

**NEW YORK INSTITUTE  
OF TECHNOLOGY**

School of Architecture  
& Design

**NYIT**

**NYIT**

**Spring Semester 2021**

**Memoria del Curso Académico**

**Periodical Publication**

**ISSN 2530-9072**

**ISBN 978-84-09-31926-8**

**Alberto Campo Baeza**

**Bradley Engelsman**

**Alejandro Cervilla**

**David Vera**







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## ALBERTO CAMPO BAEZA AT THE NEW YORK SoAD DEAN'S ATELIER STUDIO

Maria Perbellini

This spring 2021, at the inaugural SoAD Tommaso and Franca Chieco Dean's Atelier Studio, we had the absolute honor to host the world-wide renowned architect and professor Alberto Campo Baeza, one of the masters of architecture, highly regarded internationally for his extraordinary architectural work. Among numerous awards, Alberto is a Golden Medal recipient, the highest recognition for architecture in Spain and most recently he was awarded the 2020 Premio Nacional de Arquitectura.

As a distinguished guest professor, Campo Baeza collaborated side by side with adjunct assistant professor Brad Engelsman in the SoAD undergraduate third year level architectural design studio. Students were exposed to two projects, the *dream house* and a *skyscraper* in Manhattan, where Mies Van der Rohe's Seagram Building is located.

From the initial idea through its implementation in a design process that included the relevant understanding of composition, structural elements, materials, construction logics, and building systems, students also enjoyed theory classes on subjects that are considered fundamental for any architect and distinguish the poetic work of Campo Baeza: *Beauty, Light, Gravity, Time, Wisdom, Intellectual Enjoyment*, among others.

This unique program is conceived as a professional master class for our top best students to take a session of an architectural design studio already in our curricula with the engagement of a prestigious invited guest. I called the studio the "Dean's Atelier Studio" to promote a special opportunity among our most talented, high achieving students as a "award" for their academic success, offering them the exposure to a distinguished professional architect. This is not just leveraging our reputation, ranking and the quality of our design pedagogies, but is also helping with our recruitment and retention efforts while being an exceptional formative experience.

The designated studio is part of a series of initiatives that includes workshops, professional consultant sessions, lectures, reviews and experiential learning, all crucial for a professional School of Architecture that prepares for a complex, fast changing discipline.

When Domenick Chieco, chair and executive member of the Friends of the School of Architecture and Design Alumni approached us wishing to link his support to a 'special' initiative, he enthusiastically embraced the idea to name the Dean's Atelier Studio after his parents. I think this is absolutely something worth honoring, for both the School and the Institution. The work produced in the studio is of the highest quality and will be broadly exhibited and promoted.

Brad Engelsman AIA, Adjunct Assistant Professor said:

I've admired the work of Campo Baeza for a long time, so I was humbled at the opportunity to teach alongside him. His experience and expertise were evident in every studio session. Everyone learned so much through his insightful critique and rare inside access to his extensive body of work. I believe we teach in order to learn, and I gained as much from this semester as the students did.

On October 7, 2020, Alberto gave our School a beautiful, inspiring lecture titled *OMIT NEEDLESS WORDS* as part of our fall 2020 Lecture Series. He talked about his influences and mentors: "if I think about the three legs of a table. I would like to have my table supported by these three legs": T.S. Eliot, considered one of the 20th century's major poets, the clarity of the spanish philosopher José Ortega y Gasset, and Alejandro de la Sota, spanish architect with his laconic precision. In addition, Luis Barragán is always present in Alberto's architecture, which is flooded with light (the golden light of Barragán).

I am fascinated by a certain form of *renunciation* that his work seems to demand. His lecture revealed how architecture can be and is more essential while being more profound at the point that it attains greater universality. In poetry, words move our heart. Alberto's work is about eliminating the

superfluous parts to speak about beauty, time, space, light, air, materiality to express happiness through a space where everything is possible, “a piece of heaven on earth”.

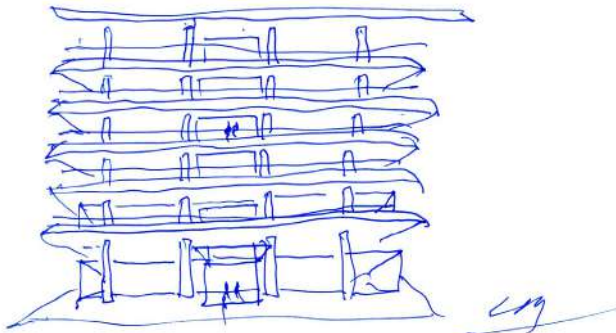
My special and heartfelt thank you to Alberto Campo Baeza for giving us the honor of being our guest. It has been an immense pleasure to have him with us.

Maria Perbellini  
Dean and Professor  
School of Architecture and Design  
New York Institute of Technology



# PREFACE

MIAMI



May 3, 2021





Figura 1 Aún aprendo. Fco de Goya y Lucientes

## **I'M STILL LEARNING**

Alberto Campo Baeza

The prestigious NYIT School of Architecture on Broadway in NY engaged the architect Alberto Campo Baeza as Project Professor for this Spring Semester.

The classes took place online via ZOOM, on Tuesdays and Fridays at 5pm Spanish time, from January to May 2021.

### **LEARNING TO LEARN**

After more than 50 years as professor at the Madrid Polytechnic University, the UPM, at the School of Architecture of Madrid, the ETSAM, and having taught at many of the most prestigious Schools of Architecture in the world, I have been honored to be invited to teach Projects at the prestigious NYIT in New York.

For me, besides being an undeserved honor, it has been the opportunity to put all my knowledge at the service of American students, and all my enthusiasm and my resistance.

I have always maintained that when you teach, you actually learn more than you teach. I have been teaching for so many years that I have never stopped learning. There is a beautiful pencil drawing by Goya, in the Prado Museum in Madrid, with the image of an old man with long white hair and a white beard, in which Goya, at 74 years old, writes I'M STILL LEARNING. Well, this year I have come to NYIT to learn, having done so via ZOOM because of the pandemic.

I decided to give practical Project classes to my students, complemented with some theory classes. Every Tuesday and Friday, three hours each day, from January until May.

We started out, just as I did as a student at the ETSAM in Madrid, with Alejandro de la Sota. So our first exercise was the Dream House, in the early weeks of this spring semester, which began on 26 January.

We continued with the tower exercise: a skyscraper in Manhattan, where Mies Van der Rohe's Seagram is located. Designing a skyscraper, every architect's dream! The tower exercise took us through to the end of the course, covering each part in detail: the idea, its implementation, structure, materials, construction, etc.

On a regular basis, I have given theory classes on subjects that I consider fundamental for an architect: Beauty, Light, Gravity, Time, Wisdom, Intellectual Enjoyment, and others.

I think we enjoyed the experience as only one can do through study. My father, who was an eminent surgeon and died at the age of 104, was always studying. As his children, we always saw him studying. That is how I would like to be, and that is how I would like you, the students of NYIT, to be. How I would like to be a student now! This is my attempt at it.

I would like to thank specially to Maria Perbellini, the Dean, for her generosity inviting me. And I would like to extend my special thanks to Brad Engelsman as assistant professor in NY and to Alejandro Cervilla and David Vera as assistant professors in Madrid. Without them this adventure would not have been possible.

And I would like to extend my special thanks to Professor Ignacio Vicens who did us the honor of delivering a wonderful presentation and to Professor M<sup>a</sup> Concepción Pérez Gutiérrez for her master class on high-rise building structures, which was truly magnificent.

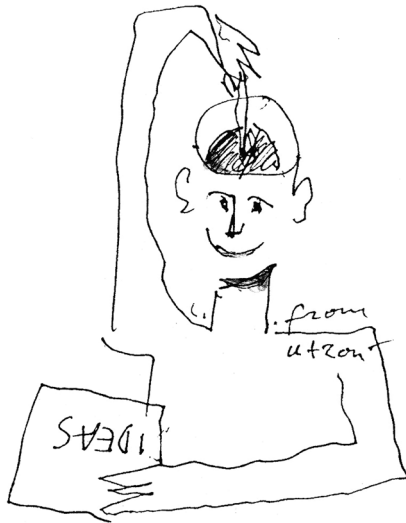
It has been a wonderful experience.

THANK YOU





# MASTER PROFESSORS





## CONSTRUCTING THE DRAWING

BRADLEY ENGELSMAN

Architectural education takes a unique pedagogical approach in that its primary method of study is representational. Within academia (as well as in practice) a designer's time is primarily spent producing models and drawings that are mere representations of an imagined built product. Theorist Robin Evans explains how he recognized this distinction when he taught briefly at Bennington College in Vermont:

I was soon struck by what seemed at the time the peculiar disadvantage under which architects labour, never working directly with the object of their thought, always working at it through some intervening medium, almost always the drawings, while painters and sculptors, who might spend some time on preliminary sketches and maquettes, all ended up working on the thing itself which, naturally, absorbed most of their attention and effort.<sup>1</sup>

In this sense, the architectural drawing has a closer relationship with the musical score than other creative mediums. Both are abstract instructions for something beyond itself, and are necessary in navigating the complex relationships between interdependent parts — whether it be systems of construction or composed harmonies.

The architectural drawing is necessary when working through the relationship between these parts. Section drawings navigate relationships of scale, material assemblies, and enclosure. Elevations display figure, material aesthetics, and mass. The plan — perhaps the most abstract piece — composes modulation of structure, solidity and transparency, thinness and thickness, and circulation. The architectural drawing must both contain and decipher these varied but integrated systems. Architect and theorist

---

<sup>1</sup> Evans, Robin. "Translation from drawing to building and other essays". AA Documents 2, 1986.



Stan Allen describes design and drawing this way: “A synthetic operation, simultaneously involving program, structure, context, and expression. To hold all these variables in your head would be paralyzing, and the abstraction of the drawing allows the freedom of working”.<sup>2</sup>

Constructing architectural drawings which resolve complexity, and navigate varied systems and relationships, requires the identification of the rules and constraints with which to rigorously test, explore, and experiment. These rules and constraints which act upon the architectural drawing originate both from outside — gravity, material properties, context — and from within as a self-imposed set of criteria.<sup>3</sup> One such self-imposed constraint could be what is commonly referred to as the project concept or “the idea.” If we allow ourselves to elevate the idea as the soul or heart of a piece of architecture, and understand that through drawing, the idea is most developed, then we can say with confidence that the art of architecture lies in the drawing. Returning to Robin Evans once more, he states, “While on the one hand the drawing might be vastly overvalued, on the other the properties of drawing — its peculiar powers in relation to its putative subject, the building — are hardly recognized at all”.<sup>4</sup> But, perhaps another way to look at it is not to understand the drawing and the building as opposite ends of a process, but as both drawing and building as equal manifestations of the idea. In this way, the commitment to an idea, rigorously conceived and developed through the drawing, can persist within the built work, and therefore be present through representation, translation, and construction. By truly committing to the rigorous exploration of an idea, architecture is able to bridge divides between process and product, speculative and built work, and ultimately academia and praxis.

---

2 Allen, Stan. “Why we draw plans: Five arguments”. Stan Allen: Four projects, edited by Benjamin Wilke, applied research and design publishing, 2017, pp. 71-77.

3 Enrique Walker discussed this idea in his essay “Scaffolding”- Mansilla, Luis Moreno, et al. From rules constraints. Princeton School of Architecture, 2012.

4 Evans, Robin. “Translation from drawing to building and other essays”. AA Documents 2, 1986.





## TEACH WHAT YOU KNOW

Ignacio Vicens y Hualde

There are many ways of teaching architecture - for this reason, Schools may rely on a variety of different methods.

Having no relationship with design was one famous condition imposed by Rem Koolhaas when he conducted a workshop at Harvard. As research was his sole interest, he only intended to share that activity with his students. Given such controversial condition, he consulted his students and the result was that the workshop was not completed. “Unfortunately, they don’t want to research on design; they want to design”.

The way we teach at the School of Madrid is nothing like this. We believe that the project may integrate both design and research.

One may say that we go by the old *dictum* according to which “you learn to design by designing”, and, at the same time, by reasoning about it.

With one exception only, all the design professors at the School of Madrid are also architects who combine education and professional practice.

I believe that the coexistence of teaching and professional practice helps the teachers who want to encourage their students to go down roads they previously discovered and experienced first-hand. In other words, you teach what you know.

A design professor who at the same time works as an architect can hardly keep the challenge of making architecture a reality separated from the meditation around it and from its teaching.

Obviously, there is the option of so-called “in vitro” experimentation. However, “pure” theory, solipsistically dissociated from the real world,

entails some major inconveniences. One is the danger of so-called “academicism”: “decontaminated” theory, blind to any object beyond a close “elite” realm of interest, reflects a very attractive reality. Pity that it does not exist! It is not real!

As the best of Western thought always managed to materialise its principles on the battlefield of social, economic, political, cultural problems, so the best of architectural thought has resulted from a painstakingly admirable effort of verifying its soundness in a defined world within a precise culture.

Relying on the example of experience is the only way to avert the danger of autism.

Such open and integrating attitude tries to bring the world of professional reality and the world of experimentation together so as to take advantage of both.

It is useful to remember that we are threatened by two equally serious dangers: on one side, the contempt certain academic circles harbour towards professional practice exclusively viewed as an activity unburdened by cultural concerns; on the other side, the disdain and condescendence certain professionals harbour toward the university environment, seen as self-referential and removed from social needs and reality.

Both attitudes are questionable, as they tend to over-simplify.

While always accepting the radical difference between simulation and reality, design may be a meeting ground between the specialisation of instrumental techniques and the generalisation of theoretical approaches.

