COMPRESSION and RELEASE, ENCLOSURE and TRANSPARENCY

by Todd A. Goodling

Thesis submitted to the Faculty of the

Virginia Polytechnic Institute and State University

in partial fulfillment of the requirements for the degree of

Master of Architecture

APPROVED:

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July 1994

Blacksburg, Virginia

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(ABSTRACT) Todd Goodling

COMPRESSION AND RELEASE ENCLOSURE AND TRANSPARENCY

A philosophical standpoint that directly informs the design method: concern to invoke genius loci, to make a specific place, to give appropriate expression to architectural form.

There is an attempt to remain in touch with what, in another age, would be described as romantic: the emotional appeal of nature, collective archetypal aspects of human culture, and the individual creative impulse.

Polarities figure prominently: positive / negative, formal / random, orthogonal / organic. These are not all-out oppositions but symbiotic dualities--sides of the same coin. Orthogonal formality is posed against the site's natural vagaries. The positive is defined precisely by the negative: it needs the presence of the negative in order to register, and vice versa.

The siting of the building, its various materials and its different outlooks are all chosen with the aim of putting those who will inhabit it in touch with their surroundings,

the genius loci.

As well as architectural elements-- the sky, the horizon, the fall of light, the passing shadows, the planting, and the sense of movement through this place are all engaged.

This model is not organic, however. There is no attempt to disguise or soften the fact of human intervention. The architecture has to take possession, to make a mark: *I am here*.

Orthogonal order and axes are imposed. Ideally, the building could one day become ruins, retaining an essential architectural character and leaving marks of human ingenuity permanently inscribed on the natural.

There is an intention to understand human presence on the earth in terms of place and order. There is a sense of rootedness for the building. Where we spring from, the earth, is heavy. There is a sunken masonry base, the earth bermed up to form a half wall: *I am secure*. From this security the building is free to break open, reach for the sky, and to stretch existing structural and formal limits. This is another of those polarities, the rootedness to place on the one hand and on the other the drive to go beyond the scope of current forms, testing ideas, finding the new limits that define these times.

The idea of building on a platform of what is known to achieve something new is also the basis of a faith in originality as a primary goal of design. It is an idea of originality based on an orderly work method, one which proceeds from the way that information about the site is collected and analyzed.

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prologue:

T urning my eyes to the left I perceive the heap of rocks behind the shed and

behind the shed circled by the deep tracks of wheels the barn rises up and

behind the barn the fields are spread out and

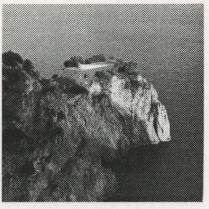
in the furrows a horse is plodding along and

behind the horse a plow is swinging and

behind the plow half lying on the plow handle the house boy is treading along and

behind the fields the woodlands are lying in a reddish purple mist...

taking possession

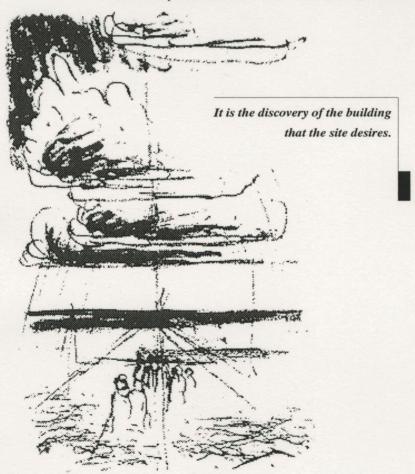


To build is to undertake a radical act of transformation--the founding of something new by altering a preexisting situation and balance. It cannot be

comprehended and evaluated in isolation or independent of its context--one must first establish contact with and take possession of the geographic conditions of the land. It is not just the introduction of an autonomous object into the site but, it is the designing of the site itself.

The reading and the interpretation of the land, and of its laws, become instruments for proportioning and controlling the new structure. Architecture is the act of discovering these things and bringing them to the surface.

Reciprocally, the new structure affords new interpretations of the landscape. The architectonic gesture should be speak a dimension and a scale for the new relationships that enrich the comprehension of site.



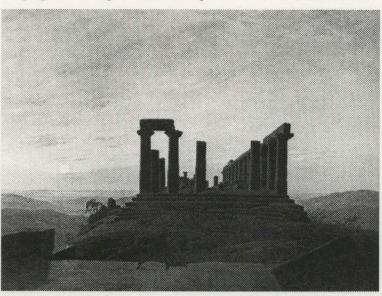
Sketch for church in Bagsvaerd, Denmark. 1976. Jorn Utzon.

Architecture and landscape, lucid and separate experiences, are like the rival protagonists of a debate who progressively contradict and clarify each other's meaning. In this contrapuntal approach, the architectonic gesture, basically a rational and geometric one, is counterpoised to the surrounding territory, which is revealed as organic and consolidated by the passage of time. The opposition of the two terms-- the environment with its own laws and balances, versus the new construction with its own spatiality-creates a relationship of reciprocal give and take between the new architectonic structure and the environment.

That which has been built shows itself to be different with respect to the environment, and yet strictly complementary with respect to the new equilibrium.

making places

To illustrate how built form assists man in visualizing his environment, Heidegger, in "Poetry, Language, and Thought," uses an example taken from ancient architecture:



"A building, a Greek temple, portrays nothing. It simply stands there in the middle of the rock cleft valley.

It is the temple that gathers around itself the unity of those paths and relations which acquire the shape of destiny for the human being. Standing there, the building rests on the rocky ground. This resting draws up out of the rock the mystery of that rock's clumsy yet spontaneous support.

