TOWARDS AN ARCHITECTURE OF REALITY

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I dedicate this book to my parents.

Thank you God for all the blessings. Thanks for the guys that were there for me. , thanks for your support and your help filling my "cultural gaps". Thanks to the members of my committee for their patience, support and guidance. Um grande obrigado para as pessoas no Brasil que acreditaram e torceram por mim, e que me incluíram em suas orações. and , thanks for being there. My grandparents, for always reminding me of my origins. And finally, a special thanks for a special person, , your loving care made it bearable and possible.
“The compulsion to repeat may manifest a lack of hope, but it seems to me that to continue making the same thing over and over again, in order to reach different results, is not merely an exercise: it provides an unique freedom to discover.” This quote by Aldo Rossi pretty much summarizes what I have been doing in the past years. I have been trying to find my expression of Architecture that reflects our times or that reflects man in our times.

There is no Architecture without Man. “Architecture has to serve Man”, in giving meaning in his material and spiritual life. “At this point it seems safe to say that, first, real Architecture is Architecture especially ready - so to speak - for its direct esthetic experience, an Architecture that does not disappoint us by turning out in the light of that experience to be little more than a vehicle contrived to bear meanings; and second, real Architecture, if it must inevitably be an Architecture about something (at least from the perspective of a designer or critic) is about being (very) real.

“Architecture is both of the world and about the world. It never simply exists; it also communicates; it has content; it conveys messages.”

“The job of Architecture is not to beautify or ‘humanize’ the world of everyday fact, but to open a view into the second dimension of our consciousness, the reality of dreams, images and memories. When Architecture dissociates itself from its metaphysical and existencial basis, it becomes entertainment, amusement and architectural muzak.”

“These profound exigencies, the need for memory, the need for archaic suggestions, the need for mythical forms, the need for confrontedation between man and cosmic values, the need for the great ideas of the past, are all, in fact, the real motivators which have sustained the need for expression and testimony in every epoch... I believe that today making Architecture is a way of resisting the loss of identity, a way of resisting the banalization, the flattening of culture brought about by the consumerism so typical of modern society. In this sense, Architecture is more an ethical than an aesthetical phenomenon.”

Through Architecture I seek truth. I seek this Architecture of Reality. Throughout this seeking, I have always considered the following elements as important in my design process: Contextuality, or the relationship of the building with all factors, concrete and abstract, such as site, weather, time, culture, existent buildings, etc.; Materiality, or the relationship of the building with itself, whole and parts; and Experience, or the relationship of the building with people and city life, internally and externally; all tied up by Order, or an ordering principle.

"Architecture never exists in a vacuum: it is touched on all sides by its context." 7

"I believe that good Architecture is always a critical interpretation of context. It is always a question of making any intervention an integral part of the cultural and historical situation of the site... There can be no indifference toward the site. It is the very territory of Architecture as well as the primary condition determining the laws by which one must build." 8

I take the site as the very beginning (though not the originator) of my design process. At the same time that Architecture is touched by its context, it also gives an interpretation of this same context. Any site is rich enough to tell me, until a certain degree, of how a building is going to be. It can talk to me through the people, the buildings, the paths, its physical conditions. They tell me about the scale, the proportions, the history, the local climate; they will be reflected both inside and outside the building.

But the most important hint the site gives me is about the possibilities. All the other factors are given. The possibilities are potentials to-be. And the more potentiality there is, better are the chances I can reach out further than the physical properties of the site, that is, to better integrate the building to the city, and therefore, giving my contribution to the city. I particularly like the concept of working the building as a city and the city as a building.

"In Architecture, I like to see the realization of a sense of place... To make a place means to resolve a human proposition in poetic terms... A place is concrete, tangible: a ‘good’ place has to do with how well it promotes human accommodations. The function of place in a city is to put different people in contact with each other, not to connect monuments with monuments." 9

The site of my thesis project gave me the opportunity to work this concept, and to go beyond the building - in providing urban places, the relation of them, the relation with the existing ones, in making the city a more human place.

There are a lot of potentials implied by the paths and by the site as it is the transition point between town and university. Two worlds come together with their different scales, densities, population, and orders.