When one opts for the right method, design can and must be at the same time research, in a way that denies the antithesis proposed by Rem Koolhaas at Harvard.

Thus intended, the teaching of design occurs in an environment where practical knowledge and theoretical research coexist.

Creative activity always develops within a conceptual frame and is accompanied by a sequence of practical notions that develop analytical as well as synthetic skills; *poiesis* and *techné*, conception and execution share the same ground by blurring the boundaries between research and construction, between generic abstraction and practical achievement and, more importantly, between architectural design and its cultural environment. A pedagogy based on the transmission of experiences in no way implies disdain for theoretical speculation.

Rather, it stands for an approach that can combine intellectual meditation and practical reality: a position that equally abhors disillusioned pragmatism and the solipsisms that only like themselves, and are entirely alien to any operational reality. Therefore, “teaching to design” is not merely an exercise for the transmission of experience, and rather is an opportunity to discuss a theory integrated with knowledge, directly connected to practice that facilitates the references to the student and promotes one’s own design experience.

Teaching is understood as a process that reveals a complex reality in which the teacher, through a personal objective experience, becomes a catalyser for a double response to the student in terms of thinking and making architecture: it facilitates the student’s “reflection” about certain design issues as a means to improve his ability to “decide”.

For this reason, I think that one of the positive aspects of the School of Madrid is its commitment to recruit, within the group of design professors, all the architects who stand out in their professional practice and, at the same time, show interest in and ability to practice teaching.

Another positive aspect is the will to structure teaching around design, understood as an exceptional opportunity to combine theoretical meditation,

critical thinking and actual proposals, by observing and drawing inspiration from reality.

Finally, I would like to point out another key feature of the School of Madrid: certain Schools have no genealogy, as their prestige relies on working methods or systems; other Schools rely on the figure and prestige of a professor who is inextricably tied to them. Mies at the IIT, Botta in Mendrisio, Hejduk or Eisenman at the Cooper Union are just a few examples.

Finally, there are choral Schools, relying on the influence of a group of professors. Our School belongs to this category. One cannot understand ETSAM without retracing the trail of Oiza, Carvajal, Sota, Moneo, Fisac, Cano Lasso, Fernandez Alba, and the list could go on.

I believe such collective heritage is currently one of the qualities the School of Madrid can offer its students. The different methodological, ideological and even organisational approaches clearly represent a benefit for the student, as they avert the danger of uniform, dogmatic or reductionist views. Protecting such heritage is essential if we want to preserve the open and inclusive spirit that makes our School stand out among other universities.

Perhaps, the greatest advantage of a public and mass university like our own lies precisely in its open configuration, which allows for the development of an extraordinarily diversified range of offers -this is its richness. Insisting on the ideological, organisation, administrative or any other kind of uniformity would mean opting for examples close to the private models, which are nothing like our School.





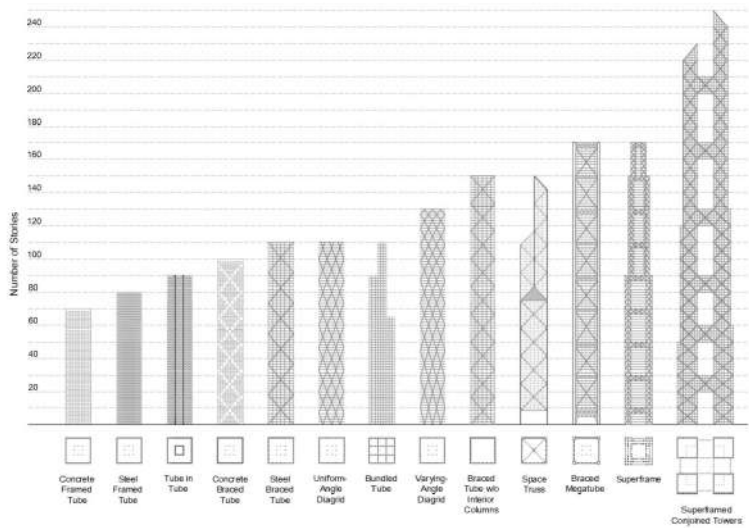


Figure 1 Structural type versus height. External structural systems. Source Advances in Structural Systems for tall Buildings. M. Ali Kyoung Sun Moon.

## TOWARDS THE SLIMMEST

María Concepción Pérez Gutiérrez

### **Skyscrapers bones design strategies.**

The dream of building high is as old as human civilization: from Ancient Pyramids to Burj Khalifa; from the Medieval Gothic spires to the latest New York's Pencil Towers.

Today the technology allows us building “almost everything”. But, at what price? Is it worth it? Which structural concepts should we be aware of to make a skyscraper idea become true in an efficient way?

STABILITY, STRENGTH, STIFFNESS.

Any structural system requires STABILITY, STRENGTH and STIFFNESS.

Stability to prevent the building from falling over: global equilibrium is essential. Strength to prevent the structural elements from breaking: no bar or joint should fail. Stiffness to prevent the building and the structural elements from excessive deformation.

To make sure we design a stable, strong and rigid enough structure, we must analyze properly its global geometry and weight distribution (balance) besides its material parameters and its cross sections geometry (strength and stiffness) under the effect of the external loads (our structural system enemies).

GRAVITY, WIND, EARTHQUAKES

The main forces that attack our structural systems are gravity, wind and earthquakes.

Gravity is the responsible of the object's weight. It affects both the structural elements and any other body inside or added to the system. Gravity is always there. Wind affects the buildings mainly as a lateral load. It is not a permanent force but sometimes, especially in high-rises, a very important one. Earthquakes make the buildings shake. They involve vibrations and dynamic effects. It is an accidental load. The regulations tell us how to evaluate it in each place.

#### AXIAL FORCE, SHEAR FORCE, BENDING MOMENTS and TORQUES.

Structural elements react to the attack of external forces modifying their shapes.

When a force is applied along the direction of the element directrix, it gets longer or shorter. We say it is subjected to an axial force of tension (increases length) or compression (reduces length).

When a force is pushing part of an element in one direction and another part of the element in the opposite one, we say it is subjected to a shear force.

When a force is applied to an element which directrix is perpendicular to the force direction, the element, bends. We say it is subjected to a bending moment.

When a force makes the element rotate about its directrix, the element twists. We say it is subjected to a torsional moment or torque. To resist the effect of an axial force, an element only requires enough cross section area<sup>1</sup>. To reduce the effect of the shear force, bending moment or torque, the size of the cross section is not enough: the mass distribution matters, so we waste material because only part of the cross-section is working. Therefore, we can say that axial forces are the less cost-effective ones.

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<sup>1</sup> If the axial force is not tension but compression, the element slenderness is also important.

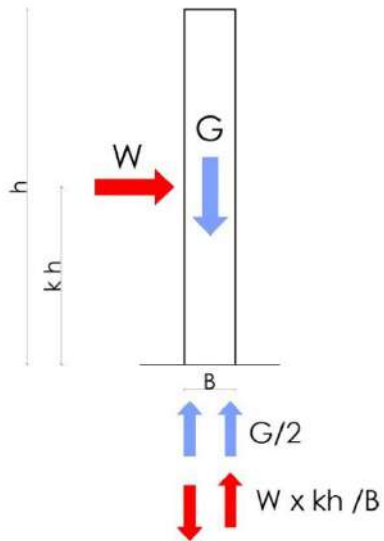


Figure 2 Effect of gravity + effect of wind (vertical + horizontal forces)

## HEIGHT versus SLENDERNESS

A tall building behaves as a cantilever fixed at the ground. The global element mainly responds to wind by bending. This means that the structural material distribution matters. Proportion matters. Height is not enough to compare two tall buildings structural behavior. Could our way of designing improve tall building's structure efficiency?

Slenderness is the ratio of the building height and its base width. A tower can be very tall, but not slender and it can be slender without being very tall.

As the wind effect grows with height, the tallest the building, the less stable due to the horizontal forces effect. The wider the building, the more stable (it is the same as if you push laterally a man that remains with his legs closed, or you push the same man when he opens his legs, can you imagine when he may fall over?). An example of widening the base to improve stability is the Eiffel Tower.

According the CTBUH<sup>2</sup>, a supertall is a building over 300 m high (more than 170 completed currently in the world) and a megatall is a building over 600 m high (only 3 completed in the world currently).

Structural engineers<sup>3</sup> consider that a skyscraper is slender when its ratio height-width is bigger than 10 (1:10).

## HIGHRISE STRUCTURAL SYSTEMS HISTORY. Strategies to build high.

The history of tall buildings structure consists of developing strategies to reduce the wind effect in its design. The goal of the skyscrapers along the first part of the 20th century was being the tallest. Even if the top of the building were empty, as the Chrysler Building Spire was (it could be

---

2 Council of Tall Buildings and Urban Habitat

3 New York's Super Slenders Exhibition. New York Skyscraper's Museum.

considered the father of what nowadays is known as “vanity height”). The tallest of this period was the Empire State Building. It held the title for 40 years (from 1931 to 1071)

The heavy façades helped the building stability. Its structural type was a steel frame with rigid joints.

After the second world war, efficiency became essential. It consisted in reducing what it was called the “premium for height”, this is, the extra structural material required to build high because of the wind effect. Fazlur Kahn, engineer at SOM, defined in the 1970s several bracing systems that enabled building light, tall structures. Shear walls, belt truss systems, internal and external cores were tested by him and his team with such a success that we continue using them now. In this second period efficient masterpieces were built, as the Chicago John Hancock Center (external tube), the Twin Towers (tube in tube), the Willis Tower (bundle tubes) or the Bank of China in Hong Kong (3D truss).

After S11 2001 attack, tall building construction stopped for a while. Several skyscraper projects, as Alberto Campo’s Telefonica Tower in Madrid were cancelled. It was only five years later when New York decided to build “the proudest”: The One World Trade Center. America’s reply to S11.

What we can consider a third period of tall buildings started with several medium height ones focused on the new challenge born at the end of the 20th century: being “green”. Sustainability became a must.

Since 1973 the City was not again home of the tallest. Nevertheless, New York never sleeps. It is always a step beyond. The fourth period started at the same time as “the proudest” topped out: The logic of luxury<sup>4</sup>; The slimmest skyscrapers in the world. The answer of New York to the demand of residential towers in Manhattan, over Central Park.

---

4 Carol Willis. *The Logic of Luxury: New York's New Super-Slender Towers*. 2014.

Due to the slenderness, damping systems became a must. They had been introduced in the 20th century but now, these strategies are essential together with the suitable structural type to reduce the top horizontal movements acceleration, that is especially important in such slender buildings. Examples of “pencil towers” are 432 Park Building, or One57, or 111W 157.

## STRATEGIES in NUMBERS

If you choose a structural system among the recommendable ones according to its height, you will reduce the “premium for height”, and improve your building structure efficiency.

- 1.- Lower than 20 stories, frame with rigid joints
- 2.- Lower than 50 stories, shear walls or internal cores (all alone or linked with belt systems to rigid frames).
- 3.- Lower than 80 stories, tube in tube
- 4.- Lower than 100 stories, braced external tubes
- 5.- Lower than 150 stories, braced external tube + internal columns or space trusses.
- 6.- Taller than 150 stories, buttressed cores (internal bones) or superframed co-joined towers (external skeleton)

The structural material of the first skyscrapers was steel. Nowadays, concrete is more usual because its mechanical properties have improved in many ways, and it behaves better under fire.

Our challenge as Architects is not how high, or how slender you build, but how your structural design matches with your architectural idea. We must remember that understanding basic structural concepts allow you make your idea possible.

The tallest, the proudest, the slimmest... What is next?

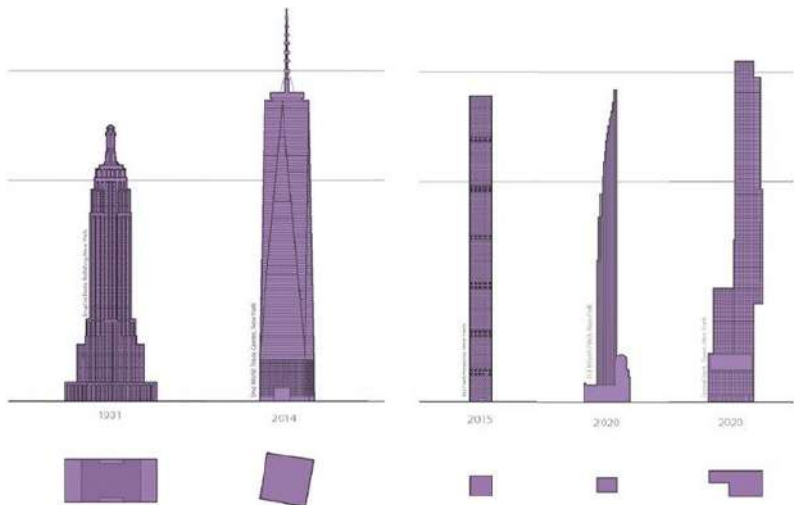
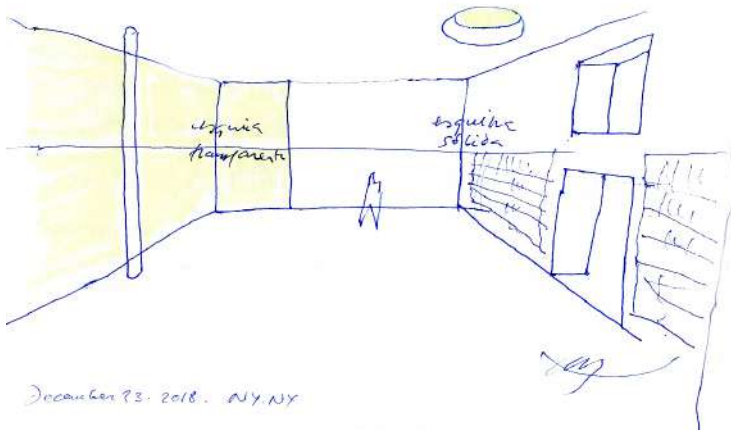


Figure 3 New York skyscrapers. The Empire State Building, the “tallest” in the world for 40 years. One Trade Center the “proudest”. The new “pencil towers” “the slimmest”. Picture source New York S.