Standing there, the building holds its ground against the storm raging above it and so first makes the storm manifest in its violence. The temple's firm towering makes visible the invisible space of air. The temple, in its standing there, first gives to things their look and to men their outlook on themselves."

What does this passage tell us?

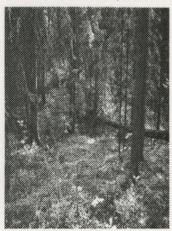
Heidegger points out that the work of art, the building, does not represent anything; rather it presents: it brings something into presence. The temple makes all the things of the earth visible: the rock, the sea, the air, and even the light of the day and the darkness of the night. In doing this, the temple opens up a world and at the same time sets this world back again on earth. The temple does not stand anywhere; it stands there--in that special place. That is how the temple accomplishes this.

The meaning of the place is revealed by the building. The world is disclosed by the work of architecture as the known or inhabited landscape. The built form brings the inhabited landscape close, and lets man dwell which is the ultimate aim of architecture. The environment is explained.

In the introduction to "The Concept of Dwelling," 2. Norberg-Schulz mentions a short story by the Norwegian writer Vesaas entitled "Last Man Home." In that story, Vesaas tells about Knut, a youngster who is out in the forest to fell timber. He has participated many times before, but today he suddenly understands what it means. "Here you are at home!" A wonderful, true and simple world is opened up just here, where he is born. Something happens to him today: the forest discloses itself. His own place is revealed. This is an important day for a human being.

Vesaas' story tells about what it means to be at home, Knut suddenly experiences what it is to know a place, to belong to a place.

And he realizes that this place has conditioned his own being, his personality. The locality discloses itself to him, and thereby his own place. Life becomes right and true because of



this relationship; it becomes meaningful. When we thus identify ourselves, we use the place as our reference. The particular place is part of the identity of each individual.

What does it mean to know this place-this particular site? How has this place conditioned those who have grown up here and now choose to make it their home? In Vesaas' story, Knut knows the forest, he knows how it is to move about among the trees, he knows the humming of the wind at this place, he has seen how the dusk leaks forth.

Within what context will the act of building take place?



The site once was part of a 400 acre family farm.

As with much of the surrounding land, the farm was physically separated by the construction of Interstate 83,

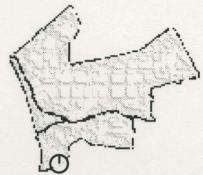
the main North/South route between Harrisburg and the Washington/ Baltimore corridor. Located in the

Altimore corridor. Located in the gentle hills of southern York County,

Pennsylvania, the site is a basin
shaped microcosm of the entire area.

Low lying wet lands surround springfed streams; woodland ascends the

Low lying wet lands surround springfed streams; woodland ascends the steepest portion of the basin's slopes; cleared grasslands occupy the less inclined portions of the slope; while wooded hedge rows often occupy the crest of the hills.



This pattern of trough, rise, and ridge is repeated throughout the entire area at differing scales. Vision is controlled by a clear delineation of foreground, middleground, and background -- yet what lies hidden in the pockets of the inbetween regions can never be completely visually understood or appreciated from any one vantage point. Here is the region's uniqueness:

Edward Hopper Cobb's Barns and Distant Houses ca. 1931.

participation without total commitment-glimpses without complete exposure.

The site always presents the choice or the opportunity to hide and feel protected or to climb and view beyond one's own rather small domain.

The farms which still survive in this region occupy the land in rather uniform fashion. The farms generally occupy all land which can be seen from the house. The house, barn and assorted out buildings are located at the lower portion of the basin walls--in close proximity to the water supply--usually a spring fed pond--and protected from the strong winter winds.

The cleared farmlands radiate from this point and climb (and descend) the remaining slope of the basin's walls. The ridge of the trough is left in woodland which serve to physically and visually demarcate the farms boundaries.

The arrangement of the house and farm buildings is also of unique character. The complex is formed by individual parts: main house, summer, smoke, and spring house; main barn; auxiliary barns; and storage sheds.



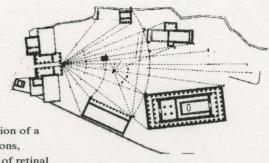
The journey can be as highly valued as the destination.

The choreography of arrival at the house (the path to it, as well as the path through it) has the potential to send out messages and induce experiences which heighten its importance as a place. One of the wonderful possibilities of architecture is the potential to provide a person a more comprehensible, experiential, and inhabitable transition through space.

In "Buildings as Percepts," Rudolf Arnheim describes human perception of a building as being formed by the mind from many individual impressions, particularly as one approaches or passes through that building (as sort of retinal snapshots). The end image of the building is the result of spontaneous integration of these multiple visual projections into a total perceptual image--similar to frames of film.

Inherent in Arnheim's view of spatial percepts is the participatory nature of the observer--and the choreography of that participation. The term "choreography" is chosen because of its clear implication of the human body and the body's inhabitation and experience of place.

Two spiritual archetypes are rich with the drama, transport and tension of this special choreography.



Athenian Acroplis according to Doxiadis

In "Architectural Space in Ancient Greece," Doxiadis suggests that Greek ceremonial sites were laid out around the human participant at the point where he crossed the threshold of the sacred precinct.

The site of the Athenian Acropolis was, according to Doxiadis, laid out with great sophistication in segments which located the corners of buildings. Seen in perspective, the

buildings were arranged completely to surround the observer, closing him off from the world outside and creating for him an inner space.

