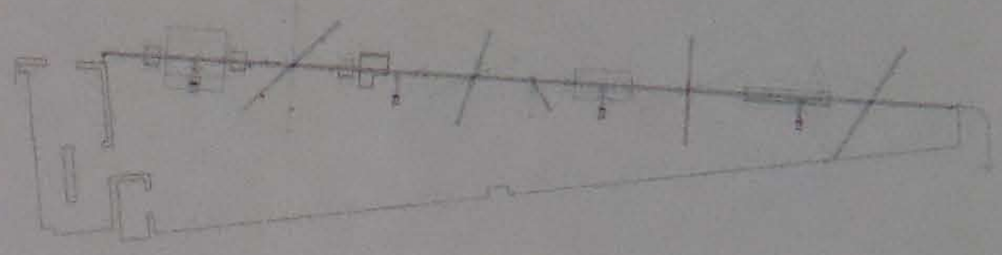


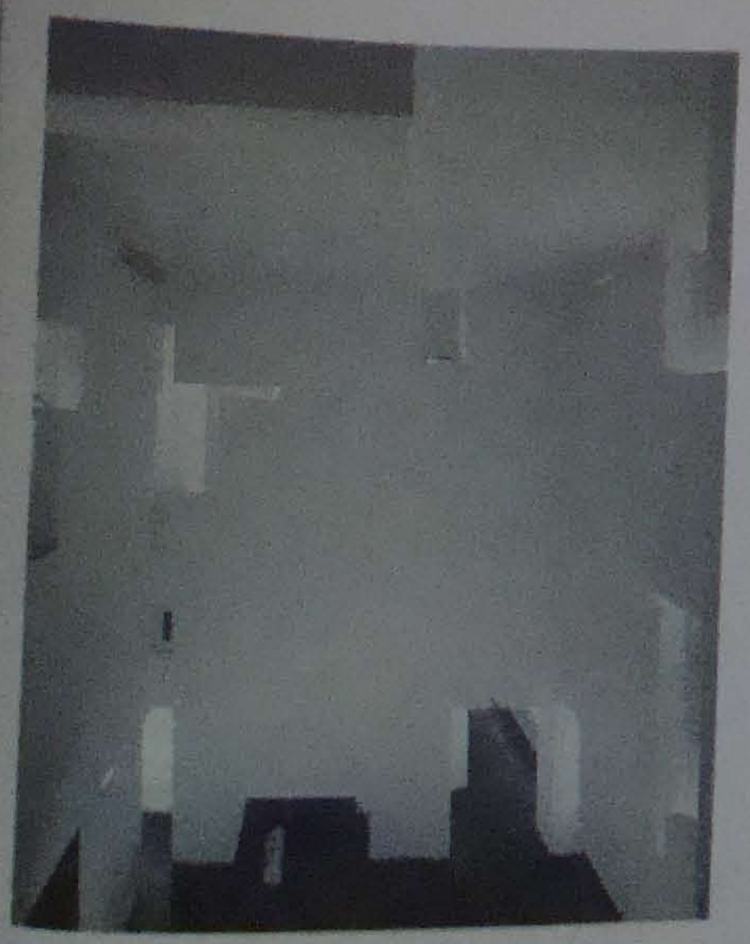
STOREFRONT FOR ART AND ARCHITECTURE
COLLABORATION WITH VITO ACCONCI
NEW YORK, NEW YORK