# ASSISTANT PROFESSORS





## THE SEED AND THE IDEA

Alejandro Cervilla García

The birth of a flower is a truly wondrous miracle. So too is the special relationship that exists between flower and gardener. Before the flower ever exists, the gardener is already dreaming of it. And, excited at the prospect of its arrival, he makes all the necessary preparations. He works the soil, sows and waters in the hope that the seed will germinate. And once it does, he starts to listen. When the plant asks for water, he waters it. If it needs more light or shade, he provides it. If the stem is wind-blown, he attaches a stake to support it. And if it needs nothing at all, he simply waits and lets the plant get on with it. Meanwhile, the plant, knowing full well what it has to do, continues on its course until the first flower appears. And then the miracle is there for all to see. But who is the author of this miracle? The gardener didn't manufacture the seed, nor did he breathe life into it causing it to germinate, nor color a single one of its lovely petals. But he was there giving it consistent care from the very first day. The flower did not prepare the soil nor make provisions. But it kept calling out to the gardener with the promise of its loveliness. The miracle happens without us really knowing how.

And so too, without us really knowing how, creative work goes. In effect, there is not as much difference as one might think between artistic work and that of a good gardener. Here too, there is a seed (an idea), a call to work while attentively listening and a miracle. And to demonstrate this, I would like to present Jorge Manrique's couplets on the death of his father, composed between 1476 and 1479. This is how they begin:

|

*Recuerde el alma dormida,  
avive el seso y despierte  
contemplando,  
cómo se pasa la vida  
cómo se viene la muerte  
tan callando.  
Cuán presto se va el placer,  
cómo, después de acordado,  
da dolor;  
cómo, a nuestro parecer,  
cualquiera tiempo pasado  
fue mejor.*

|

*Let from its dream the soul awaken,  
and reason mark with open eyes  
the scene unfolding,  
how lightly life away is taken,  
how cometh Death in stealthy guise,  
at last beholding.  
What swiftness hath the flight of pleasure,  
that, once attained, seems nothing more  
than respite cold;  
how fain is memory to measure,  
each latter day inferior  
to those of old.*

This is the first of the forty couplets. Here we have a warning of the rapid passing of life and a nostalgic lament for past happiness. The poet describes beautifully the essence of the human future, he says things that touch our hearts and in so doing turns the death of a fifteenth-century Castilian nobleman into something universal. In a way, the death of his beloved father was the idea that germinated within him. The seed had been sown. But notice how the idea is not inside the poet, but outside him. It is not something the poet has produced, but something outside him that has painfully caught his attention. It has seduced him in the same way that the dream of the flower seduces the gardener and calls him to work.

||

*Pues si vemos lo presente  
cómo en un punto se es ido  
y acabado,  
si juzgamos sabiamente,  
daremos lo no venido  
por pasado.  
No se engañe nadie, no,  
pensando que ha de durar  
lo que espera  
más que duró lo que vio,  
pues que todo ha de pasar  
por tal manera.*

||

*Beholding how each instant flies  
so swift, that, as we count, 'tis gone  
beyond recover,  
let us resolve to be more wise,  
than stake our future lot upon  
what soon is over.  
Let none be self-deluding, none,  
imagining some longer stay  
for his own treasure,  
than what today he sees undone,  
for everything must pass away  
in equal measure.*

Consider the structure of the verse. Each stanza has twelve lines of verse, divided into two groups of six, rhyming abc-abc-def-def. These lines follow an uneven rhythm. Looking more closely at the original Spanish, we find two octosyllabic lines followed by one tetrasyllabic line. The octosyllables are read in a sustained and continuous voice. But the tetrasyllabic line introduces a slight pause, a note of gravity. And as the poet wants to further accentuate this, he uses words that force us to pause; the “nt” and “mpl” of “contemplando”, or the “n-c” and “nd” of “tan callando” are like stones on the road that hinder our steps; they are stumbling blocks that slow us down as we pronounce them. And this suspension of time is a stopping point at which the poet deliberately forces us to halt. This poem is a warning for us to stop and think, and not allow ourselves to be dragged along by the frantic pace of life. For us to wake up. This poetic structure is masterly. It is the guide that helps the poem to grow.

And this guide, this poetic structure, is in keeping with the idea of the poem. Any other would not have been suitable. Any other would not have made it possible for the poem to embrace the central theme. The poet finds the precise structure and the right words, in keeping with what the poem is asking of him. In the same way that the gardener provides the right light and the adequate amount of watering when the plant demands it. This kind of listening to the idea is like a kind of obedience. To obey comes from the Latin *oboedire*, which in turn derives from *audire*, to hear. The creator, like the gardener, must know how to listen.

III

*Nuestras vidas son los ríos  
que van a dar en la mar,  
que es el morir,  
allí van los señoríos  
derechos a se acabar  
y consumir;  
Allí los ríos caudales,  
allí los otros medianos  
y más chicos,  
y llegados, son iguales  
los que viven por sus manos  
y los ricos.*

III

*Our lives are fated as the rivers  
that gather downward to the sea,  
we know as Death;  
And thither every flood delivers  
the pride and pomp of signiory  
that forfeiteth;  
Thither, the rivers in their splendor;  
thither, the streams of modest worth,  
the rills beside them;  
Till there all equal they surrender;  
and so with those who toil on earth,  
and those who guide them.*

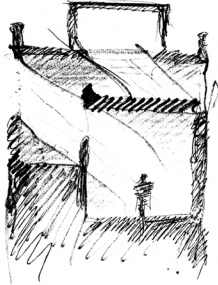
How delicately the poet speaks of dying and how this puts king and beggar on an equal footing. As the son of a nobleman, he knew well what this meant. Rodrigo Manrique, his father, was Count of Paredes de Nava and Master of the Order of Santiago, one of the greats of the Castilian nobility. Thanks to his position, he enjoyed the comforts of life. Moreover, his position allowed him to experience the vanity of ostentation as few others could. His own life had given him his own way of looking at the world. And his taste for poetry and his status as a nobleman and gentleman gave him a way of telling the story. The soil from which the poem is nourished, his soul, was being prepared for many years. And when it was ready – oh miracle! – the poem was born without really knowing how. As if it had always existed, waiting for the poet capable of bringing it to light.

This moment is particularly moving for the poet, for the true and wise creator. When he contemplates the work that has grown in his hands and, astounded at its beauty, he asks himself: “How could I have done it?”

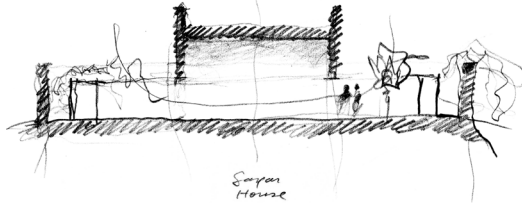
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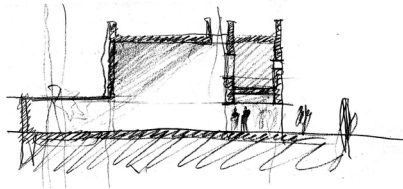




Turiso's  
Home  
MADRID  
1986



Sorjan  
House  
CADIZ  
1991



García Marco,  
House  
MADRID  
1992

## AN IDEA FITS IN A SECTION<sup>1</sup>

David Vera García

Filiation: Universidad de Sevilla

### **The architectural section as synthesis of the project of Alberto Campo Baeza.**

Because I thought and now I think, that an idea of a project can be materialize, synthesize, in a little model capable in a hand. Because an idea has no size, so it fits in the palm of a hand.

Alberto Campo Baeza

Extracted from *An idea fits in the palm of a hand*, where Campo Baeza reflects on his own experience, as a professor, on how easy models explain a project, even on early stages of the idea. He looks back on his own career and projects, and on how tiny paper models he makes by hand set the basis for thorough concepts. The models eliminate any insubstantial element and show the essence of the project.

I was lucky to live this experience, making those models for a house in Torrelodones, Madrid; or helping Campo Baeza as assistant professor in NYIT, where students were encouraged to construct palm-sized models to synthesize their ideas. I must confess it was a marvelous teaching.

This experience has allowed me to associate this concept with the architectural section, an idea that has been in my mind for some time: the great ability of sections to depict and synthesize the basic nature of a project. A tool architects can count on. Hand drawings, sketches and even early drafts can contain tremendous amount of information.

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<sup>1</sup> This title take out the article by Alberto Campo Baeza, *An idea fits in the palm of a hand* like the first reference I used when I wrote this text.

Thus, if a palm-sized model allows us to explain the idea without any ornament, the architectural section can synthesize at the same level the main concept and express even much further.

## ARCHITECTURAL BACKGROUND.

In the architecture of Alberto Campo Baeza we can find different themes and mechanisms previously used by his masters.

Projects like Guzmán House, where different floors are laced together in such a way that create an artificial topography; or the Maravillas gym (fig. 2), designed from a section that solved the big slope between the school and the street introducing a huge truss where the classrooms are housed. Below the structure, Alejandro de la Sota resolves the sport center, bathed in south light.

This same scheme can be appreciated in other projects, like the studio-house by José Antonio Corrales in Aravaca, Madrid, which is structured in several levels internally connected. A distinctive ground plan conceived as a result of the section.

The following houses by Campo Baeza are further examples of designs from the section.

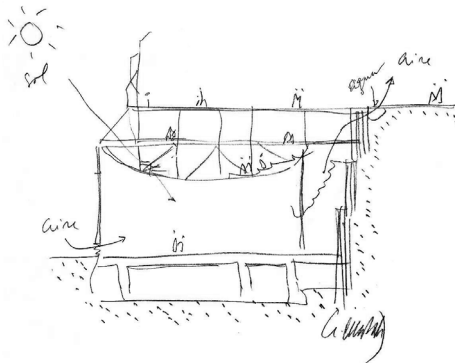


Figure 2 Sketch of Maravillas gym by Alejandro de la Sota

## TURÉGANO HOUSE. DIAGONAL SPACE - DIAGONAL LIGHT.

In his first house, Campo Baeza proposes a concatenation of two contiguous double-height spaces. The connection between both rooms allows for the late West light to enter diagonally through the big 2.90 meters windows all the way to the lower level, illuminating the whole house.

He later confessed this technique had already been employed in the Pompeii houses or by Jørn Utzon in Can Lis.

The early sketches above, easily illustrate the main concept of the diagonal concatenation of the spaces using a section. This architectural technique shown in the section (fig. 1), will be further developed at Cala house. In this project, the 2+2 space converts into 2+2+2: three double-height spaces interconnected, in a spiral way, becoming a more rich diagonal space.

*2+2 are much more than only 4*

## GASPAR HOUSE. HORIZONTAL SPACE - HORIZONTAL LIGHT

Next commission starts with a request from the clients: a private, introspective house. Campo Baeza decides to create a house closed to itself. Whitewashed, high walls help illuminate the house, reflecting the light and expanding its brightness. The reflections and the house structure - organized between two patios facing East and West- create a horizontal light that embraces the interior space, also horizontally designed.

A beautiful house with a limited budget, bare, simple, laconic — a word he would later use to describe his master, De la Sota— and with a brilliant result made to endure both time and trend.

The section (fig. 1) reflects the horizontal concept of the house, that follows traditional Andalusian architecture style, with high, private walls and two interior patios -one at the forefront, one behind-, a small pond and four lemon trees.



Figure 3 Gaspar house. Photograph by Hisao Suzuki

Through these simple lines, the expressive sketches and some marvelous photographs, it is easy to understand how a good architect can build a house that is good, beautiful and inexpensive at the same time. Some people say it is the most beautiful house in the world.

## GARCÍA MARCOS HOUSE. VERTICAL SPACE - DIAGONAL LIGHT

*A box open to the sky*, a discourse Campo Baeza will address throughout his entire career. In this house, located in a corner plot, the Architect suggests a living space enclosed by high walls. Inside, a double-height vertical space opens up directly to the sky overhead through a rectangular skylight. The vertical light from the ceiling meets the horizontal light shining through the large hollow facing the garden, creating a diagonal continuity.

Once again, we notice a reflection about double-height spaces bathed by zenithal light. The light moves across the wall to rest on the floor and escape through the opening on the West wall.

It's unavoidable to think all these reflections about *space, light, beauty...* come from his investigation and his motto of *relentlessly seeking beauty*.<sup>2</sup> A pursuit that probably started in his youth, as a young student, when his masters —De la Sota, Cano Lasso and Sáenz de Oiza— left an indelible imprint on him as, today, he also leaves in me.

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<sup>2</sup> *Relentlessly seeking beauty*. Title for his proclamation as elected academician at the Royal Academy of Fine Arts of San Fernando. 2014.



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# REALIDAD, SOL Y REALISMO<sup>1</sup>

Emmanuel Álvarez Sánchez

A través de la ventana veo el patio de mi casa, un jardín secreto que comparto con mis vecinas y con las miradas furtivas de la calle. Desde aquí las veo guiar sus ojos hacia arriba, abriendo ligeramente la boca, fascinadas por la altura frondosa de mi árbol: protagonista de esta ventana que ocupa toda mi visión desde que me levanto. Con él he aprendido a mirar los cambios sutiles de mi entorno. En otoño, descubrí al viento golpear con fuerza las ramas secas haciendo caer sus hojas. Y ahora en primavera los brotes verdes dieron lugar a hojas rojas que pronto se convirtieron en pétalos dorados. Y la luz del Sol choca en estas flores creando destellos blancos y amarillos. Es un paisaje de oro y plata. De este modo, la vida pasa ante mí con el agradable ritmo de la naturaleza cuyos gestos humildes tienen eco en este pequeño jardín.