As soon as the observer moves, of course, the enclosure shatters, and the long views of the Attic plain reappear. This provides a curious, unsettling sense of revelation.

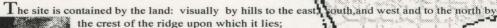
A similar choreography occurs in the Japanese tea gardens. In "Japanese Entrances: Cultural Symbols in the Landscape,"5 Marc Keane suggests that the tea garden (the roji, or dewy path) is meant to suggest the experience of a long journey from the city to a mountain hut, all in a small space. The roji consists of a series of landmarks, critical focal points and thresholds, at which the visitor is encouraged to release the concerns of daily life and progressively enter a more spiritual state of mind. The progression begins when the participant enters the roofed outer gate, moves through an abstracted and spiritualized middle gate, and, after stopping at various points for spiritual cleansing, arrives at the tea room itself. The essential experience of this progression is in the quality of change in the progressive passage from light to darkness to light within the garden.

Fnding support in aesthetic philosophy, the tea garden teaches a concept of design which relies on a sequence of spatial experiences to create its own special effects.

To the Japanese and ancient Greeks, The entrance and the

there is enormous content invested in transitional elements, and their metaphorical qualities. way of entering are as important as the destination itself.

site progression



physically by interstate 83 and the farm stream to the west, state road 216 to the south and east a by the woods and fence row to the north. These landmarks immediately give the site a context, linking it to the larger scale of the region. 1.

The site is accessed by exiting from the interstate and passing back underneath the exited road. This underpass serves as a sort of portal to the site. A gravel covered lane descends some twenty feet along the contour of a vetch covered berm, making a 90 degree turn

> From this point, the entrance is no longer visible and ahead lies an unexpected meadow dotted with wild locust and planted Zelkovia-surrounded on all sides by woodland. This is the bottom of the basin.

at the base of the berm. 2.

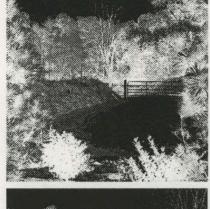
Continuing, the gravel road (which bisects the meadow) crosses the first of two spring fed streams which transverse the site. In crossing the stream, three free standing planes are encountered--a horizontal plane of concrete which spans the breadth of the stream, and two vertical block masonry walls which straddle either bank of the stream. 3.

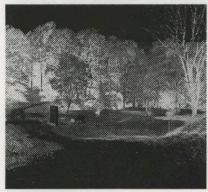
These planes begin the exploration of architecture as the introduction of an object onto a site--an object which designs the site. The planes, with their strict geometry and permanent nature, contrast with the continually changing and organic shape of the stream.

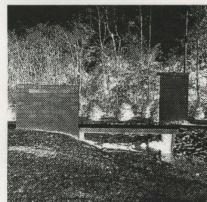
Upon crossing a second stream, the road takes a 90 degree turn to the

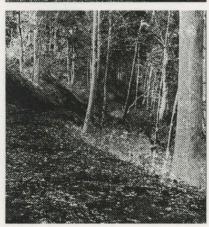
east, disappearing into a wooded area. The road, carved into the hill, gradually ascends the slope (an eventual rise of some 150 feet) through the woods following the base of an exposed rock ridge. 4.

At this point, visual contact with the interstate, with the streams,









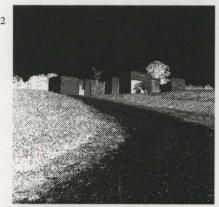
site progression

> Eventually, there is a gradual leveling of the road. Ahead, 30 acres of meadow; not flat

> > --trough and ridge --

visually defined by the tops of

the surrounding wooded hedge row. From this point, there are two important orienting views: to the south, a wonderful but brief glimpse of the stream bed some 100 feet below (a reminder of from where the journey began); to the north, just above the crest of a ridge, is visible the top of a concrete volume--an incentive to continue the ascent. Just above the outline of the concrete volume is the top of an enormous white oak. 1.



3

Again continuing the climb, the road gently encircles the

ridge, revealing three distinct concrete masonry block volumes--two uninterrupted but for a central opening, the third, and larger of the volumes is broken into three individual pieces on its east elevation.

Moving closer to the structure, it becomes evident that at this point, the

site has been terraced into a level platform to receive the building. 3. These three volumes contain 4 brood mare stalls, a foal run-in stall and a tack/storage room. The road bisects the volumes--the two undifferentiated volumes seperated by some 20 feet from the articulated volume.

In the middle of a wide open expanse, a "place" has been established --a site has been ordered--the meaning and characteristics of the landscape have become clearer and intensified. The qualities of the site have been presented/re-presented by the placement of a built form.

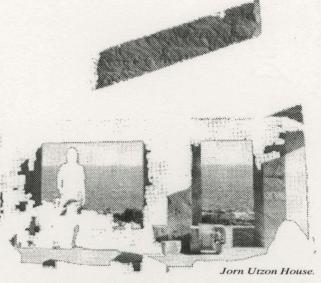
At the point where the road becomes the bisector of the block volumes, the site for the proposed project becomes framed. Here a foreground and middleground have been established

and now wait for a background to provide closure to the composition. 4.

design

The design process starts from the section, an architectural notation that allows the lie of the land to be described. An extended section is drawn which stretches well beyond the limits of the site, taking in the whole domain which is to be appropriated.

From an observation of the site, the horizon, the trees, the light, find a promenade. A naked site is a series of episodes; there is not a single point which constitutes the whole experience. When you walk about a site you don't consume so much of the view; the promenade gives it to you in bits at a time.