1. Architecture and Urban Studies
2. University Drillfield
3. Town 16 Original Blocks
4. Newman Library
5. University Bookstore
6. Squires Student Center
7. CEC and Alumni Hall
8. University Club
9. Architecture Annex
10. Armory Building
11. Health Clinic
12. Commercial Area
13. Town Parking Lot
14. University Mall

Site Localization Plan
The site is a transition point between the Town of Blacksburg and Virginia Polytechnic Institute and State University. Their different scales, densities, population and orders meet. The connection is the College of Architecture and Urban Studies for VPI & SU. The building acknowledges the existing and the potential pedestrian pathways; it is a gate between town and university. It also recognizes the existing proportions and languages - building heights and materials, for example.
Site Situation Plan

The building creates urban places by allowing pathways through and around it. It also gives a facade to the paths: the public square in the residual space between the Alumni Hall and the Squires Student Center (4), which is further defined by the Architecture School; the building ends the path that comes along the Squires Center from the University Mall (5); the internal street gives a function to a space otherwise neglected as only a parking lot (6).

1. College Avenue
2. Otay Street
3. Draper Road
The project is roughly the size of one of the original 16 town blocks. The corners are defined and the relationship of the building with its immediate context is suggested. The project tried to maintain as much of the existing vegetation as possible.
Oley Street Perspective
Perspective shows studios and part of the Alumni Hall, looking towards the Student Center.

College Avenue Perspective
Perspective of school's shops and part of the Student Center, looking towards Main Street.

Axonometric
The perspectives show the relationship of the building with its neighboring buildings; the scale is brought down with the material, openings and volumes, attempting to compensate for the bare and scaleless existing walls.
Interior and Open Courtyards

Stone and water are the components of the interior courtyard; grassy field and trees are dominant in the open courtyard; their elements suggest their function.

College Avenue Elevation

Extended elevation from Main Street to Alumni Hall shows the building establishing the transition from town to university; information of both realities are translated in the building.
College Street Perspective
Perspective shows the Architecture School's shops and looks towards Newman Library.

Internal Street Perspective
View of the stairs along the Architecture School's library and the Armory Building.

Internal Street Elevation
Elevation from Roanoke Street to the University Mall illustrates how the building responds to the immediate context and how it creates interaction opportunities.
Studios East Elevation

Studios elevation and public spaces are shown by a section through the school's courtyards and gallery, from Roanoke Street to College Avenue.
"Marco Polo describes a bridge, stone by stone. 'But which is the stone that supports the bridge?' Kublai Khan asks. 'The bridge is not supported by one stone or another,' Marco answers, 'but by the line of the arch that they form.' Kublai Khan remains silent, reflecting. Then he adds: 'Why do you speak to me of stones? It is only the arch that matters to me.' Polo answers: 'Without stones there is no arch.'”

In the same way, material also has its share as a reality connector, as it tells how and what makes the building.

"In every material there is a vocation of forms. In every material there is a desire of forms. In every material there is a condition of forms."  

"The nature of material decides the nature of form."  

I have been working with brick as material for some time now. I believe I have to know one material good enough to understand it, to master it, so I can use it correctly.

"You must honor the material you use, not to lose its character."  

"Construction and material are the tools of the craft itself. Without construction, there is no Architecture; and construction is realized by means of structures and materials. There is no such thing as good or bad materials; materials are either well used or ill used."

Brick is my very unit that grows and forms a whole structure - the building, that is like an organism, made of systems. I really hope that at some point, the honesty and truthfulness of my material will reflect in the structure of the building - in the columns, walls, floors, ceilings, atriums, bridges - as well as in the systems of the organism.

We all know a building depends very much on these systems to function well, and for more anti-architectural as it sounds, all systems have to be considered - as to where and from where water, air, fumes, energy goes. I believe this can help in making Architecture rather than going against it.

1. Studios
2. Computer Lab
3. Graphics Studio
4. Pottery Studio
5. Silkscreen Studio
6. Photo Cubes
7. Administration
8. Classrooms
9. Gallery
10. Library

Second Floor Plan
1. Studios
2. Classrooms
3. Gallery

Third Floor Plan
The understanding of the material brings down to my next point which is experience.

“A hall of a thousand columns can awe us in the same way and for the same reasons as a single giant tower, and repetition, despite its undeserved reputation for being boring, is one of the architect's key tools: Even the humblest form, presented with enough frequency, can produce a strong effect.” 15

In using my material correctly, there is a whole range of potentials for different perceptions. To illustrate that, let's say that the perception of a building from a hundred feet is very different from the perception of it from one foot. Through the other ninety-nine feet there are various things to be discovered by the process of experience. First, the sense of sight in perceiving the overall color, forms and outlines, then shadows, apertures, patterns are defined, until finally, the sense of touch in perceiving the texture, hardness and temperature of the material. An architectural experience has a lot to do with time. An architectural experience involves man, space and time - it is an incremental experience. There is no way to grasp the whole thing at once.