Gracias a la ventana, que pone límite al vasto paisaje del mundo, y a este árbol, que cambia con gracia en un eterno retorno, he aprendido a mirar. La mirada es un viaje de ida y vuelta que circula libre desde fuera hacia dentro y desde dentro hacia fuera. Esta manera de ver el mundo y de mirarme a mí viene dada por un ciego impulso de amar;<sup>2</sup> un impulso que viene del corazón y del pensamiento.

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<sup>1</sup> Este artículo está basado en mi tesis doctoral, una investigación sobre los invariantes españoles de nuestra cultura. Un trabajo realizado en la ETSAM y financiado por el Programa Propio de la Universidad Politécnica de Madrid, a la que estoy hondamente agradecido. Como observáis, he querido liberar el cuerpo del texto de citas para dejarlo volar en vuestro pensamiento, pues fue así como las palabras brotaron de mi memoria cuando lo escribía. Por ello, son las notas al pie de página las que dibujan un segundo recorrido, más académico, donde sí menciono las fuentes originales de todas las ideas que aquí se desarrollan.

<sup>2</sup> Uno de los motivos de este trabajo es el amor que profeso al entorno que me rodea, un amor que Ortega explica así: "Hay dentro de toda cosa la indicación de una posible plenitud. Un alma abierta y noble sentirá la ambición de perfeccionarla, de auxiliarla para que logre esa su plenitud. Esto es amor -el amor a la perfección de lo amado." Ortega y Gasset, *Meditaciones del Quijote*. Madrid: Ediciones Cátedra, 2019, pág. 46. Escrito por Ortega y Gasset en 1914.

A medida que ejercito este modo de mirar descubro más y más cosas allí donde antes estaba oscuro, o no había nada. Cuando miro ahora descubro claros donde el bosque antes era compacto y espeso.<sup>3</sup>

Es quizás este modo de observar lo que me aferra incesante a la realidad. Me ata a ella de un modo tal que la evasión y la imaginación poco tienen que decirme. Ambas se piensan compañeras indiscutibles del poeta; amantes pasajeras son en realidad. Porque es la realidad la que contiene todo, prácticamente todo. Contiene hasta la idea, que puede surgir de ella. Yo a veces me he tropezado con ella andando por un camino en un campo. Del mismo modo que me tropiezo —a veces adrede— con la imaginación, la inspiración y la evasión.<sup>4</sup>

En esta parte del mundo donde vivo la realidad se hace presente, o más presente, por el dominio del astro amarillo en el cielo azul. Nos ilumina de un modo que hace imposible mirarlo, casi nos obliga a bajar la cabeza y ver los pies a nuestros pasos. El Sol nos grita desde lo alto a través de su luz infinita para ver el mundo con colores fuertes y henchidos. Es una realidad tan llena que deslumbra por su saciedad. Todo parece nítido y claro, incluso en la sombra reina la forma y el color. Ante este mundo de apariencias la realidad visible nos cautiva de modo engañoso.<sup>5</sup> Nuestro

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3 Alusión directa al libro *Claros del bosque* de María Zambrano, publicado en 1977 y al capítulo de *El bosque*, dentro de la *Meditación preliminar* en las ya mencionadas *Meditaciones del Quijote* de Ortega y Gasset. En la página 100 la metáfora del bosque sirve a Ortega para hablar de realidad y de apariencia cuando dice: “Selva y ciudad son dos cosas esencialmente profundas, y la profundidad está condenada de una manera fatal a convertirse en superficie si quiere manifestarse.”

4 Federico García Lorca, *Imaginación, inspiración, evasión*. Conferencia recogida por la Editorial Comares, 2011. En ella el poeta español habla de la realidad en estos términos: “La imaginación es pobre, y la imaginación poética mucho más. La realidad visible, los hechos del mundo y del cuerpo humano están mucho más llenos de matices, son más poéticos que lo que ella descubre.”

5 De nuevo en las *Meditaciones del Quijote*, en el capítulo *Profundidad y superficie*, página 104, el filósofo nos advierte que la realidad no es solo las apariencias del mundo visible, hay algo más. Y nos exige una mirada profunda del mundo para descubrirlo: “Algunos hombres se niegan a reconocer la profundidad de algo porque exigen de lo profundo que se manifieste como lo superficial. No aceptando que haya varias especies de claridad, se atienen exclusivamente a la

mundo se ve pleno y amistoso y pocos queremos abrir paso con nuestros ojos en la espesura de las cosas. De pronto la realidad también existe más adentro, como ya dijo San Juan de la Cruz.

La mirada que ama es una mirada realista y profunda; diferente a la mirada que mira que solo ve la planitud de las cosas. Aquí en España los artistas han mirado mucho y han visto la belleza de la realidad. Queda pendiente saber si miraban con sus ojos solos, o usaban corazón y pensamiento. Conocimiento poético de una razón vital española.<sup>6</sup>

Española y universal, ¿acaso el Sol no ha estado allí arriba siempre con nosotros? Su luz llena el paisaje, alegra la vista castaña de los ojos, la vista en realidad de cualquier ojo. La luz es, sin duda, un lugar común.<sup>7</sup> Todas y todos sonreímos al poner nuestra cara al Sol en el frío invierno, del mismo modo que buscamos la sombra fresca de la arquitectura bajo el Sol cuando el fuego del verano quema. A veces quema tanto que el paisaje parece evaporarse creando espejismos: una realidad que no existe y de la que hay que tener cuidado. El Sol que alumbra con su abundante conocimiento arroja también luz generosa allá donde la verdad no existe o solo existe una parte de ella.

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peculiar claridad de las superficies.”

6 En el capítulo de *El concepto*, página 149, dentro de las *Meditaciones*, Ortega ya dejaba entrever el concepto de razón vital cuando decía: “La razón no puede, no tiene que aspirar a sustituir la vida” para más adelante escribir en *El tema de nuestro tiempo* de 1923: “La razón pura tiene que ceder su imperio a la razón vital.” Esta idea hace poso años más tarde en las conferencias de *Pensamiento y poesía en la vida española* de María Zambrano (1939) donde desarrolla este concepto como característica vinculada a la realidad española: “...el pensar español se ha vertido dispersamente, ametódicamente en la novela, en la literatura, en la poesía. [...] Es siempre sin abstracción, es siempre sin fundamentación, sin principios, como nuestra más honda verdad se revela. No por la pura razón, sino por la razón poética.”

7 Es evidente que la luz, aun siendo un tema recurrente en el arte y la vida española, es de todas y de todos. Es, en definitiva, un lugar común, término usado por Edourd Glissant en su *Tratado del Todo-mundo* (1997). En este sentido Alberto Campo Baeza, maestro de la luz, suele decir: “Yo no debiera ser el arquitecto de la luz pues la luz no me pertenece solo a mí.” Del mismo modo que la luz no es solo española, el realismo -que necesita la luz- tampoco lo es.

Esta malicia ingenua de las apariencias en la realidad provoca estragos: ¡qué difícil comprenderla! Qué áspera y aburrida es a veces, qué volátil y transparente parece otras. Por ello, representarla, conmueve. Conmueve y tranquiliza porque ahora se comprende. Representar la realidad nos ayuda a entenderla. La representación siempre encierra una traducción de la *tetra-dimensionalidad* del medio —de la x-dimensionalidad del Universo! — en formatos que facilitan su comprensión pues han quitado dimensiones a la complejidad original de la realidad (formatos unidimensionales, bidimensionales y tridimensionales).

En España, este modo de observar el mundo —bajo el predominio de la luz— y su interpretación artística posterior se ha llamado *Realismo*. A veces mal entendido como representación de las apariencias del mundo sensible. Pues es esto lo que realmente vemos, su representación. Pero si podemos observar la realidad a través de la mirada interna que busca la profundidad de las cosas, podemos también entender el realismo en nuestro arte como la búsqueda eterna de lo esencial. Como la mirada profunda —invariable— de la tornadiza realidad.



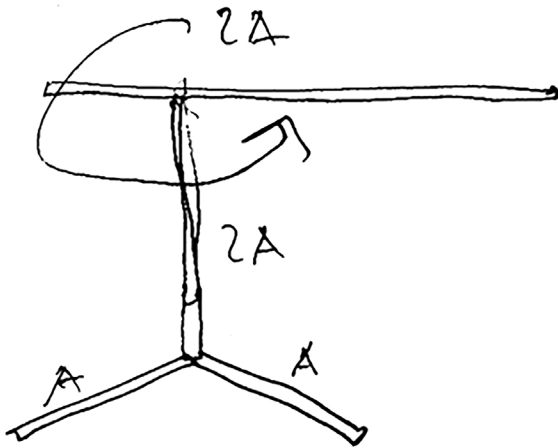


Figure 1 Triaedrus sketch by Alberto Campo Baeza

## RIGHT-ANGLED POETRY

Tomás Carranza Macías

### On Alberto Campo Baeza's triaerdrus lamp

I agree wholeheartedly with Juan Bordes when he says that Alberto Campo Baeza's work is a "sincere reflection of his singular personality"<sup>1</sup>. An 'architecture like me', as Curzio Malaparte claimed in his own case, based on an intentionally austere life far removed from any temptation of unnecessary waste; an architecture carved in the image and likeness of a tenacious and intense temperament, which has never shirked effort, dedication and generosity, whether towards his architecture or towards his pupils

His has been, and still is, an impeccable professional career, to which very few can aspire, presenting an 'immaculate service record', with no blemishes, not a single off-note. An itinerary devoid of concessions to the gallery, presided over by an unwavering adherence to a personal, timelessly modern credo, composed of a few constant core ideas, which have accompanied a determined, and at times radical, search for beauty.

Beauty understood, in the Platonic manner, as "the splendor of truth"; an ambitious goal, the greatest of all possible, which can only be achieved -in the architect's own words- when, guided by reason, gravity constructs space, and light does the same with time.

With an almost 'insolent' assurance, Campo Baeza defends the view that in architecture no idea is valid that cannot be built: *Architecture must be based on reason* [understood as] *conformity between what is thought and what is built*.<sup>2</sup> Therefore, architecture can only aspire to be true when it

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1 Bordes, Juan. Response to the acceptance speech to the Academy of Fine Arts of San Fernando by the academician-elect, Mr. Alberto Campo Baeza. Mairera Libros, Madrid, 2014.

2 Campo Baeza, Alberto. *Principia Architectonica*, Mairera libros, Madrid, 2012.



develops an authentic idea by means of a coherent structure which, in addition to transmitting loads to the ground *-is subject to gravity<sup>3</sup>*, and above all gives order to space. Even so, this necessary condition is not enough; the architect needs the help of light, *-without light, architecture is nothing<sup>4</sup>*-tensing it and with built time thereby summoning beauty.

Idea, light, construction and measurement form a substantial part of a discourse which, similar to that of Barragán, enhances his particular understanding of architecture. These are premises that also underlie the work of Ferram, the family factory founded in Pinto (Madrid) in 1959. A factory that builds the light that architecture demands -the 'architectural light'- providing solutions that derive from the knowledge of the project and the mechanisms that uphold discipline, in the understanding that architecture is governed by a double spatiality, which is transformed with the passing of the day and changes in light.

The search for that 'other' light that architecture requires was what prompted Ferram to undertake the Architects on Design project in 2004; an initiative that relied, in the words of John Berger, on the collaboration of a series of masters of architecture -Álvaro Siza, Rafael Moneo, Eduardo Souto de Moura, Alberto Campo Baeza, SANAA (Kazuyo Sejima and Ryue Nishizawa)- belonging to different generations and with their own unique visions of the discipline, who with their designs helped to materialize a desire that is in itself a declaration of principles: *to extend the boundaries of what is commonly understood as design to include, on the one hand, the shaping of materials, their extraction and composition, via drawings and the development of tools, implements or the iterative process of models and prototypes and, on the other hand, the finished product and its use and, ultimately the books and typography used in the visual communication of the designs<sup>5</sup>*.

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3 Campo Baeza, Alberto. *Principia Architectonica*, Marea libros, Madrid, 2012.

4 Ibid

5 Del Río, Óscar, "Las manos prestadas", in *Architects on Design*, nº 0, Ferram Editions, Madrid, 2013.

It has only been on rare occasions that Campo Baeza has approached product design and, when he has done so, it has always been to turn some element -a bench, a chair- into an accentuation of his architecture. This lamp is therefore very much a first -an *opera prima*- as far as his work as a designer is concerned.

Nonetheless, as he himself acknowledges he had *always dreamt of creating a lamp, considering that a lamp is a light capable of being taken wherever and however we want. We control its location and its intensity.* A dream that started out as far back as 2005 with different forms and different illusions, and which, after fifteen years of intense work -discarding other options along the way- has finally been fulfilled, in keeping with its author's own maxim: *dreams -ideas- must be capable of being built; an idea that cannot be built has no meaning.*

To achieve this, the architect did not hesitate to apply to the design the same principles that in the course of his long experience have shaped his aforementioned *Principia Architectonica*. And what more logical way to translate this idea of a lamp -as if it were just another piece of architecture- than to use these same principles:

*And so I drew a horizontal line to carry the line of light of the LED linear strip. And a supporting vertical line to hold that horizontal line in the air. And the articulation between both lines to enable the movement of that horizontal line, of the light, in all directions. And the support of that vertical line on the horizontal plane, on the table, with the addition, of course, of a pair of right-angled lines. Almost as if it were a feather crane.*

Thus, true to his principles, Campo Baeza turned his artistic creativity once again into a positive action that produced order. To this end, he resorted to the very essence of geometry to design an object which, in true Corbuserian fashion, would elevate *L'Angle Droit*<sup>6</sup> -the right angle- to poetry in the certainty that the encounter between the vertical poise of gravity and

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6 Le Corbusier, "L'Angle Droit", in *L'Esprit Nouveau*, N° 18, Paris, 1924.

the horizontal plane of light is what gives the angle its perfection, that is to say, its right-angled and precise beauty.