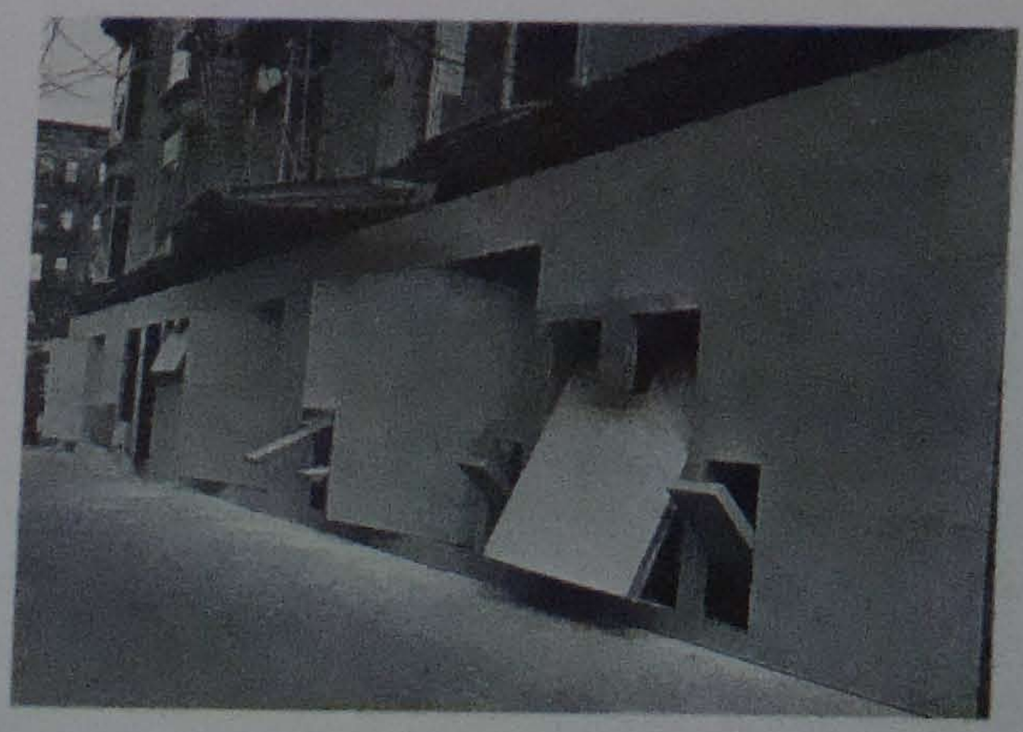
1993

Program: Facade renovation
Client: Storefront
Project team: Steven Holl, Vito Acconci, Chris Otterbein
Major Materials: Supraboard
Cost of Construction: $45,000

CONCEPT: Inside becomes outside, interior meshes with city in revolving panels and doors.