"Man and space cannot be distinguished from one another. There is no such thing as man and space side by side." 16

I would add time here, because this is what makes the experience of a place so unique, the time of the day, the time of the year, the time in one's life, all come together to set the mood for this particular experience.

"All places have character, and that character is the basic mode in which the world is 'given'. To some extent the character of space is a function of time; it changes with the seasons, the course of the day and the weather, facts which above all determine different conditions of light." 17

When I thought of the different rooms of this project, I had one thing in mind for all of them - that is, natural light. I think every space deserves to have natural light. Light is the most important element to connect Architecture and Reality. Not only it reveals forms, colors and texture it also makes us aware of our presence on earth.

"Light is the true generator of space." 18

Light gives the character of space, by the way it falls in the space.

Let's not forget, though, about the absence of light.

"We put thirty spokes together and called it a wheel; but it is on the space where there is nothing that the utility of the wheels depends. We put clay to make a vessel; but it is on the space where there is nothing that the utility of the vessel depends. We pierce doors and windows to make a house; and it is on these spaces where there is nothing that the utility of the house depends. Therefore the being of things is profitable, the non-being of things is serviceable." 19

"Boullée explicitly asserts that he had discovered the Architecture of shadows, and hence the Architecture of light. With this insight he taught me how light and shadow are nothing but the other faces of chronological 'tempo' which displays and then consumes Architecture, and presents an image of it that is brief yet simultaneously extended." 20

Some spaces need more light. Some spaces need no light at times. Some windows have shutters for partial or complete darkness. Some spaces have windows and skylights. And as silly as it sounds, all the openings open. Wherever is possible, there is cross-ventilation.

There should be not only visual exchanges between interior and exterior worlds though the openings; there should be other kinds of exchange - fresh air, humidity, noises, smells, temperature. This is another way to connect to Reality, the use of senses.

The concept of a self-sufficient building seems to make sense for the maximum productivity work place or a comfortable home environment, but it seems to me that this is the ultimate disconnection with Reality, besides wasting energy and polluting the environment.

"I believe that technology is a tool, and as such it can be either well used or ill used. The culture of our time has put too much faith in technology for its own sake, without ever rooting its implementation in human dimensions. We've got to the moon, and yet in most cases we have not been able to make better houses on earth." 21

In relation to the experience of place within the building, I always have and attitude of giving a choice for being alone or being part of the group in the same space, much alike what is described as twin phenomena by Aldo van Eick. This situation happens, for example, in the studio space, in the study niches of the library, and in the work stations of the shops.

**Studio Unit Floor Plan**
The studios units are separated and/or united by the "servant" spaces: restrooms, stairs, lockers, water fountains, elevators and storage rooms. The gallery is the main access to the studios and the connection of the studios with the rest of the school.

1. Studio  
2. Atrium  
3. Stairs  
4. Restroom  
5. Storage  
6. Elevator  
7. Gallery

**Studio Atrium Perspective**
The atrium is the common space present in each one of the studio units. The skylight provides the additional sunlight in these working spaces, so that the less privileged spaces (center, far from the windows) can also have sunlight and a view of the exterior world.
Studio Area Interior Perspective

Balconies, floor and ceiling pattern help define individual spaces in the larger studio space which is divided in four units. There is a relationship of the four studio units in the horizontal direction through the corridor, and a relationship of the five floors in the vertical direction through the atrium, making it possible to see the units as a whole.

Studio Unit Axonometric

The building structure is more easily seen through the axonometric: the atrium columns support and contain the skylight; the "servant" spaces walls are the main support of the buildings - taking the loads from the studios. They work as a block, or as a big column, allowing the studios spaces to be very free.
Classrooms Partial Floor Plan
The rooms are designed so one wall can be used for projections: the windows have wood panels to darken the room, equipment can be stored in cabinets under windows, and window sill works as a stall for the projector. Side walls are used as blackboard and pin-up space.

Classroom Interior Perspective
There are three regular classrooms (for 30 persons) and a larger one for reviews (for 45 persons) or for small lectures. Classrooms are connected to the rest of the building through the gallery and are located in a very privileged area, between the two courtyards.