There is a concern to locate those who will use the place in a realm which is larger than the site. The horizon line is embraced in order to extend the domain.

What ultimately comes from the section is the interiorization of space. A sense of security is stimulated by awareness of one's own interior domain and that around it outside --locating oneself from within vis a via one's surroundings.

the horizon, comes the desired sense of enclosure-not so much inspite of it, but because of it, a reward for it--protected yet involved.

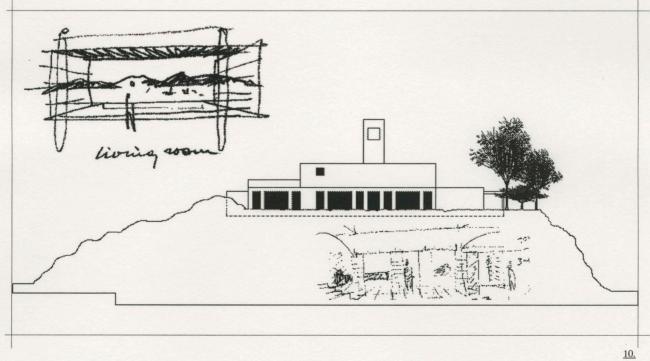
The section also allows for the positioning of the building platforms and the inscription of the roof forms.

From this "bringing in" of

"There is a kind of spatial appreciation which makes us envy birds in flight; there is also a kind which makes us recall the sheltered enclosure of our origin. Architecture will fail if it neglects either the one or the other.

It softens the edges of time and space and transcends visibility (allows spaces to enter each other and occasions to encounter each other in the mind's interior). It is kaleidoscopic." 6.

Aldo Van Eyck





Archetypes figure prominently too: earth, sky, and architecture's most primitive manifestations: wall, frame, roof, labyrinth. These archetypal elements have always been inherently potent signifiers, allowing basic human needs for security and well being to be tacitly acknowledged and expressed through buildings. Even sophisticated cultures crave formal expression of physical and psychic needs.

Abstraction is included in the significance of archetypes. The elemental and archetypal can be explained through abstraction; and it can explain tectonics-how buildings are made and how they stand up.

The frame and the wall occur throughout the work as a three dimensional built theme. Cave-like walls enclose and protect, open-mouthed space is completed by the trabeated frame. The lighter element of the frame mediates between inside and outside, releasing interior space; at the same time it discloses its archetypal structural logic of post and beam.

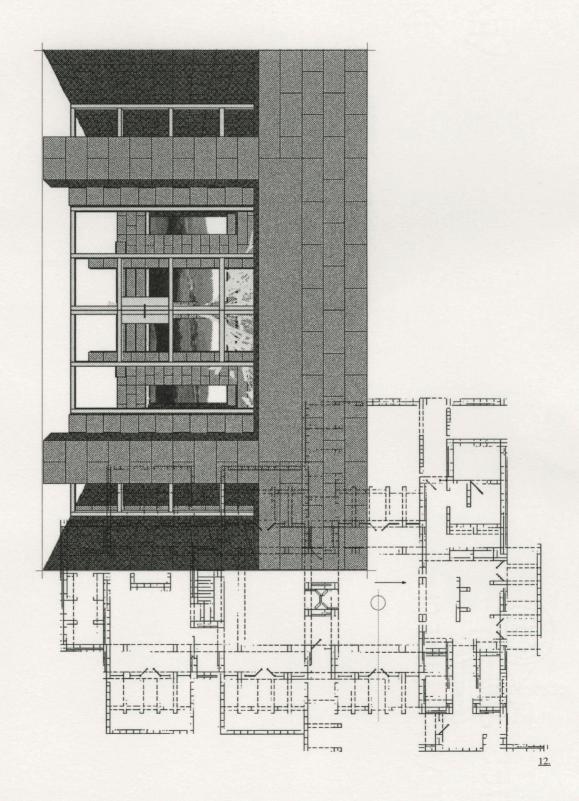
An enclosure formed by heavy sides requires a lighter element across the opening: columns, pergola, colonnade. By leaving a side(s) open, there is always the sense that you can push the limits, stretch out. A building that relies on walls alone is confined by its initial dimensions, by its inability to span larger distances and inflate its scale. In this there is the idea that inflation of scale, heightening, is a means of better expressing the essence of something.

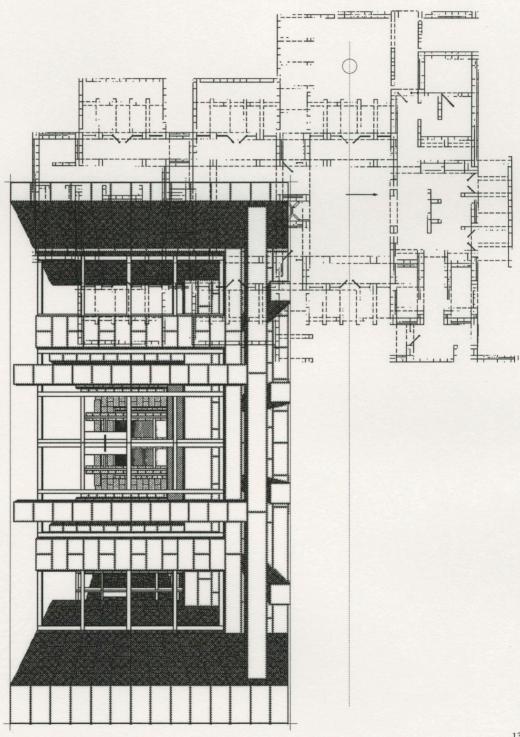
The walled enclosure opening to the view also suggest the human body, back to the wall, facing the world from a secure position. Implied in this idea is a realization that a role of architecture--much like religion --is to provide consolation and refuge from the world's traumas. Architecture is empowered to facilitate people in comprehending where they belong while retaining an awareness of their human separateness. It is in fact the very thing architects are required to maintain: to reconstitute by means of construction, thus keeping open what would otherwise close.