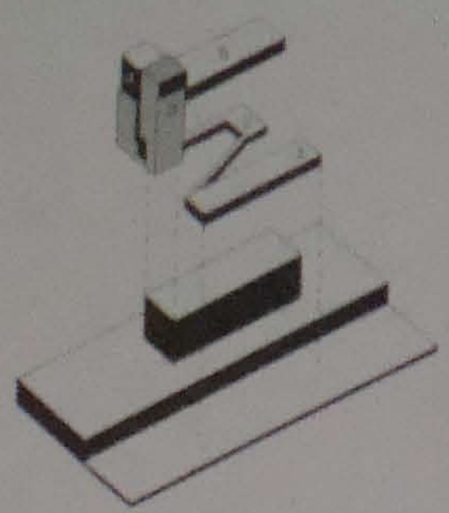


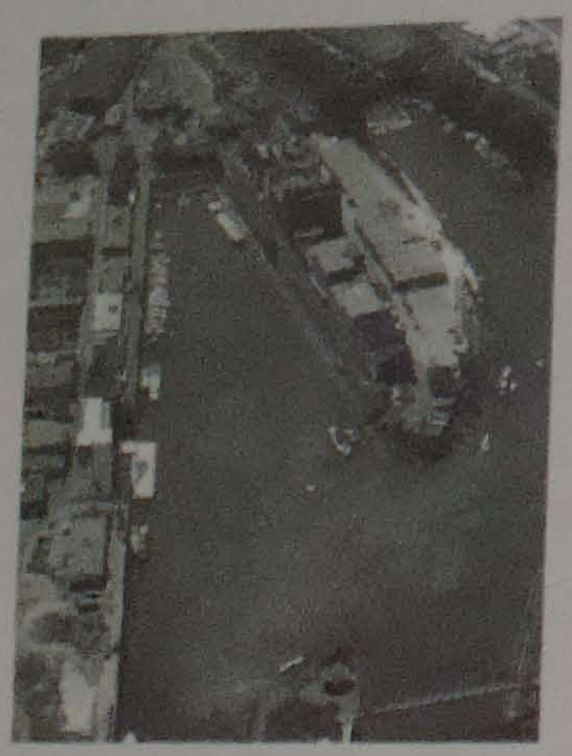
1993

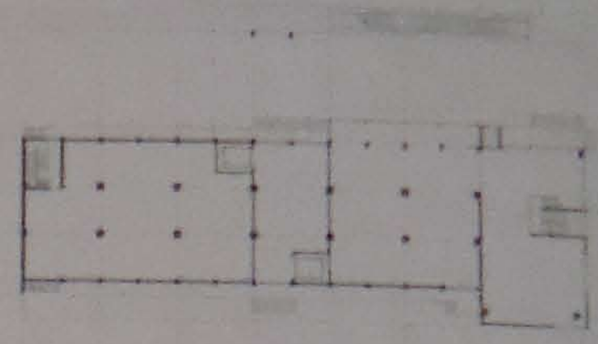
KAISTRASSE 18
DUSSELDORF, GERMANY

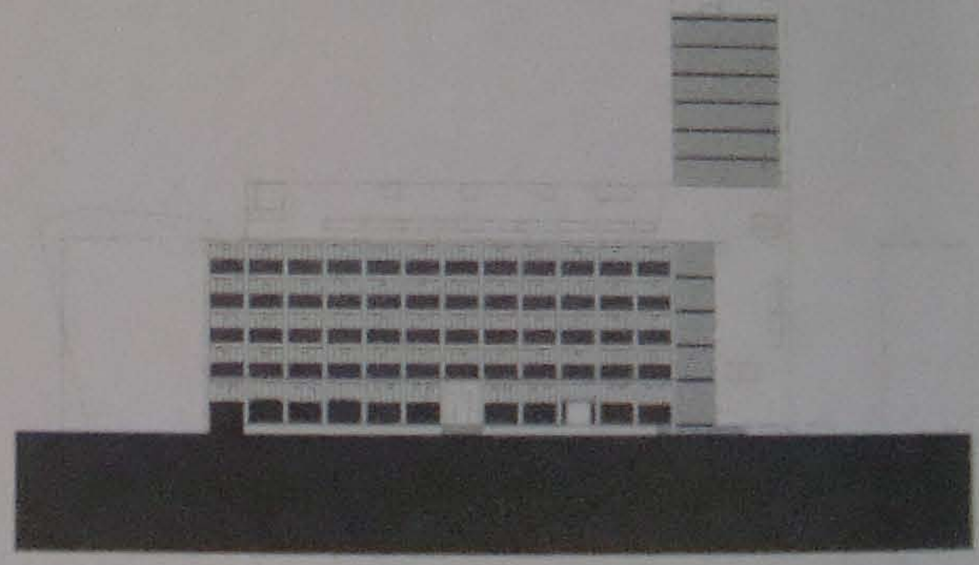
Program:	Gallery, offices, loft apartments, cafe, parking
Client:	Achenbach Art Consulting GmbH
Project team:	Steven Holl, Justin Rusak
Total floor area:	8,000 m²
Budget:	$12.5 million
Construction:	1995-96

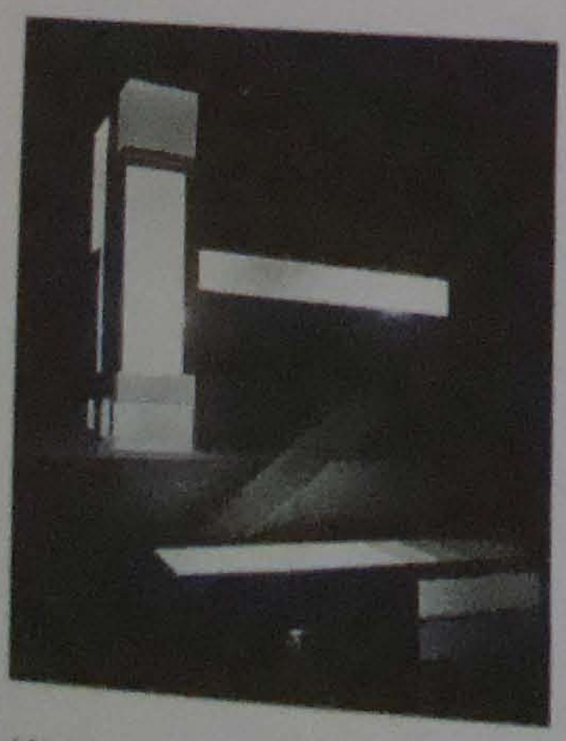
CONCEPT: Arms prepare the body for action. Added to the existing warehouse at Kaistrasse 18, the new additions are in the form of five different areas or arms.