Turning to the very essence of geometry and its role in creative processes, is what makes it possible for this lamp to ultimately materialize in the form of a poem. A geometry which, as Husserl argued, *has to do with the space-time of forms*,<sup>7</sup> forms that are possible within this binomial precisely because they are measurable magnitudes. Once again, measurement -*the word in harmony with the number*-<sup>8</sup>, underlines these mysterious parallels which for Campo Baeza exist between poetry and architecture, and which we now see extended to design. Number, measure, accuracy and size -as in the construction of a poem- dictate the dimension of the various parts that shape the form of this precise mechanism and the area of influence of its movement which, thanks to the accuracy and precision of its proportions and its timeless character, will be capable of touching us humans, and remaining, like poetry, in our memory.

Here we have a design, the product of the successful combination of the nobility and expressiveness of a single material -steel- with the radical exactitude of number, which fits in perfectly with that metaphysical character which, in Frampton's words, *would soon prove to be an essential aspect of Baeza's mature manner*<sup>9</sup>; an architect who with this latest creation, once again reaffirms his conviction that *getting measurement right is the best way of attaining the world of our dreams*.<sup>10</sup>

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7 Husserl, Edmund. "Sobre el origen de la geometría", in *Revue Internationale de Philosophie*, año 1, N° 2, Brussels, 1939.

8 Definition of poetry by María Zambrano, often cited by Alberto Campo Baeza.

9 Frampton, Kenneth, "Sobre la lectura de lo elemental: una breve nota", in *Campo Baeza; light is more*, TF Editores, Madrid, 2003

10 Campo Baeza, Alberto, "De las medias del hombre. Sobre la precisión", in *Pensar con las manos*, Nobuko, Buenos Aires, 2009.

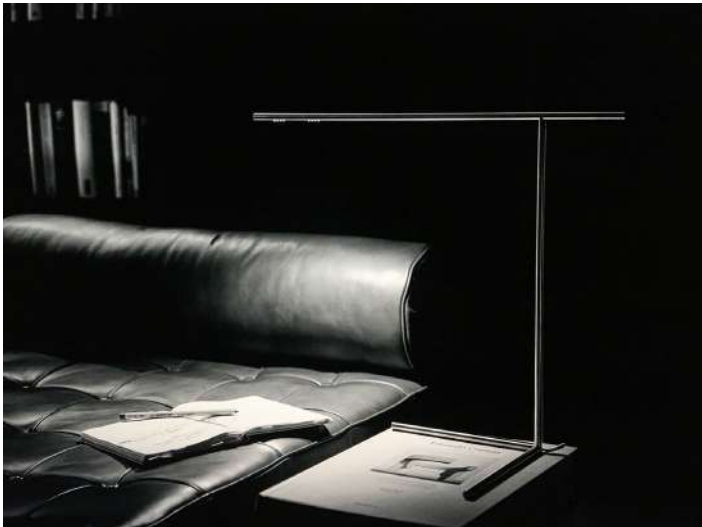


Figure 2 Triaedrus lamp produced by Ferram industry. [www.ferram.es](http://www.ferram.es)  
Instagram @ferram\_architectsondesign



## TOWARDS A DOMESTIC SOCIAL PLACE

Ángel Cordero Ampuero

This 2020-2021 course has been an excellent opportunity to reflect with students about the future of Architecture. As Haskim Sarkis asked for 2021 Venezia Biennale, “how will we live together” seems to be —again— our best challenge. In the last 70 years our discipline has explored a constellation of paths (Jencks 1990), each one fascinating forerunner of unknown perspectives. However, Covid pandemic has focused the big trouble of humanity and how science and technology can help everyone, how people can help each other. Thus, when UN Habitat and many other institutions and researchers (Poyatos 2018) claimed a few years ago for a human approach to the space design, they were preparing the soil for a more-than-ever intense social demand of architecture. If we had already assumed our responsibility with climate crisis, we are called to resume —together with planet care— a new responsibility with humanity crisis. It will be not easy, but Architecture must meet all his recent past experiences to be able to respond properly to these new times.

At this point, we can recall the pioneer words of Aldo van Eyck, when claiming for an architecture made “for us, by us” (van Eyck 1959, 12-13): “No limitation is implied. [...] we can start reconciling them —the essence, not the form— in a wonderful sequence of possibilities that would really fit man”.

The same question had been addressed on urban scale by many other approaches, from sociology (Simmel 1903) to urban history studies (Mumford 1961). If we consider the core discipline of architecture across last decades, many researchers have been reflecting about how urban space must be reshaped, criticising previous models (Gehl 1971), analysing the structures (Rossi 1966) or just proposing new projective ones (Koolhaas 1997). Most of them, however, have focused on main landmarks, structural or superimposed to urban fabric. Just a few ones (Mangin 2020) have been studying in depth the net of tiny places that built-up the space of social

daily life, the scenarios where domestic links between people happen in the neighborhoods. This question could be neglected in the big planning strategies, but when thinking in a professional response for the human scale, every place for citizens to be lived becomes a space to be designed.

Last year, when studying some new residential neighborhoods in Madrid, we have founded a disturbing border between domestic architecture and urban planning. Sometimes, just a line in the floor is marking a deep boundary for life: the place to engage facing the place to fight, the cradle versus the jungle. There are many questions of this trouble that exceeds our field of expertise. Social, cultural or economics conflicts are everyday performed in our streets, far away from architecture and urban design. But we are able to engage interdisciplinary studies where place awareness can be combined with integration sensibility, working together for a common future. Moreover, sometimes domestic architecture helps to break the border down, conditioning even a pointless urban fabric and bringing some city fragments back to life. Obviously, it can be done through a good design, but not only; it is related too with framing the townscape (Cullen 1971), when architecture goes beyond its own boundaries and takes part in the social life scene, when, as Aldo Rossi argued, “the fixed scene [is] stronger than the transitory succession of events” (Rossi 1981, 50).

This question of strength could have been misunderstood by many designers when, for instance, superimposing to city obsolete models of rhetoric architecture (Eco 1968). On the other hand, residential architecture has been sometimes especially sensitive to site and people demands, building a common foreground for human domestic relationships. Despite of its period or architectural language, these spaces are able to balance the natural inclination of architecture to hardly lead the scenery and the usual subordinate role of landscape design, many times literally overshadowed by its counterpart. We cannot find easily a recipe to ensure this compromise, but we can devote our research to deeply study this dialectic, looking for some clues about how to live together.

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Figure 1 Terraces on the west façade of Corrales House. Image source Enrique Delgado Cámara

# INHABITED TOPOGRAPHY

Enrique Delgado Cámara

## **The house-studio of José Antonio Corrales in Aravaca**

When José Antonio Corrales builds his own house-studio in 1977 he proposes an adaptation to the environment that allows him to establish a meditation on architectural sustainability that was not limited to energy saving. Corrales House is solved with common sense and ingenuity, something difficult to find in recent modernity

Following a climate-efficient approach, the building is closed to the north and to the views of the nearby neighborhood by setbacks and steps, to orientate towards south and direct the views to the distant horizon of the Casa de Campo.

In front of the house remains a free space, located at a vertex of the plot that coincides with the highest level of the ground. The door of the house is hidden, standing on a side façade. It is articulated on the floor plan with the garage to create an access area in a bend to cross a lobby with double door. The house keeps 5 meters away from the limits with the neighbors and takes the triangular shape of the plot like the last of a shoe.

The level difference of the ground is introduced into the house through a stepped topography that generates its own inner world, with eleven terraced levels that give rise to the organization of the different areas of the house. The complexity of the floor plan responds to an approach of the house conceived from the section.

The largest outdoor space is placed on the south of the plot, where there is a stepped garden to which the house opens and where a swimming pool is located. The porch functions as a sunscreen filter for the large glazed

opening of the living area and generates an outdoor living space related to the dining room and the landscape.

Both the patio and the porch can be understood as intermediate elements between interior and exterior. The courtyard of the east façade is covered with a pergola, placed as an appendix protruding and exceeding the line of the east façade. The porch is a living space that links the interior of the living room with the outside garden.

## ARCHITECTURAL CONTEXT

In the house can be found themes and mechanisms used perseveringly in the work of Corrales, as well as in the work made in collaboration with Ramón Vázquez Molezún.

The way the house is placed on the ground is similar to the Institute of Herrera de Pisuerga, of 1954, the first work that Corrales and Molezún carry out in collaboration. The stepped terracing had already been experienced in the section of the Residence in Miraflores de la Sierra, in another collaboration with Alejandro de la Sota in 1957 and on which rises a light structure of metal pillars and wooden beams that support a suspended roof. Later Sota will use the stepping of the land in the Guzmán House of 1972 to create an artificial topography of terraces linked with different levels.

The idea of house transformation is explored by Le Corbusier in a project for apartments in 1928-29, where mobile partitions allow the change of use of the rooms during the day and night. In the Engleber House from 1949, Harry Harrison uses deployable divisions in the children's rooms for the transformation of the bedroom into play and studio space. Sota also uses in the Guzmán House mobile elements that allow to transform the living and the porch, to open the house to the exterior landscape.

## INHABITED TOPOGRAPHY

The house of Aravaca is born from the land. It adapts to a triangular plot with a steep slope towards south. The initial intention of linking the garden with the living area at the southern end leads the house to climb the hill. The complexity that is reflected in its floor plan and in its apparent difficulty of understanding is solved by making a tour across its interior, guided by a sequence of terraced spaces. You enter the house from the highest level to go down in a terraced way until you reach the garden that is also stepped.

To adapt to the slope the house is organized by stepped platforms where the various rooms are arranged in stratified bands parallel to the terraces. On the solid basement are supported exempt metal pillars, detached from the perimeter walls, which support a light cover from which light can be introduced.

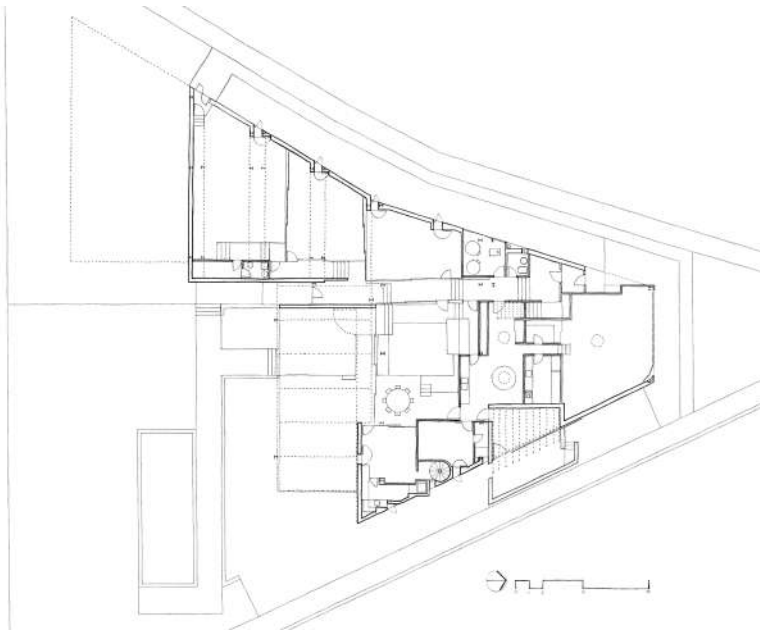


Figure 2 Main floor plan of Corrales House. Drawn by Enrique Delgado Cámara

The terraces adapt to the inclination of the land and in turn determines the configuration of the house. This is done in an orderly manner, using platforms of 7 meters of background that generate a descending sequence with 5 main levels. On the first level is placed the access, the housing area is arranged on the second and third levels, while the work area occupies the lower two.

On a first platform at level 9.48 m.<sup>1</sup> is located the main entrance of the house, arriving from the west side with a lobby. On the second level is placed the service area at level 8.82 m., to which you descend from the lobby or from the garage. This step of 0.66 m is perceived only on the stairs. The dining room and a cabinet are located on this same level which extend to wrap the living as an extension of the platform to the south that continues on the outside porch.

The third platform is located at elevation 8.15 m. and houses the living that fits into a second concavity. The step of 0.67 m. is very similar to the previous one and is present on the three sides of the living. On the other side of the gallery on this same level there is a versatile space that articulates the floor and links with the work area. The living space extends towards the outer portico with a platform slightly elevated to the level 8.50 m. A platform at level 7.50 m. links to the studio and allows you to go out to the garden.



Figure 3 Stepped platforms in the studio of Corrales

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1 Level height have been respected according to the referenced dimensions in meters as appear in the original plans of the architect.

The studio is located between the fourth and fifth platforms, to which is added an intermediate step. The first level is located at level 6.68 m. from which you access the platforms located at levels 6.12 m. and 5.48 m. The leap between the living area and the studio is 1.47 m., while the step between the two platforms of the studio is 1.20 m. These rooms are lightened by open skylights in the fold of the roofs. In the published plans of the house appears another step in the studio area<sup>2</sup> with a third room that is located at the southwest end of the plot. This space drawn on the ground floor that was not built follows the sequence of the terrace, in continuity with the other rooms of the studio.