Pieter de Hoogh demonstrates what enclosure through openness and transparency can bring about, when he paints an open door or window and a doorway, passage or alley on a single line of view. Thus allowing one to see right through several interior and exterior spaces--sometimes even as far as the house gables across the street or canal-and always there are people articulating the entire depth once more.7.

This shows that the kind of openness which brings









Carceri of Piranesi

There is an endeavor to abstract design elements to their essence. The architecture can be reduced to three primary architectural elements: the wall, the sheltering roof, and the trabeated form of the loggia. As a mediating space, the loggia facilitates transition from inside to outside; but it also offers the wider realm of the site, focusing beyond the physical boundaries to encompass the horizon or the sky.

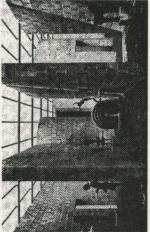
The architectural elements describing these forms were simplified and constructed with contemporary vernacular techniques and materials--concrete blockwork (some with a ground finish, some left rough), precast concrete lintels, and concrete pavers under foot.

From the initial section, a place where those who will inhabit the site might sleep was found--back against the rock, tree in front, and the horizon beyond were imagined. In finding that place, walls could then be put up, it could be roofed, and a cell was formed. This cell, in plan, could then be proliferated to make each of the other places in the house.

The cells were positioned using a labyrinthine promenade to tie the different places together. The promenade is the means for revealing each place in sequence. It establishes the connecting

route throughout the building, linking the different places and revealing the nature of each separate place and also what is important about the experience of the site at that place.

"To abide by only one logic makes architecutre monotonous and uninteresting. That is a major fault to which Modernism is susceptible. In the end, the simple box proposed by Modernism is. by itself, nothing but a simple box. I want to enrich architecture by introducing complexity into that simple box. A stimulating building in some way is contrary to, that is, betrays, one's expectations. I want to enrich architecture by introducing complexity into that simple box. I want to create buildings that seem simple in composition, but have a rich labryinthine quality."8.