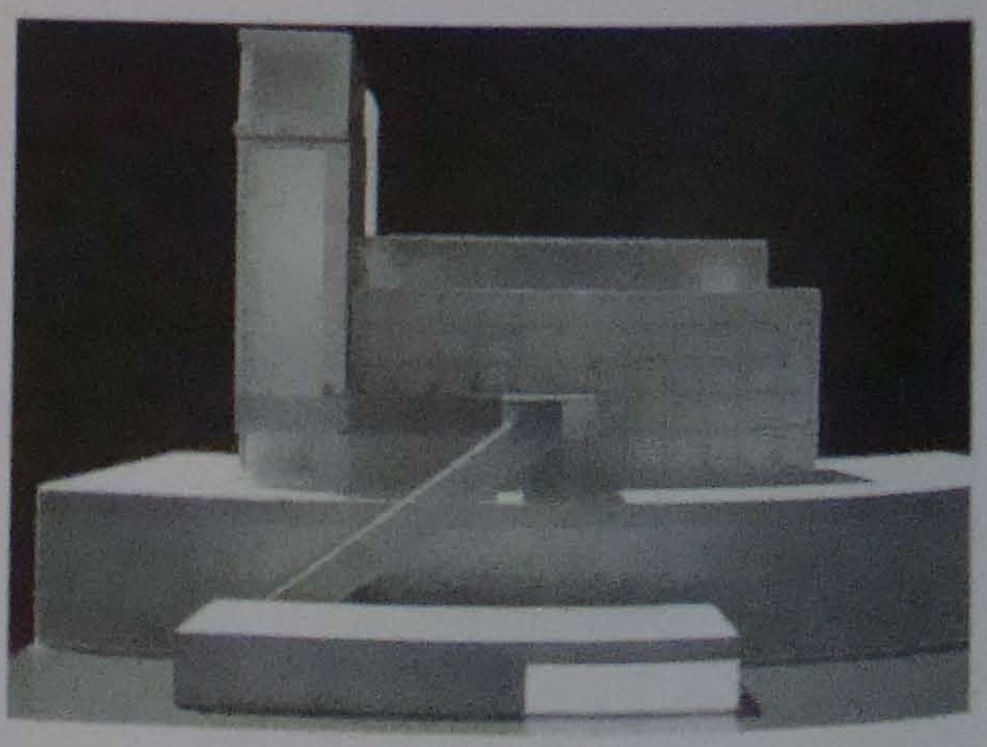


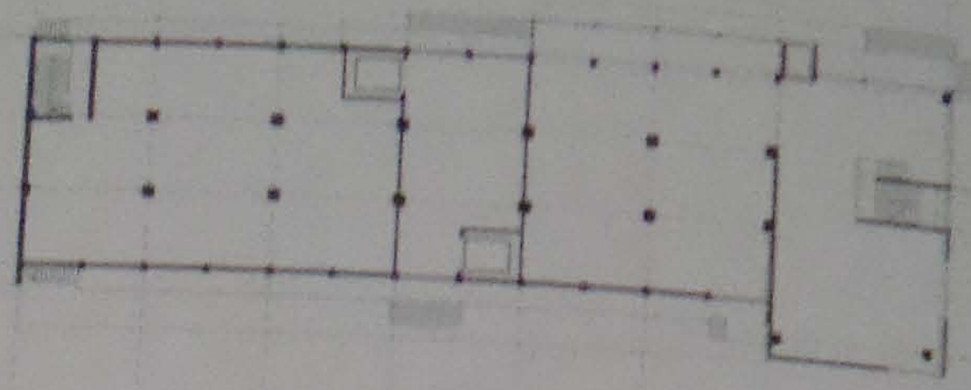


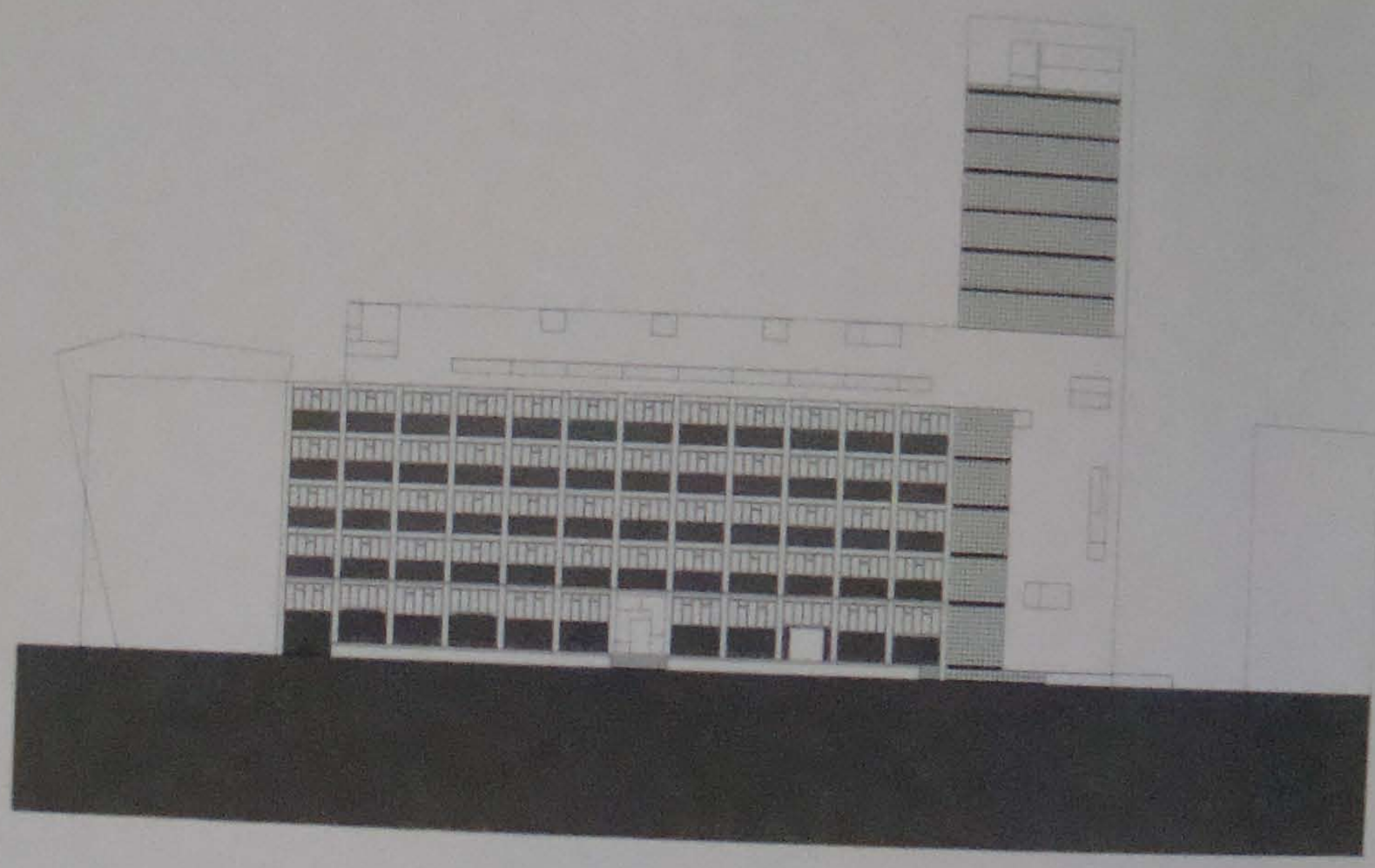


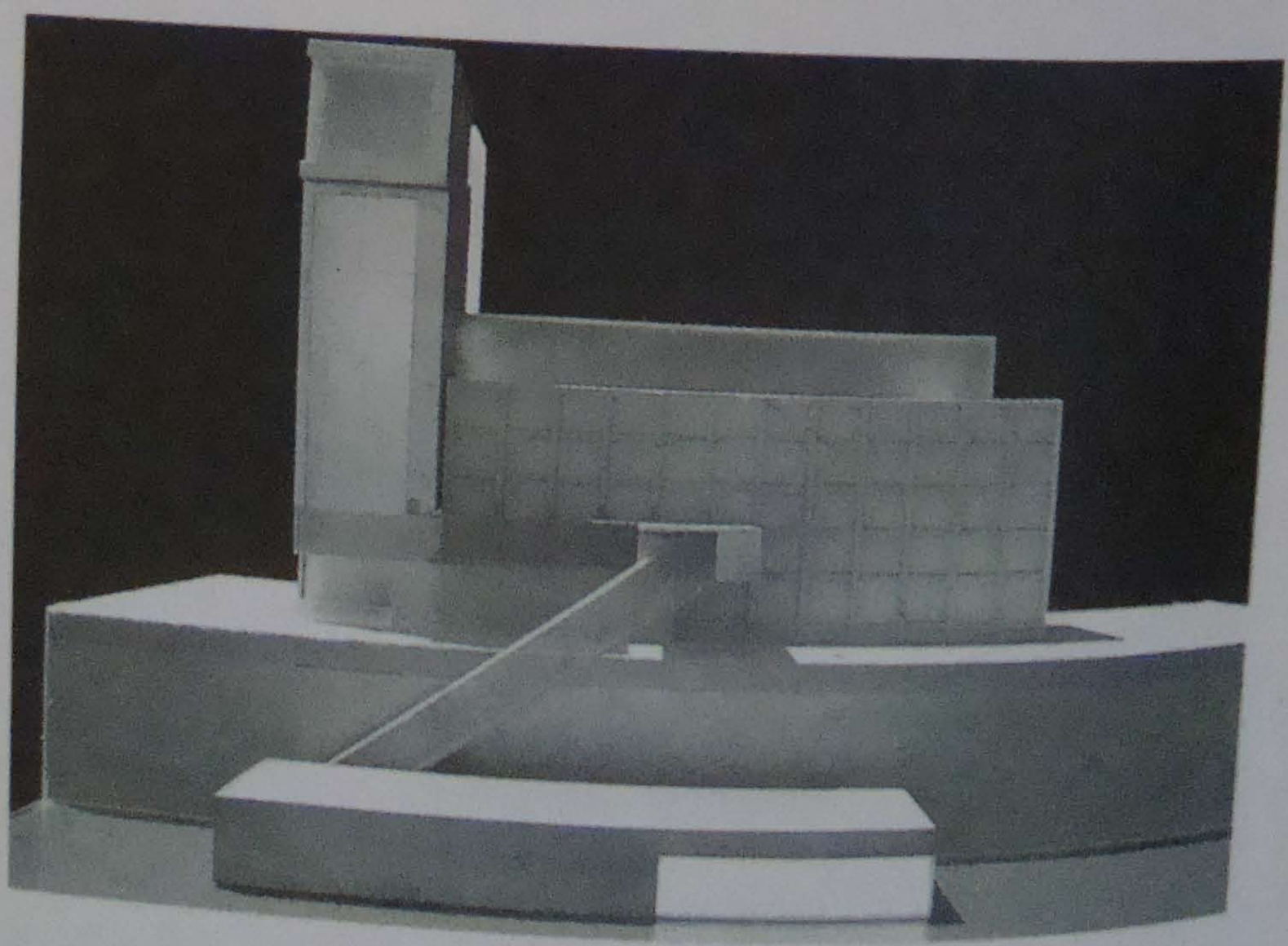










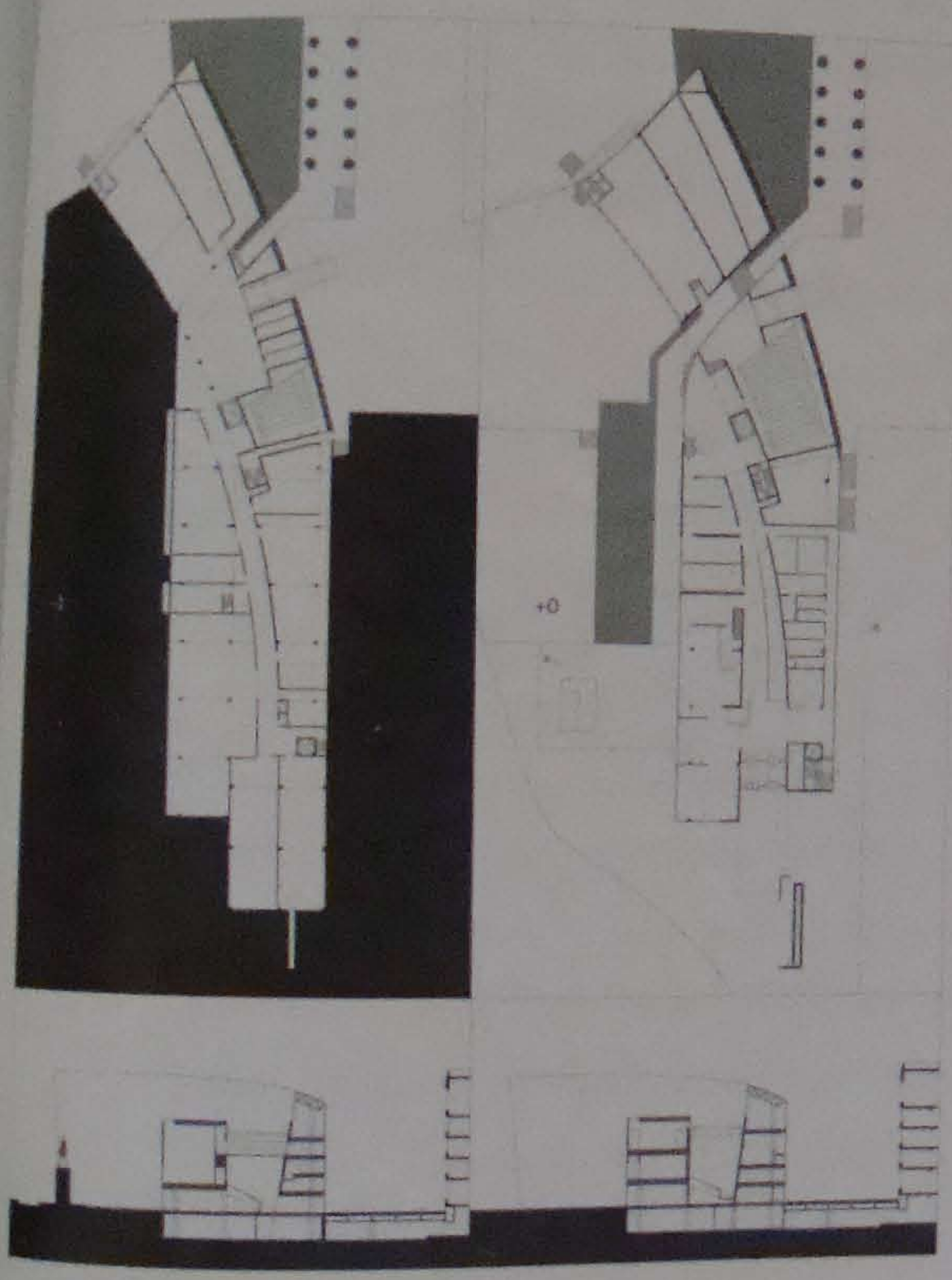


MUSEUM OF CONTEMPORARY ART
HELSINKI, FINLAND

1993

Program:	Exhibition space, public facilities
Client:	Finnish Board of Public Buildings
Principal-in-charge:	Steven Holl, Tapani Talo, Chris McVoy, Tomoaki Tanaka
Total floor area:	12,000m²
Construction cost:	$32 million

CONCEPT: CHIASMA: The overlapping geometries of the cityscape and the landscape is interwoven in the architecture of the museum. The gallery of slightly warped rooms of the interior provides neutral spaces for art.