The porch is located on the fourth platform partially maintaining the interior level 8.82 m. to descend to level 8.50 m. in front of the living. From the level 8.50 m. of the porch, you can descend to the level 8.00 m. of the fifth platform to reach the level 7.50 m. that connects with the interior gallery. The slopes between these levels are 0.50 m.

At the southern end of the plot is the garden, which is an extension of the fifth platform at level 8.00 m., formed by a green meadow and with a pool that can be accessed from the house ascending from the level of level 7.50 m. or descending from the porch.

The steps around the living generate a space confined on three of its sides by a slope of 0.81 m. The line of vision of a seated person is placed almost at ground level on the porch. The tier produced by the topographic folds fits the furniture of the living room that are arranged in a U-shape to confine a concave area that generates shelter and looks towards the center. However, a short distance away on the floor plan, a person also seated in the dining room position has an elevated viewpoint that allows a distant view of the landscape through the porch.

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<sup>2</sup> The plans are included in the article published by Jerónimo Junquera and Estanislao Pérez Pita, *Casa en Aravaca, Madrid*, Quaderns, nº 160, enero / marzo 1980, pp. 24-37. This space that could be understood as an enlargement is defined in the floor plans, while in the elevation plans it appears only as an outline.

The terraces between the living room and the studio produces an opening of 1.60 m. in height above the upper ground level, which allows a person standing to direct his gaze diagonally towards the lower space. In the reverse position, the eye level of a person located in the studio allows him to overcome the gap of 1.47 m. and see over the floor of the living room or to be able to raise the gaze. The same step of 1.47 m. enables a seated person to work without distraction since the height of his eyes does not exceed the step. Between the two rooms of the studio there is a level difference of 1.20 m. that can be overcome by the vision of a seated person and also allows the diagonal view between the living room and the studio in both directions.



Figure 4 Porch of Corrales House. Filter and steps.



Figure 5 Diagonal visual line between the second living room and the studio of Corrales House.

Image source Enrique Delgado Cámara

## VERSATILE PROGRAM

Corrales proposes alternatives in his house-studio on the traditional housing program, a question linked to the current moment of crisis and transformation of our contemporary way of living. Conventional domestic spaces are avoided to propose areas where diverse or not known activities are allowed. Although the studio has an independent entrance, the relationship

between the house and the studio seeks integration and transparency, as happens between the public and private parts.<sup>3</sup>

It is not intended to isolate the functions or the different possible uses, but to enhance their fusion. The arrangement of movable panels gives the spaces a capacity for transformation in their relationships, in which the stepped section of the house participates in an important way.

On the floor plan the house uses a scheme similar to a mat building with a plot extended over the territory, closed in its perimeter and with vertical lighting openings. The openings to the outside are controlled and the various rooms are organized towards the interior by means of an orthogonal grid that stimulates the relations and the possible interconnections.

Corrales proposes a large family program that is combined with a work-studio area. He wants to avoid the obvious and well-known requirements, to think about complementary activities of work or leisure to accommodate the different members of the family in their necessary environments.<sup>4</sup>

The area of diverse or not known activities that is located next to the living room introduces a random and freely available factor that can be understood as a second room for the children, a place for hobbies, a reception space or to work inside the house.

The same happens with the rooms located on the platforms of the studio, they are versatile spaces without a specific use. The stepped arrangement and closure of the spaces by means of movable partitions reinforce this possibility of transformation of the program.

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3 García del Monte, José María, *José Antonio Corrales Gutiérrez, 1976-79, New construction*, Included in: *100, One hundred houses for one hundred European architects of the 20th century*, General editor: Gennaro Postiglione DPA Politecnico di Milano, publisher Taschen, Köln, 2004, p. 84

4 From the text of José Antonio Corrales, published in the book *Corrales y Molezún, arquitectura*, Xarait Ediciones, Madrid, 1983, p. 122



## SPATIAL TRANSFORMATION

Corrales uses several mechanisms to allow the transformation of the spaces. Through the steps a physical barrier is produced that nevertheless allows visual continuity. The arrangement of movable panels alters the relationships between the rooms. The control of the views on the outer perimeter made with different types of openings allows to modify the spaces, in addition to controlling the lighting.

The platform located at level 8.15 m. occupies a central position around which all possible spatial connections of the house are articulated. The living room, that occupies the 7 meters of the width of the platform, is located in a prevailing position from which you can dominate the areas located on other platforms. The room is fit by steps on three sides: To the north the step that allows the passage to the kitchen, in the east there is a step that descends from the cabinet and the dining room to the living and on the south side there is an ascent to the platform of the porch, while to the west there is a horizontal continuity with the gallery and the second living room. The placement of sliding doors between these annexed spaces allows each of the compartments to be added or subtracted.

The opening of the two panels of the gallery multiplies the dimension of the living room, whose length can extend up to 20 meters between the two side facades by also opening the mobile panel of the cabinet. Adding the opening of the two sliding doors of the studio would achieve the greatest possibility of extension of the living area, which would allow a diagonal line of vision from the kitchen to the south-west end of the house, with a length of 33 meters. The sliding panels allows an independent use of each of the rooms.

The glass screens that form the exterior enclosure between the living room and the porch are also sliding, which allows the porch to be incorporated into the room and the dining room with absolute continuity. Superimposed on the screens are added the exterior mobile panels of the façade, which give the possibility of modifying the visual connection between the living and the porch. These panels are made up of three moving elements which

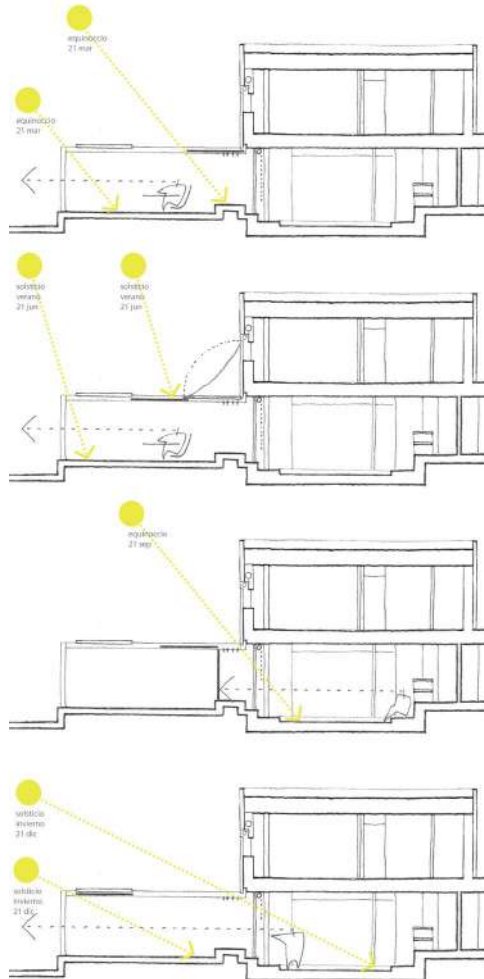


Figure 5 Analysis of the filter and solar cycle in Corrales House. Drawn by Enrique Delgado Cámara

allow different provisions of the closure which can function as visual barriers or constitute a safety element when all the elements are moved over the living space.

There are also mobile panels in the service patio. This closure that is located in the exterior plane of the east façade allows to double the dimension of the patio, changing its character and transforming in turn the visual line that occurs from the kitchen.

The cover of the porch also includes mobile panels in addition to cloth sunshades placed horizontally. The concept of transformation is used here as a passive solar strategy, with versatile dispositions to take advantage of ventilation and sun protection. These elements allow solar radiation to be regulated at different times of the year and generates diverse living spaces in the porch.

## TOPOGRAPHY AND TRANSFORMATION

The inhabited topography structures the house of Aravaca. The stepped terraces allow to accommodate the rooms and establish relationships between the spaces with diagonal visions in section. In turn, a downward circulation is generated with a dynamic gradation towards the most public areas of the house and the studio. In this descent, the capacity for spatial transformation that emerges as a contribution in the approach of the program of contemporary living is increased. The program is open and the spaces are transformable. In the house there is room for leisure, work and other alternative or complementary uses to housing.

In the Corrales House are present the geometrized steps of Wright's houses, the concept of Utzon platforms, the use of the porch as an exterior filter of Alvar Aalto, the inside-outside of Sota or the open terrace to the landscape of Oiza, diverse architectures that resonate in an eclectic attitude that allows them to be gathered.

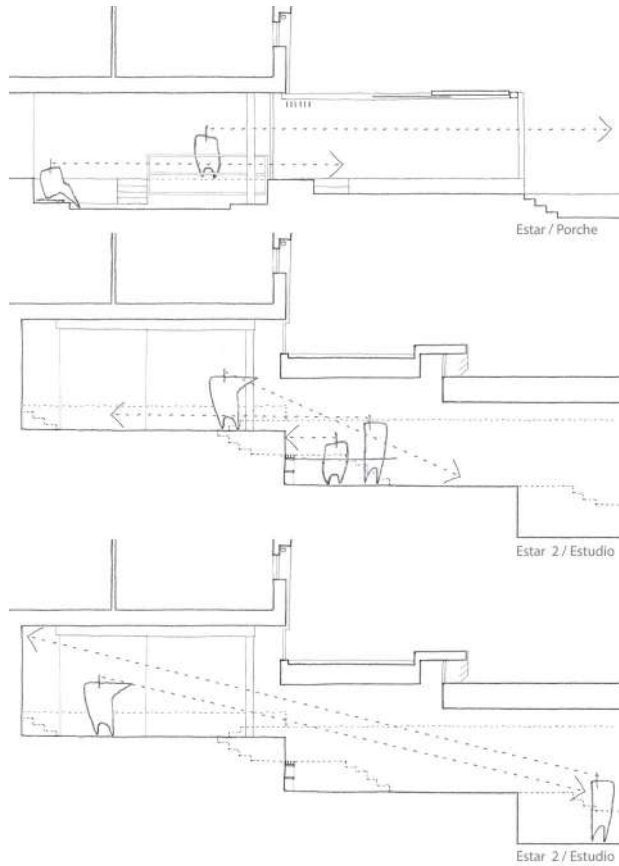


Figure 7 Analysis of the terraces between the spaces of Corrales House  
Drawn by Enrique Delgado Cámara

The drawings of the house on the floor plans and sections express clarity. There is a freedom to move between the different interior and exterior elements. The architectural work is natural, spontaneous, easy, cheerful and carefree. Clarity in thinking has been sieved by work and maturation on the drawing board. During the last years of his career José Antonio Corrales avoided the use of computer to continue developing his projects with hand drawing. He said: *"I do want to check graphically the ideas I have in my head."*<sup>5</sup>

Corrales' thought develops by drawing and Alejandro de la Sota, who knows him well, reminds him enjoying the work on the drawing board: "I remember him sitting on the board and brilliantly solving from one end of the paper to the other of the whole project. I found his speed and perfection implausible. [...] When my spirits wane, I think of José Antonio, the cheerful worker on his board."<sup>6</sup>



Figure 8 Analytical axonometry of the topography in Corrales House. Drawn by Enrique Delgado

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5 Quote from documentary film, *Elogio de la luz: José Antonio Corrales, voluntad indomable*, director: Juan M. Martín de Blas, Televisión Española, 2003

6 AA. VV., *Corrales y Molezún. Medalla de Oro de la Arquitectura 1992*, Superior Council of the Colleges of Architects of Spain, Madrid, 1993, p. 86

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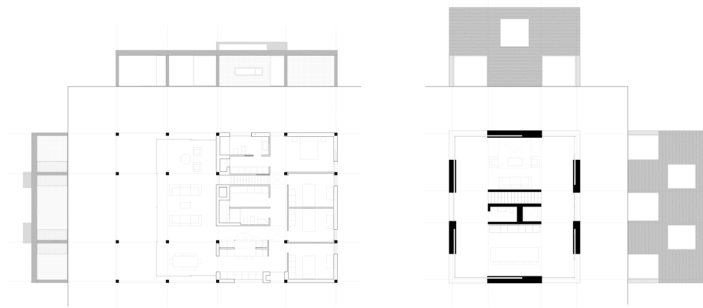


Figure 1 Floors and elevations of Casa entre tapias, 2009-2017, and Domus Damero, 2019-2021 (under construction). Jesús Donaire

## INHABITING THE STRUCTURE

Jesús Donaire G<sup>a</sup> de la Mora

And so I never get tired of repeating that the structure, the supporting structure, more than just transmitting the loads of the building to the ground due to the inescapable gravity, what really transmits is the order of the space, establishes the order of the space, builds the space. The structure not only supports, not only holds, but well resolved, tuned, it is waiting to be pierced by light and air to sound and sound good, like a good musical instrument.<sup>1</sup>

Alberto Campo Baeza

This short but precise introductory quote, in which the architect Alberto Campo Baeza synthesizes the importance of the structural skeleton, expresses the idea present in the conception of the houses Entre Tapiales (Ciudad Real) and Damero (Madrid). Two houses that were designed by the author of this article and whose first sketches are 10 years distant. Although there are obvious formal differences between both of them, they respond to the Alberto Campo's spirit by means of which it is intended to establish the order of space through the structure.

The Casa entre tapiales is a simple reinforced concrete structure, which is developed on a single floor level plus a basement, composed of twenty pillars under a concrete slab. The Domus Damero is a more compact structure, with two floors plus a basement, built with cast in place wooden slats formwork concrete walls, and its four cantilevered corners. In this case, the slabs work structurally to make the cantilevers possible, thus allowing the reduction of the wall thickness to its minimum allowed of 20 centimetres.