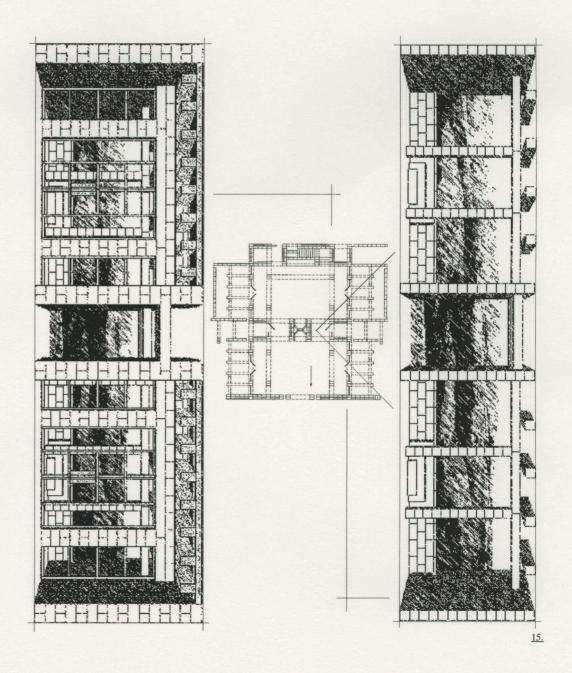


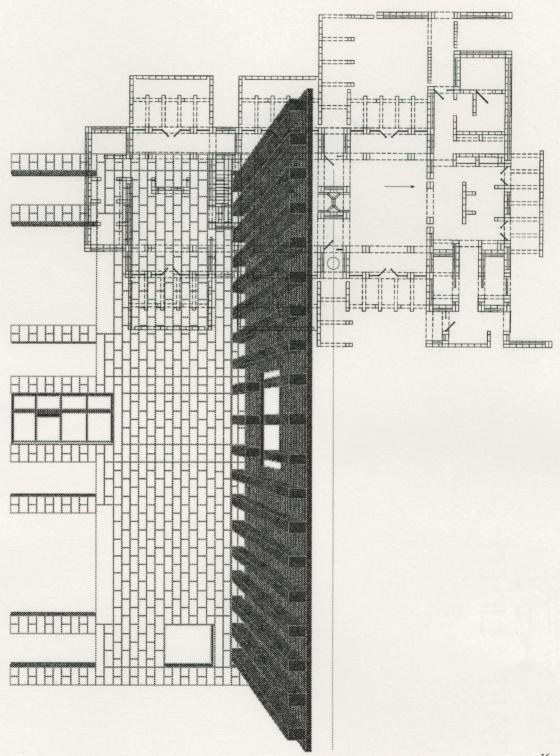
onsbeek Pavili

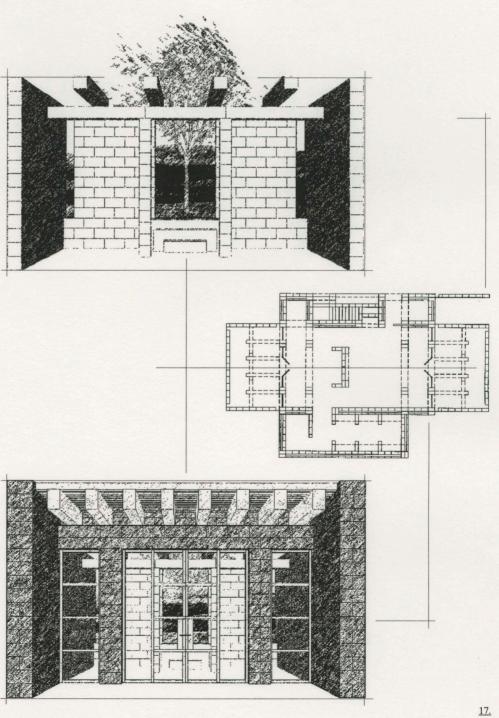
The architectural ordering ideas that were constantly employed are the promenade and labyrinth. The labyrinth in myth is used as a metaphor for self-discovery. Here this archetypal sense of the labyrinth is used to forestall instant and total revelation. It is important to seek and discover the secrets of the house.

Entry is not direct, but past a wall, penetrating and going behind it, turning, or being taken through an antespace before being given the entry proper and the house beyond. Movement through the house is similarly labyrinthine, rarely a straight route, and often with byways off the main path.

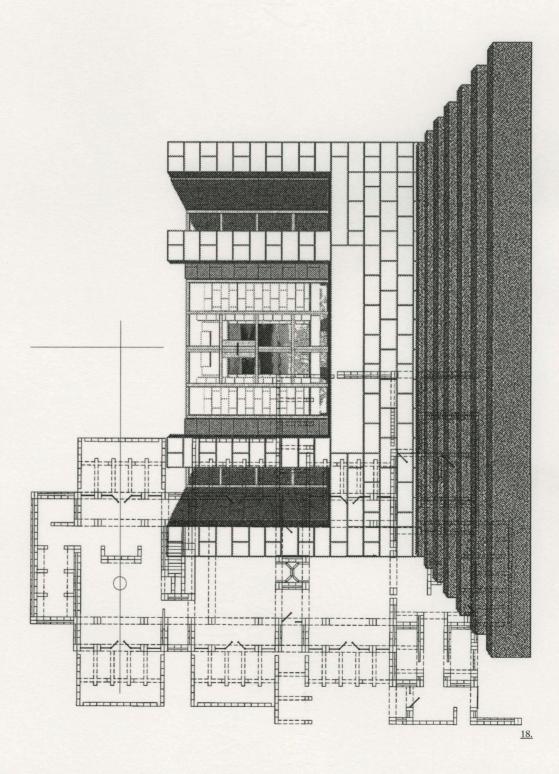
Every space needs its own focus to express its use, and the roofscape becomes a narrative explaining this. A single roof is not sufficiently complex to express the varied programme it shelters. The analogy is with a village, where everyone's own place is expressed in terms of a greater homogeneous whole.

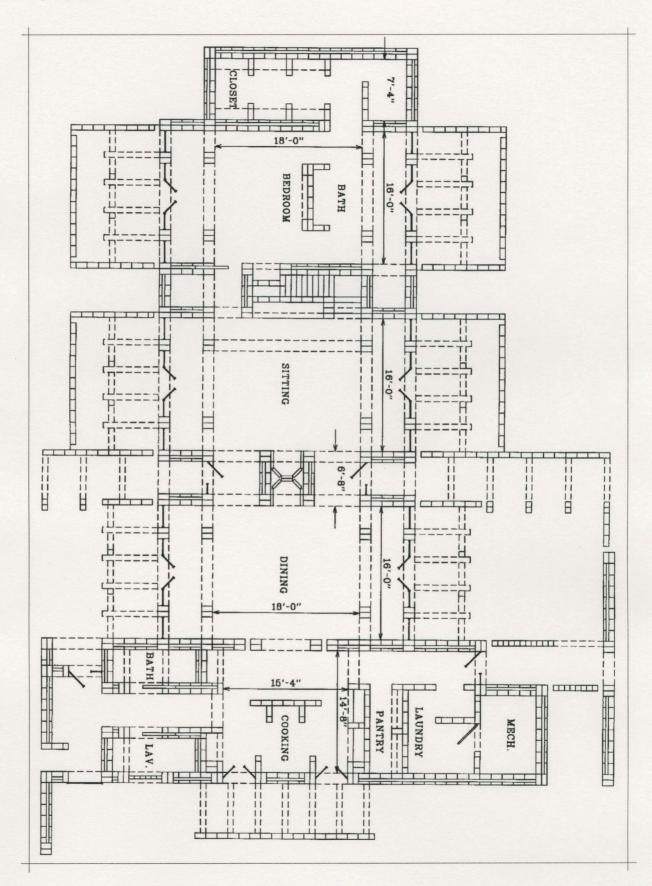






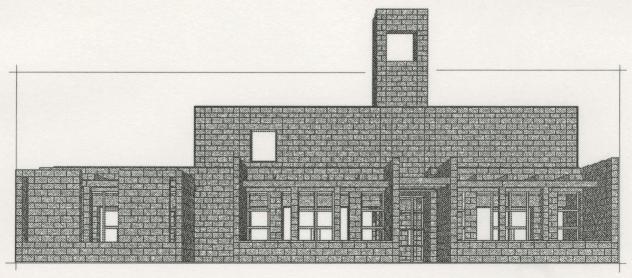
a place to sleep: back against the rock, tree in front, horizon beyond







Roofscape: living hall | bedroom elevation















Depths of field. A long-shot about fifteen meters deep. On the right, a rock on the small island of Lisca Bianca. In the background, a fisherman walks nimbly over the rocks. Just beyond the cliff, a man walks up the hill towards the camera. In the foreground, the back of a women's blond head as she waits to know about the man's meeting with the fisherman.