1994

HYPO-BANK COMPETITION
MUNICH, GERMANY

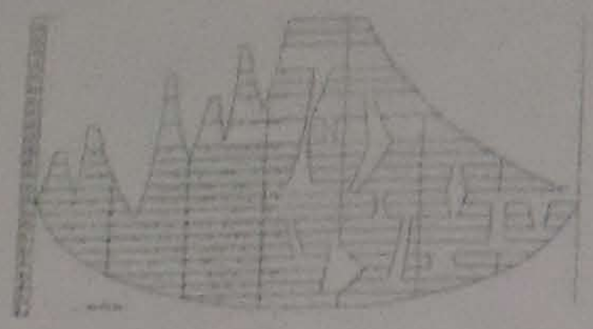
Program: Multi-functional upgrading of most of a full city block including new offices, a new banking hall, new shopping facilities, new apartments, an art hall, and related facilities.

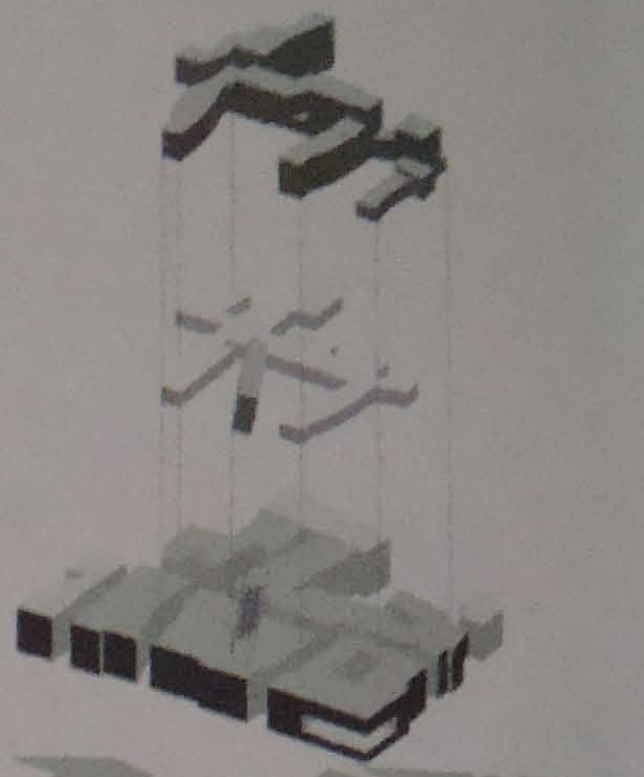
Client: Hypo-Bank

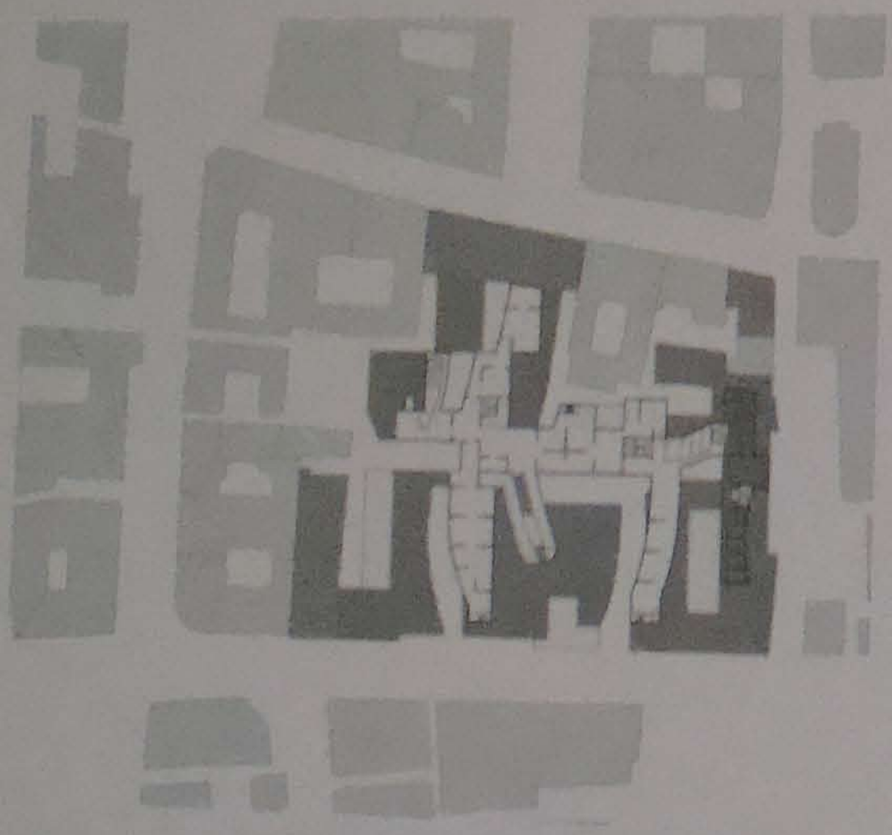
Project team: Justin Russell, Marie-Therese Ramoncourt, Justin Korhammer, Tim Bade, Tomoaki Tanaka, Anderson Lee