1. Review Room
2. Classroom
3. Gallery
4. Stairwell
The gallery is the spine of the project. It is the entrance door of the building, a semi-private/public space, the place in the school that is closer to the public domain than any other - it invites the public to experience the school, the town, and the courtyards. It is the place where works are displayed and people meet.
The small perforations on the walls of the studios and connection bring tiny rays of light in otherwise dark spaces. The connection is also used as a service entrance for the shops and studios (materials, equipments, furniture). The encouter of the two grids both creates and acknowledges the corner of College Avenue and Otey Street.
Shops Partial Floor Plan

Shops have working stations for individual work and a central space for group activities. Floor pattern defines individual and collective spaces, as well as the ceiling pattern, which contains the artificial lighting (this scheme is also repeated throughout the building). Shops entrances are on the side, so the traffic does not perturb activities and the shops can be linked.

1. Shop
2. Restroom
3. Bridge

Bridge Preliminary Study

The bridge is an analogy of College Avenue: it is a pedestrian street; even though it is protected from the elements, it is permeable enough to bring light into the shops. It connects the shops with the rest of the building and with the internal courtyard (a public space); it also works as a gallery where shops works and activities are displayed through the working station's openings.
Shop Interior Perspectives

The setup of the shops can accommodate wood/metal, concrete/plaster, graphics, pottery and silkscreen activities, by offering a free central space that adapts to the different equipment or machinery that each activity asks for. The computer laboratory have a more controlled environment to protect the equipment; the darkrooms and photo cubes have their own setup accordingly to each function.

Shop Working Station

Work stations are composed by individual counter and cabinet space; each shop has eight of them. Stations that open to the street encourage passersby to watch the shop activities; stations that are open to the bridge and courtyard have a display space in form of shelves, protected by a glass surface. The shelves were also intended as a way to bring more light into the shops.
Administration Study Section

Emphasis is on the public access: centralized and recognized as an entrance - a hall that welcomes and orient the public. The corridor is permeable, avoiding the concept that haunts administrative buildings: isolated rooms and corridors with endless doors. The building opens to an internal pedestrian street, thus being accessed by people, not vehicles.

1. Hall/Mezzanine
2. Faculty Office
3. Administrative
4. Stairs/Elevator
5. Xerox/Kitchen
6. Restrooms
7. Storage

Administration Floor Plans

There are eight faculty offices, each one shared by two to four faculty members. All faculty offices face the internal courtyard for a more peaceful, silent environment. The wood and glass panels that separate the rooms (private) from the corridor (public) are intended to block the noises, but not sight and light, so employees do not feel isolated and claustrophobic.
Library Study Niches
Study niches are individual study spaces where the scale of the library (community) is brought down (individual) through the furniture and lighting fixtures: it is a room in a room. Books are stored in different rooms and in distinct arrangements, presenting different experiences: the experience of being surrounded by books can differ from room to room.

Library Floor Plans
Library is also divided in two areas: enclosed and open; the mezzanine establishes spatial continuity. The enclosed area is for books, the only natural light coming in from the skylights; the books make the walls. The open area is for studying and reading, and it is open to a courtyard through tall windows. Windows have wood panels to screen the western sunlight.
Finally, bringing everything together is Order: "Order and Discipline: the more art is controlled, limited, worked over, the more it is free." 22

"Much has already been said here about order. The reasoned relationships of parts to parts, of part to wholes, of building to places, the power of repetition and modularity, the perception of complete units, the expression of construction realities, and the signification of inherent meaning - all are born only of order, not of chance. The logical ordering of design is at the heart of an architect's task... Architecture, we have said, must have a meaning, even if it is an untranslatable one, and logical order in architecture is not an end, but a means of clarifying that meaning and making it perceptible." 23

"Order, for me, is the matrix of all artifice; it is the concretization of thought, of reason, in relation to the natural world. Architecture is the activity which transforms nature into culture. Order, which is often based on geometry, is the vehicle of this act of transformation. I love the element of order, of rationalization, as an aspect and as a tool for counterbalancing the natural world. The juxtaposition of an artificial element with a natural one creates a rapport and a clash that, in its intensity, typifies the architectural event." 24

"A free Architecture does not exist. Architecture is order, the order of itself. Architecture must be perfect as a shell, but life must vibrate within it ever as the sea sounds inside the shell." 25

Order is present since the beginning of the design process. It involves geometry, symmetry, hierarchy, repetition. It is physically present in the structure. It is more than a tool for organization. It is more than just a rule. It is more than discipline. It is more than a module.