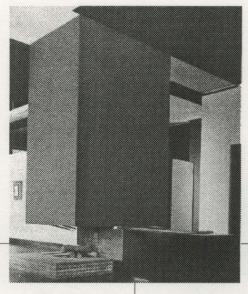
Four successive layers of action, plus a fifth, the backdrop of the sea, with three to three-and-a-half meters of space between each.

This is Michelangelo Antonioni's Aventura.

After the disappearance of Anna on the island, the wide-open rocky space breaks into a profusion of spatial relationships (double, treble or single) that become increasingly intense and claustrophobic, heightening the growing sense of anxiety. In sixty feet of film, the pensive Claudia wanders over the cliff, eventually stopping by a pool of water, while Sandro moves nearer to establish closer physical contact with her.

Antonioni stops the camera and brings
Claudia and Sandro together in a field two
to two-and-a-half meters deep. First
Claudia is seen from behind with Sandro
lower down. Then the reverse: a close-up
of him with her higher up. Different depths
of field, then: an intermediate shot with half
and full length figures enclosing the action
at a depth of two and a half meters without
excluding anything happening in the
background.

No details are really in focus: the need is simply to describe relationships in a frame that is already a setting (however condensed).





Left: Vittoriano Vigano, Milan apartment, 1958. Craig Ellwood, Hunt House in Malibu, 1956, the living room fireplace. Below: Le Corbusier, services column in his cabin on Cap Martin, 1952.

Now we move to a place Antonioni could have chosen for Notte, the film he made for a restless middle class Milan, Vittoriano Vigano's apartment, designed by Vigano himself. Direct access from the lift into the large through-space of the living-room, seven meters deep, raises doubts in the architect's mind that space is being simplified too much: ...but surely that way I would come straight in, wouldn't I? And I'd be too immediately at the center of a space that holds too few secrets.

Similarly, on entering the living room of his own Hunt House in Malibu, Ellwood must have wondered: why should I already display the 180 degree view of the beach from the entrance instead of revealing it gradually in a series of framed views?

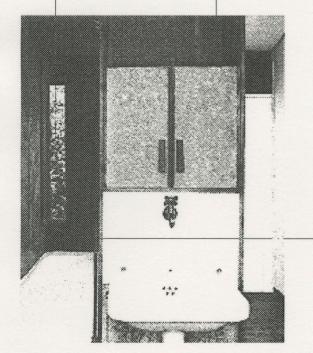
And Corbu, in his cabin
(one of the greatest cell
masterpieces of all time) on
Cap-Martin: why see all 16
square meters of the cabin at
a glance instead of through a
series of frames that change
with every step I take?

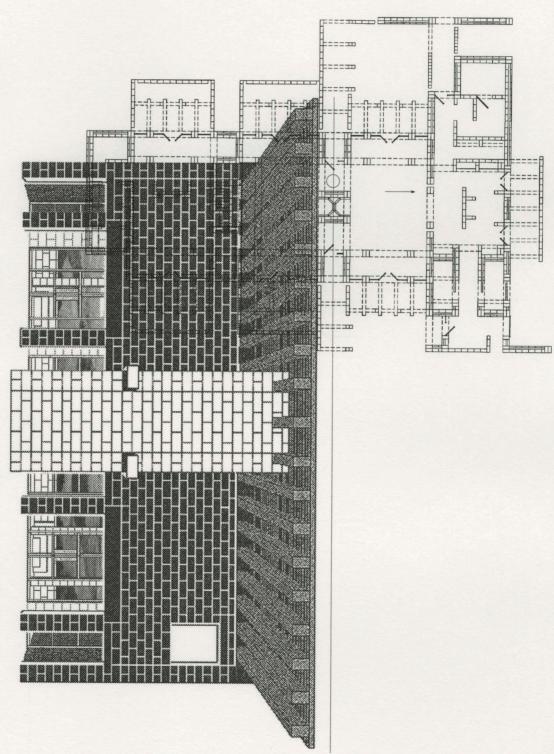
Vigano responds to the large open space by drawing down the black plastered volume of a fireplace two meters in front of the lift to screen off the start of the living room, and adds "movement" to the rear wall with rustic plasterwork framed by a pilaster on which paintings can be hung (Ellwood also interposes a connecting fireplace in front of the glazed wall over looking the beach, and Corbu enhances the services column in the center of the room to interrupt the sequence of furniture around the edge of the room and prevent the footboard of the bed from becoming too prominent).