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<sup>1</sup> Campo Baeza, Alberto. *La estructura de la estructura. Establecer el orden del espacio*. publicado en La línea del cielo. P. Curso 2007-2008 (Madrid: Ed Marea. ETSAM., 2008)



In both situations, harmony between the interior and exterior space was sought, reinforcing the idea that the structure itself should precisely qualify this limit beyond being just a materialization of its facades and a supporting skeleton. However, concrete is treated in a very different way in both situations, with several different haptic qualities, to balance with the rest of the constructive elements of both houses and provide different spatial experiences.

## THE ABSTRACTION OF THE REINFORCED CONCRETE IN THE CASA ENTRE TAPIALES

The 'Casa entre tapiales' (House Between Old Mudwalls) is a project located on a site which had formerly been used as warehouse for farm implements for over 70 years. The existing mudwalls are a part of the visual memory of the inhabitants of Malagón, a small town located at the northern part of the Spanish province of Ciudad Real. The project is a new construction aiming to recognize and appreciate the old building walls. The new construction is a simple armed concrete structure, formed by twenty 8 ft-high walls and a total 18.5 meter-long, 12.50-meter-wide slab. The project is a new-build construction that aims to highlight precisely those old mudwalls, therefore the concrete was treated in the most abstract way possible: only as vertical linear elements, of pillars, and horizontal, of slab.

This 231'25 square meter, 20-legged table houses a rather intimate area comprising bedrooms and service spaces, and a more open space for the main living areas, which open up to the main patio where there is a swimming pool. This opening to the main patio is produced with the glass that provides the transparency and continuity of the space.

The mud wall is therefore the visual enclosure of the space ultimately contained, and open to the sky. Between the glass skin and those walls, a porch that becomes the open but covered space is created. That porch acts as a mediator between the inside and the outside. A space like a hypostyle hall apprehended by the French rationalist master of the reinforced concrete, Auguste Perret.



Figure 2 Casa entre tapiales, 2009-2017, Jesús Donaire. Photograph by Javier Callejas

In the first part of the 20th century, the French architect Perret projected some buildings where the structural skeleton defined the order of the space and the precise measurements of the construction. Examples such as the houses on Rue Franklin, from 1903, or the house for George Braque, from 1927, define a way of working where the manifestation of the structural system also becomes the expressive character of its architecture, stripping and showing the skeleton, just as it happens in the *casa entre tapiales*. In larger-scale projects such as the Jena Palace, built between 1937 and 1946, the clarity of the structural system is evident, both in the composition of the façade and in the order of the spatial grid that characterizes the two recognizable hypostyle rooms with 18 truncated cone-shaped columns. In a similar way, the structural elements, in this case beams, that make up the spatial grid are defined in the horizontal plane of the roof. In the *Casa entre tapiales* the concrete slab defines its constructive and structural rotundity, offering simultaneously a material character that enters into a balance of symmetry with the *campaspero* stone floor. While the horizontal plans of the house show this stone materiality, the vertical ones are abstract white cloths, finished in matte paint on the inside and shiny on the outside, to be able to capture the light and the reflections through the use of ceramics.

The definition of the façade is therefore reduced to the abstract order posed by the structure, leaving a more open part that is completed with the glass cube and a more closed part that is completed with a white ceramic tile measuring 10x10 centimetres, manually enamelled. Ceramic takes on a double function: on the one hand, it is the bricks enclosing the most private areas of the house, and on the other, it establishes a dialog with the existing materials. Thanks to its enamelled finish, it has the qualities of a mirror which absorbs light, increasing the shades and irregularities of the mudwall's texture and colour, which rapidly changes over time as the whitewash cycles barely last two years. The openings in the sleeping area are completed at a superficial level with a ceramic lattice with the *galandage* system, establishing the material continuity and the reflection in the exterior skin of the house. The rigid lines of the exposed concrete structure define a double vibrating box of glass and ceramic in front of the old mud wall.

## THE HAPTIC QUALITY OF THE CONCRETE IN THE DOMUS DAMERO

The 'Domus Damero' (chessboard house) is built as a large exposed concrete box from which a series of holes are subtracted that create the inhabited space, they order it. A concrete with white cement and horizontal wooden slat formwork, whose arrangement also serves to delimit perfectly the dimensions of the holes. The texture and colour of this finish capture the different shades of light, loading the façade with a poetic content. Faced with the abstraction of vertical and horizontal lines of the Casa entre tapias, here the planes that the chessboard creates serve as a supporting structure and facade.

The singularity, and supposed radicality, of the Domus Damero consists in releasing the four corners of the ground floor with four large sliding aluminium windows, in the galandage system, which when opened hide the leaves inside the interior partition. Thus, a clearer and more resounding continuity is generated between the interior and exterior spaces, providing a feeling of greater spatial amplitude. Due to the reduced dimensions of the plot, this project solution generates four large porches in the four corners of the house. Hence, there is no need to create an adjacent element as a porch, but this type of spatiality is incorporated into the house directly.

Visually the corners open to its four diagonals which makes the interior space have a greater spatial expansion, and a better use of the plot. The interior spaces are projected towards the outside and vice versa. From the central openings of access to the house or exit to the pool, projected in the central northeast-southwest axis, the four corners of the house can be seen, since the ground floor is completely open and flexible. This floor houses the kitchen, dining room and living room area or main space. For this, and to give more continuity between the interior and exterior spaces in the horizontal plane, the same material of the floor can be found inside and outside. The campaspero stone is responsible for generating this continuity and achieving a balance of texture and colour with the concrete finish used. The ochre, grey, stone tones in short, become continuous between the horizontal plane and the vertical walls.



Figure 3 Domus Damero, 2019-2021, under construction, Jesús Donaire. Photography by Montse Zamorano

In a strict rational exercise, these openings in the four corners help to capture the light at key moments of the day, organizing the program according to this arrangement of the concrete walls. That is the reason why each area of this low floor will have its own threshold space as a corner porch when the large windows are opened. The contrasting arrangements of the gaps in the chessboard simultaneously helps to arrange the four bedrooms on the upper floor, which are arranged in the four corners. In the main space of the house there is a double height that also helps to understand the chessboard effect from the inside, not only in the horizontal but also in the vertical plane; qualifying the three-dimensionality of the space, qualifying the way in which light enters and floods the space. In addition, a triple visual aspect is provoked within the most significant space of the house, differentiating the two main areas of the ground floor thanks to this spatial exercise of the double height.

Both houses build their habitat through two clearly differentiated armed concrete structures, one with pillars and the other with walls. Both work on the haptic aspect in a radically opposite way, while in La Casa entre Tapias the structure aims to be abstract and reduced to its minimum expression, so that other elements become the protagonists, in the Domus Damero the concrete manifests itself in a more resounding way, to order the space and also be the skin that protects its interior. Both projects explore how to expand the threshold spaces that constitute the transition between the interior and the exterior, and they do so within the definition of the order of space, which is none other than that defined by the structure.



Figure 1 Rapto de Perséfone de Bernini, drawn by Campo Baeza. The text states: "Pluto's hand on Persephone". Notebook P03 (available at the ETSAM-UPM Library)

## **FROM SIGNIFIER TO SIGNIFIED: UTILITAS, FIRMITAS AND VENUSTAS.**

Miguel Escrig Ferrando

Filiation: Universidad Politécnica de Madrid

### **The architectural language of Alberto Campo Baeza.**

While working on my doctoral thesis on Alberto Campo Baeza's design for the headquarters of the Caja Granada Savings Bank, I have had the good fortune to study a great deal of material that the architect has published over the years.

Something that could possibly go unnoticed, but which is omnipresent in Campo Baeza's notebooks is his remarkably comprehensive outlook, revealed in so many of his notes: alongside the drawings of projects in progress one finds not only other architectural references, but also scores of notes on the music he listens to and marvels at, on sculpture, on poetry... such an immense variety of thoughts that make up the inner world from which he produces his architecture. Indeed, when talking about Beauty, Alberto Campo Baeza never discusses architecture in isolation. In his acceptance speech to the Royal Academy of Fine Arts of San Fernando, he invoked the wisdom of Saint Augustine, Cervantes, Bernini, Goya, Goethe... María Zambrano, Xavier Zubiri... Philosophers, writers, painters...

Of course, Mies Van der Rohe, Le Corbusier and Frank Lloyd Wright all have their place in the master class. And Melnikov, and Barragán too.

Nevertheless, the architect never forgets the reality of architecture: its origin and ultimate goal is to satisfy a range of uses, creating habitable spaces for human beings:

But neither the poet nor the musician nor the painter, nor almost any other creators have to fight against the laws of gravity as architects do. Neither the



work of poets, musicians or painters can fall down. Nor, like architects, do they create for reasons of necessity.<sup>1</sup>

So what is the path from necessity to beauty? It would seem that the eternal question of architecture is not merely a mathematical formula. For as long as humankind has been in existence, humans have produced architecture, and this question has remained a constant: the role of *utilitas*, which becomes so important that it seems to eclipse *venustas*. Campo Baeza takes up the challenge:

To design is to give a unified response to a multitude of questions. To design is to give a simple answer to a complex question. It is to adopt a decision from diverse possibilities. To design is to generate an idea that when materialized, when formalized, is capable of solving all the questions raised.

In order to design one needs to know the problem well, to recognize it, and to know how it has been resolved throughout history, so as not to reinvent the wheel. It involves knowing the place well, being cognizant of the conditions and the requirements, the existing conditions and the wishes of the person commissioning the assignment, being familiar with the new technologies that make it possible to find new solutions.<sup>2</sup>

The key word at the end of this quote is technology. Construction. The tools the architect uses are the different possibilities that technology provides him with: what brushes are to the painter, and chisel and hammer are to the sculptor. *Firmitas* shows him the way. On the other hand, Campo Baeza's words reveal an open-minded attitude, especially when he stresses the need to study the problems, "*so as not to reinvent the wheel*". This is an approach he shares with a master as significant for him as Mies Van

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1 Campo Baeza, Alberto. "Project design is research. There are countless reasons that demonstrate why an architectural project is a work of research" *Sharpening the scalpel* (Madrid, 2019)

2 Ibid

der Rohe, who in the following excerpt discusses the use of materials in architecture:

Therefore let us guide our students over the road of discipline from materials, through function, to creative work. Let us lead them into the healthy world of primitive building methods, where there was a meaning in every stroke of an axe, expression in every bite of a chisel.

[...] What better examples could there be for young architects? Where else could they learn such simple and true crafts than from these unknown masters?<sup>3</sup>

In this text, Mies speaks of utilizing the most primitive methods, which he intends to harness when using modern materials, mainly steel and concrete. He proposes developing a language for these materials based on the possibilities they offer and refers to an attitude based on realism.

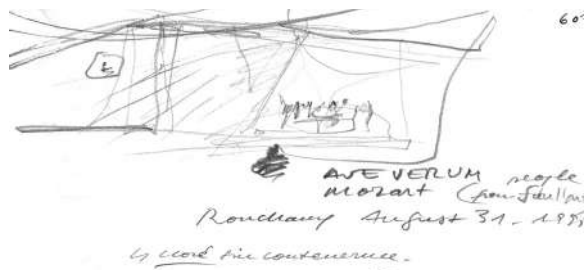


Figure 2 Drawing of Notre Dame de Ronchamp, *in situ*. The text states: "Ave Verum Mozart. Ronchamp. And I wept uncontrollably". Notebook G05 (available at the ETSAM-UPM Library)

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3 Van der Rohe, Mies. "Inaugural Address as Director of the Architecture Section of the Armour Institute of Technology". In Johnson, Philip C. *Mies Van Der Rohe*. (The Museum of Modern Art, 1947)

On the other hand, when talking about materials, we are talking about *what* they build: the whole supported by a structure. It seems appropriate, in this context, to recall the words of Alejandro de la Sota, which Campo Baeza himself quotes:

And he suggested us to imagine a woman that would give birth to a baby and she would realize that it was born without skeleton. And that the doctor would be called to open the baby and introduce a skeleton. Well, this way some architects, wrongly, behave. They invent forms and, afterwards, they call the doctor, the engineer, to insert a skeleton, a structure. The structure, the skeleton, in the human being and in the architectural space, must be present from the first moment of conception.<sup>4</sup>

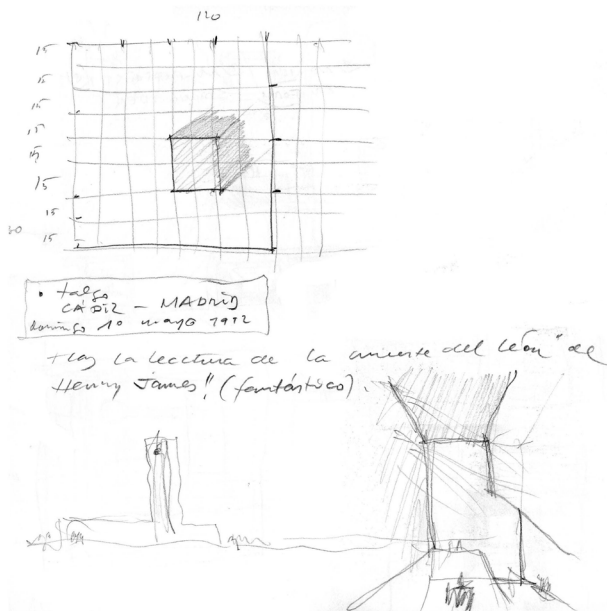


Figure 3 Drawing of the process at the Caja Granada Savings Bank. The text states: "After reading *The Death of the Lion* by Henry James (fantastic)". Notebook G03 (available at the ETSAM-UPM Library)

4 Campo Baeza, Alberto. "Project design is research" *Sharpening the scalpel* (Madrid, 2019)

For Campo Baeza, *utilitas* and *firmitas* represent a question with an intrinsic logic: the uses are arranged rationally, and the materials have specific possibilities. And in his architecture he manages to harmonise them by mastering dimensions:

The geometry that defines the lines of the structure in Campo Baeza's architecture is an encompassing geometry, one that gets the most –dimension– out of the place, the function and the budget.<sup>5</sup>

But at this point, it seems that without *venustas*, the builder would have done his job.