"Order is." 26

What I can say at this point is that my ordering principles seem very strict and limiting, but this very limitation is what gives me freedom in my design.

Pottery Studio Work

The wheel was chosen as the technique to develop the studio project. The study of objects' form and the making of them was related to the making of Architecture: the proportion, the structure, the section. The translation of Architecture from the mind to the hands was attempted in the study project. The tiles study consisted in four identical tiles combined together forming various patterns which could be repeated or combined. The simplicity of a single tile turns into an array of possibilities.
Sketches from the Study Abroad Program

Various techniques were explored as a tool for architectural representation: The Greek islands, in watercolor; a street in Girona, Italy, in pencil; Ronchamp Chapel, Le Corbusier, Besançon, in watercolor and pen; Mario Botta, Ticino buildings, in pen; a column, Stadelhofen Train Station, Santiago Calatrava, Zurich, in pencil; Katholische Pfarrkirche St. Ignatius, Gottfried Böhm, Frankfurt, in pen.
Photography Study
A study of how one sees the world or how the world is presented to someone. The study's emphasis was in making photographs that had a meaning, or meanings, beyond the obvious. The language of light, shadow, composition and texture, as well as Architecture, is used to bring an image to life and transmit the reasons that made the subjects be photographed.
"Architecture is a thing of art, a phenomenon of emotions, lying outside questions of construction and beyond them. The purpose of construction is to 'make things hold together'; of Architecture is to 'move us'. Architecture is a matter of 'harmonies', it is 'a pure creation of spirit'." 27

"The artistic dimension of a work of art does not lie in the actual physical thing; it exists only in the consciousness of the person experiencing it. Its meanings lies not in its forms, but in the images transmitted by the forms and the emotional force that they carry. Form only affects our feelings through what it represents. Architecture has its own origins, and if it moves too far away from them it loses its effectiveness. The renewal of art means rediscovering its deepest essence." 28

"Meaning in Architecture lies in the truth of its reflection of human nature and in the integration of its expression." 29

"Yet we should work with the ideas of a city rather than the theory of it. The very human phenomena with which the theoreticians deal remain relevant fact of the city - facts that are inherently opposed to simplification and forced clarification of programs. Human phenomena - the exaltation of complexities, infinite possibilities, imponderables - cannot be reduced to statistics. Order must not be confused with theory elaboration and its consequences: visual formalism. Order comes, rather, from a realistic apprehension of the facts that make a city - facts that extend from the historical experience of human events to the functional logic of its structures." 30

"Traditional buildings grow unconsciously out of an interaction of landscape, soil, climate, materials and type of culture. Tradition is a centripetal force which prevents both the committing of errors and individual divergences. The building turn into physical reality, the community's cosmological view of the world. At the same time the temporal order is linked with the mythical order. In the end there is complete affinity between the individual and the community, between thinking and place." 31

"Architects are out of the habit of looking nonjudgementally at the environment because orthodox modern architecture is progressive, if not revolutionary, utopian and puristic; it is dissatisfied with existing conditions. Modern architecture has been anything but permissive; architects have preferred to change the existing environment rather than enhance what is there. But to gain insight from the commonplace is nothing new: fine art often follows folk art... we look backward at history and tradition to go forward: we can also look downward to go upward." 32

This book is just the beginning of my understanding of Architecture. The collection of thoughts here present help me to express in words what I do with my mind and hands. In this search for truth towards an Architecture of Reality, I hope to bring Architecture (in its full meaning) back to the lifes of people and their cities.

"Already the Great Khan was leafing through his atlas, over the maps of the cities that menace in nightmares and maledictions: Enoch, Babylon, Yahooland, Butua, Brave New World.

He said: 'It is all useless, if the last landing place can only be the infernal city, and it is there that, in ever-narrowing circles, the current is drawing us.'

And Polo said: 'The inferno of living is not something that will be; if there is one, it is what is already here, the inferno where we live every day, that we form by being together. There are two ways to escape suffering it. The first is easy for many: accept the inferno and become such a part of it that you can no longer see it.

The second is risky and demands constant vigilance and apprehension: seek and learn to recognize who and what, in the midst of the inferno, are not inferno, then make them endure, give them space.'" 33
Bibliography


Photographs Note

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