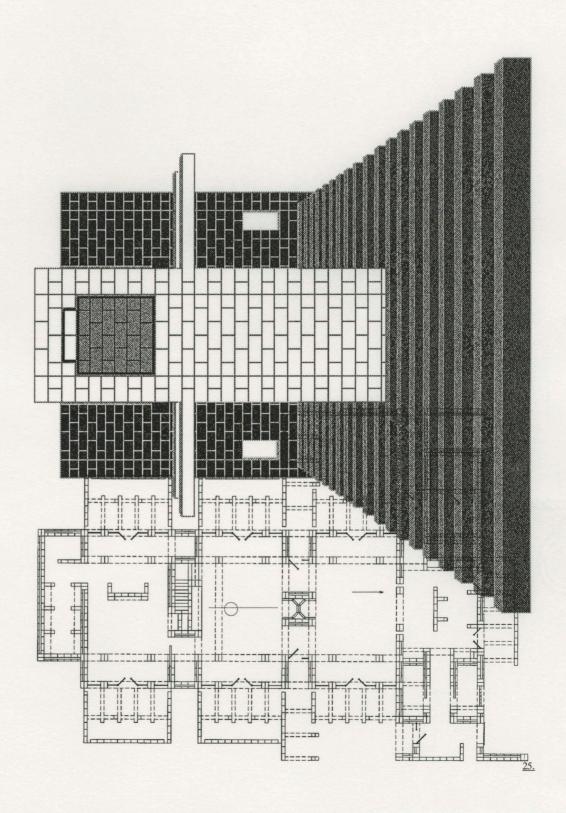
Depths of field again: sub-spaces, as it were, which enhance living space and bring it that bit closer to narrative by carrying to extremes, where possible, the spatial gymnastics of sequences, hierarchies and movement without which interiors would be reduced to a stereometric sequence of rooms.

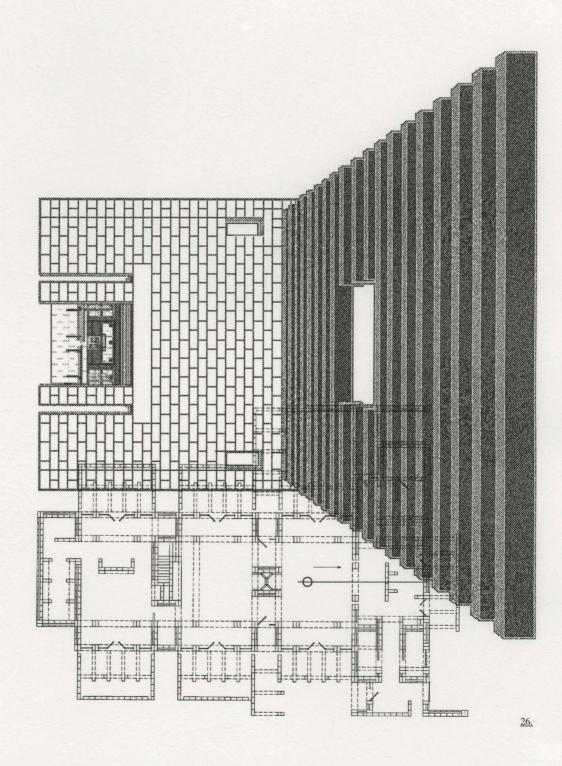
Depths of field done the Antonioni way. When dealing with large or flowing space (for the sake of convenience, let's say a space comprising several environments whose ceilings are more continuous than their floors), the main problem is how to offer main backgrounds that are never inert--and a background is never inert when it contains movement. In architectural terms, this means when it relates to or contrasts with (is never identical to) another background. This makes it possible to move flexibly from one plane to another, even when initial conditions are very different, by smoothly linking any given space to another through a series of interrelated planes.

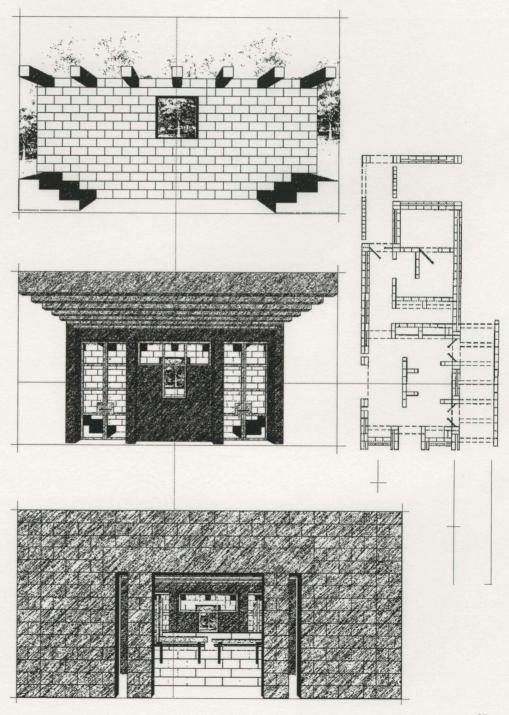
A narrative sequencing...

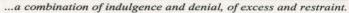


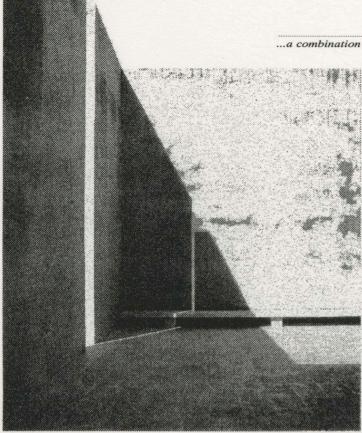












This architecture develops the realm of direct experience, with well-being central to how places are created. Well-being, pleasure, results from being able to hear, see, sniff and feel the earth and the elements and feel safe between land and sky.

Somehow architecture has to make this most crucial basic sense of well-being apparent to inhabitants, even abundant.

If nothing else is left but a cotton mattress and a candle on a stone floor--architectural experience distilled to its essence--a person might still be able to feel good.

Simplicity brings with it a certain monumentality. It accommodates the fundamental essence of architecture: compression and release, enclosure and transparency.

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