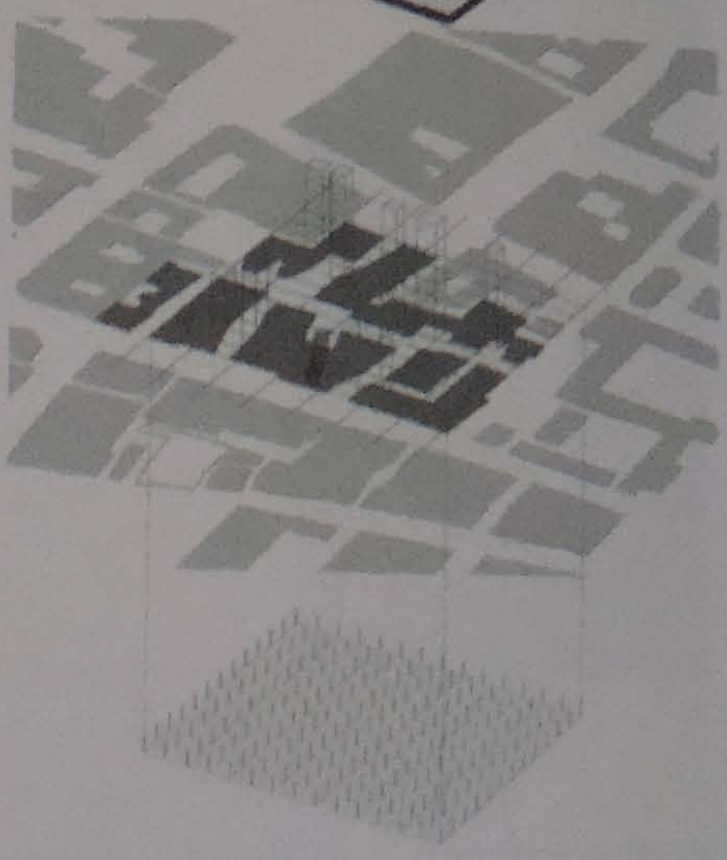
Total floor area: 59,000 m²

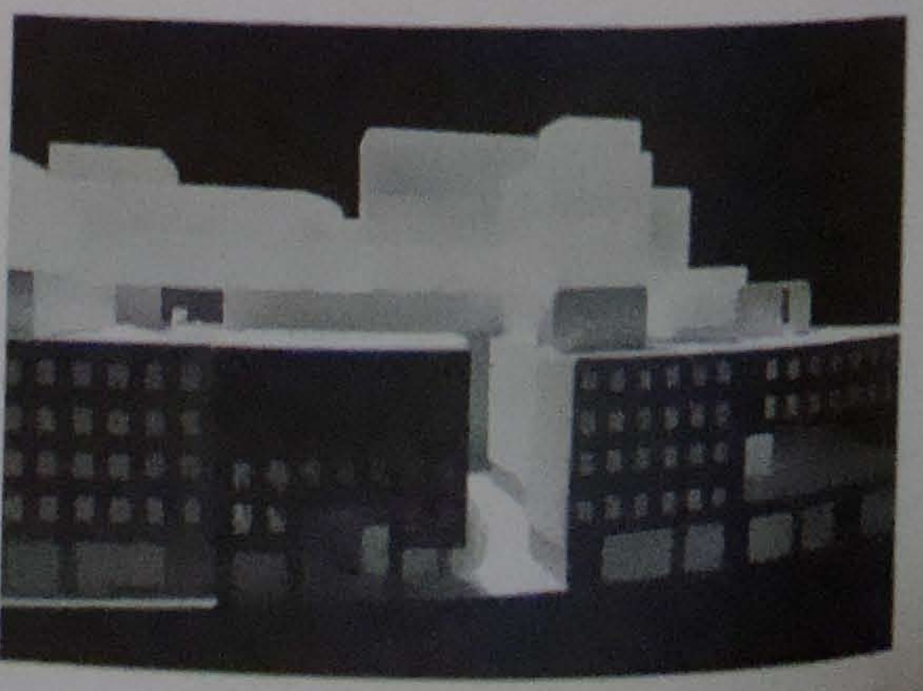
CONCEPT: To organize the maximum quality of living spaces and experiences a heuristic device, a musical score by Karl Stockhausen for a piece entitled "Gruppen" (inspired by a view of the Alps), is adapted.











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