When we talk about Beauty, all agree that it is something that transcends, that surpasses our usual modes of reasoning. And although this is partly the case, there is a risk of detaching Beauty from rational discourse. The risk of giving space to the absence of logic or the knowledge that an architect, as a professional, needs. So, after extolling Beauty as hugely significant, one could end up considering it as something superfluous. At this juncture we need to go back to the early times:

The architect should be equipped with knowledge of many branches of study and varied kinds of learning, for it is by his judgement that all work done by the other arts is put to test. This knowledge is the child of practice and theory.

[...] those who have a thorough knowledge of both, like men armed at all points, have the sooner attained their object and carried authority with them. In all matters, but particularly in architecture, there are these two points:—the thing signified, and that which gives it its significance. That which is signified is the subject of which we may be speaking; and that which gives significance is a demonstration on scientific principles. It appears, then, that one who professes himself an architect should be well versed in both directions.<sup>6</sup>

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5 Aparicio Guisado, Jesús. "The Alchemist of Space". [www.campobaeza.com](http://www.campobaeza.com). (June, 2021)

6 Vitruvius, Marcus Pollio. *Los Diez Libros de Arquitectura* (Barcelona: Obras Maestras, Editorial Iberia)

Knowledge and studies. The thing signified, and that which gives it its significance, the object of study and the method of approaching it.

Him I call an architect who, by an admirable and intelligent theory and method is able to devise with thought and invention and to complete through execution by means of the movement of great weights and the conjunction and amassment of bodies, all those works which can, with the greatest beauty, be adapted to the uses of mankind: and to be able to do this he must have thorough insight into the noblest and most curious sciences.<sup>7</sup>

Here Alberti is more specific than Vitruvius and he points out that this knowledge, that which gives significance in architecture, is the method of arranging the weights, of joining and assembling the bodies. In short: the signifier is the word, the language of construction.



Figure 4 Cross-section of the Orihuela Public Library. Campo Baeza presented this work as a research project in the competitive exams for the university chair which he was awarded.

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7 Battista Alberti, Leone. *De Re Aedificatoria*.

That which is signified: the needs of human beings, which have to be satisfied in the most beautiful way. Because for Renaissance man, transcendental Beauty is not simply an option: it is as necessary as the conditions for human habitation. That is why the architect needs the intellect and knowledge of ‘the noblest and most curious sciences’.

But, what about today’s world?

Let Melnikov, the architect so admired by Campo Baeza, supply the key to rescuing *venustas*: “A soul is hidden in the structure of the building. Knowing how to awaken it means creating architecture”.<sup>8</sup>

That soul that Melnikov speaks of is the one that is the cross-cutting link: it is *venustas* that calls out to the human being. And for architects today, who have almost unlimited technologies at their disposal, handling this language in a beautiful way is the path to *Venustas*. Just as we make poetry out of the beautiful use of spoken language, we can make architecture out of the “language of construction”. Now and forever: the fact that language is involving is not an impediment, because the need for Beauty remains.

In fact, Mies Van der Rohe supports this viewpoint:

Yet the achievements of pure technology still challenge architects to meet the spiritual needs of men in an equally convincing way. For architecture depends on facts, but its real field of activity lies in the realm of significance.<sup>9</sup>

Signifier and signified. Clear and distinct. Without formal excesses, from the beautiful use of language, we achieve Beauty. We achieve *venustas*. And the German architect also states:

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8 Konstantin Melnikov, quotation cited by Strigalev, Kokkinaki. *Melnikov en París: del pabellón soviético a los garajes*. 2004. Doctoral thesis by Garrido Colmenero, Ginés Ignacio. Architecture. ETSAM-UPM. p.399.

9 Van der Rohe, Mies, quote in: Osborn, Robert. “The Evolution of the Craftsman?” *Perspecta* 3 (1955).

I want a structural architecture, because I believe that is the only way by which we can have a communion with the essentials of our civilization.<sup>10</sup>

Campo Baeza has, in fact, turned his structural language into his trademark. He has been able to develop a use of language which, although personal, aspires to this very essential and universal nature.

What is signified at the center of his discourse is, as we know, the light-gravity binomial. Language is formulated in two types of structure that express this: stereotomic and tectonic. This is how the architect himself explains it:

We could initially read these four projects in the light of concepts of the stereotomic and the tectonic in architecture. As if we were using a camera, we'll adjust the settings of our analysis to have a stereotomic aperture and a tectonic shutter speed. Isn't architecture also simply a matter of determining light and distance in relation to man? These two terms, taken from Gottfried Semper by way of Kenneth Frampton, have been effective instruments for me in developing a more precise architecture.

We understand stereotomic architecture to be that in which gravity is transmitted continuously, in a continuous structural system where the construction has complete continuity.

It is massive, stony, weighty architecture, which sits on the earth as if born from within it. It is architecture that seeks light, that perforates its walls so that light may enter. It is the architecture of the podium, the plinth and the stylobate. It is, in short, the architecture of a cave.

We understand tectonic architecture to be that in which gravity is transmitted discontinuously in a knotted structural system with a syncopated construction. It is bony, woody, light architecture, which rests on the earth as if it were standing on tiptoes. It is architecture that defends itself from light, which has

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10 Van der Rohe, Mies. "No Dogma" *Interbuild* 6 (June 1959)

to place veils over its openings in order to control the light flooding in. It is architecture of the shell, of the abacus. It is, in short, the architecture of a hut.<sup>11</sup>

Campo Baeza carves out a route that has characterized all his architectural work. He creates a language capable of satisfying and expressing function. *Firmitas* that expresses *utilitas*. *Firmitas* that, through its virtuous use, is *venustas*.

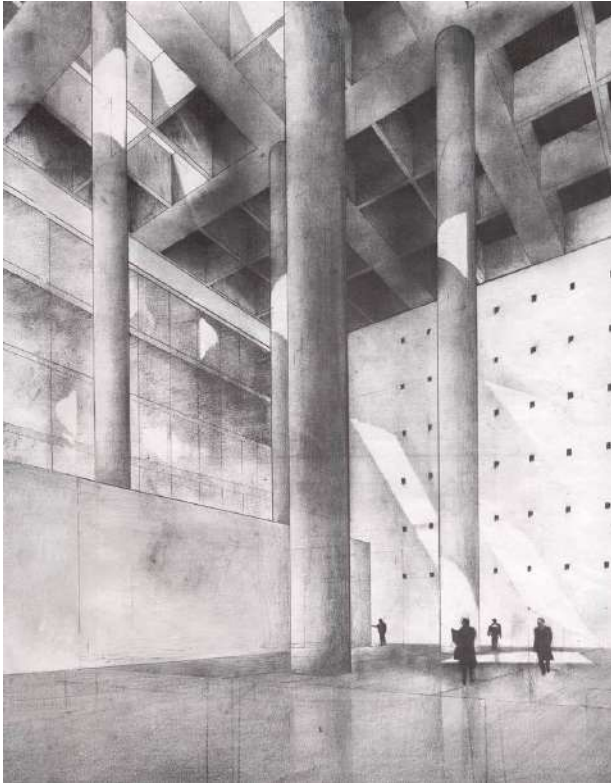


Figure 5 Interior view of the Caja Granada Savings Bank. It was the turning point in his career, marking initial signs of interest in the tectonic-stereotomic duality in his architecture

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11 Campo Baeza, Alberto. "BOXES, LITTLE BOXES, BIG BOXES. From the Stereotomic to the Tectonic" *The Built Idea* (Oscar Riera Ojeda Publishers, 2011)



This is how Jesús Aparicio describes it:

Alberto Campo Baeza casts a double gaze that can be distinguished in each one of his works: that on function and that on place. In both cases, his is a gaze in which intellectual abstraction is wisely combined with sensory experience. This dual vision is incorporated in the perception of the spaces he builds, spaces whose center is always man, the human being in whom are combined, as in Leonardo's Vitruvian Man, universality, geometry, proportion and particularity.<sup>12</sup>

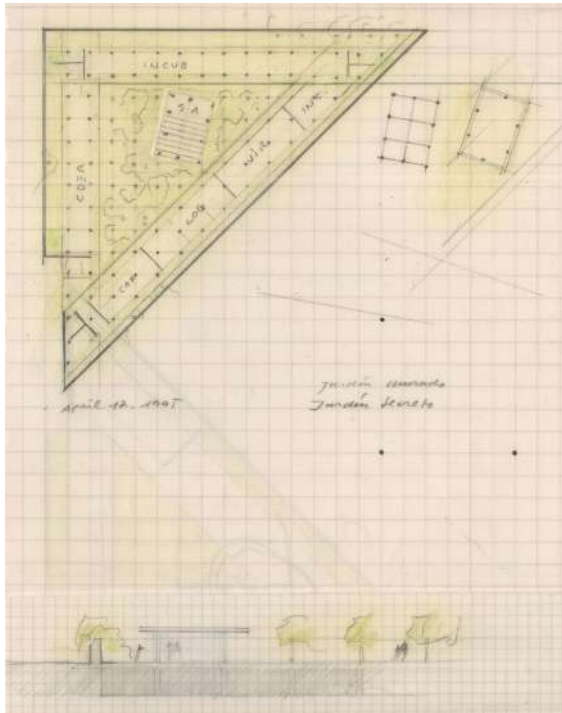


Figure 6 Ground plan and cross-section study of the BIT Centre in Mallorca. It represents the pinnacle of Campo Baeza's research into tectonic-stereotomic duality.

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12 Aparicio Guisado, Jesús. "The Alchemist of Space". [www.campobaeza.com](http://www.campobaeza.com). (June, 2021)

His is an enriched language, one that despite its apparent simplicity and directness embraces different and multiple layers:

Gravity establishes the order of the physical structure, the brain constructs that of geometry or the rational structure, and the mobility of the universe and man's sensitivity produce the order of light.<sup>13</sup>

We might then conclude that *venustas* is a question of language, of discourse that provides order. It is the soul that makes *firmitas* an expression of *utilitas*, that lends coherence, that harmonizes, in a very particular way. The more virtuous the use of such language, the more expressive and the more successful the result. And this is precisely how Campo Baeza sees it:

It would seem that we have closely followed the seven questions of the Quintilian Hexameter: quis, quid, ubi, quibus auxilium, cur, quomodo, quando. (quis = who; quid = what; ubi = where; quibus auxiliis = by what means; cur = why; quomodo = how; quando = when.).

[...]

Perhaps the simple achievement of *Utilitas*, *Firmitas* and *Venustas* proposed by Vitruvius, may constitute a more appropriate response to these questions, not forgetting that Gravity builds Space and Light builds Time.

A crafted discourse integrating so many variants. A built idea, a new synthesis of knowledge, the outcome of research. *To design is to research*. *venustas* is its fruit. *Wisdom* is its footprint.

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13 Aparicio Guisado, Jesús. "The Alchemist of Space". [www.campobaeza.com](http://www.campobaeza.com). (June, 2021)



Figure 1. Casa de Blas. Photography by Hisao Suzuki

## LANDSCAPE AND GAZE

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### **Stereotomic and tectonic terms in Alberto Campo Baeza's houses**

*Tectonic* and *Stereotomic* terms are linked to others such as *plane horizontal plane, the cave and the hut, frame vs. underline* etc. They are used by Alberto Campo Baeza when he faces a project located in a privileged enclave –on a hill, in front of the sea or surrounded by nature– where the gaze across the landscape must take the main role. As a result, a simple, essential, radical and functional architecture is created, standing by the idea that *less is more*. It uses light as an essential material to build the space. Everything to put the contemplation of the landscape in the foreground.

The *stereotomic* concept wants to belong to the earth and functions in continuity with it, in opposition to the *tectonic*, which separates itself from it, wanting to establish minimal contact.

In the first case, the gravitational force is transmitted continuously, through a continuous structural and constructive system. It is a massive, heavy, stone or concrete architecture, as if it seemed to have been born from the earth. The stereotomic aspires to darkness, it is the architecture of the cave, the podium, the plinth; that seeks the light by piercing its walls with controlled holes. Gaps or windows frame the landscape, as if it was moving away from us in order to contemplate it better.

In the second case, the tectonic one, derives from the greek term *tekton*, signifying carpenter or builder and it consists of a structural system of thin pillars, nodes and joints, forming an articulated construction. It is an architecture of steel, wood, glass, textiles and light, which seems to stand on tip toes on the ground. The tectonic is defended from the light that floods it, by means of a light structure or belvedere. It is the architecture of the hut. Here the landscape is underlined, as if we were floating on it.

As it can be well guessed, different concepts come into play in its definition, such as structure –which organizes space–, light –which builds up time and places the man in relation to architecture–, materiality and mainly the landscape and the way we look at it and the position that the observer has with respect to it.

This is the fundamental base with which Alberto Campo Baeza works to build a large part of his architecture, such as numerous public buildings and private residential buildings –Dalmau’s, De Blas’, Rufo’s, Olnick Spanou’s, Infinity house, Rotonda’s and in Sitges’ house–.

Seven houses, five of them built, have had a significant international impact on the domestic architecture scene and have been published in the most prestigious architecture magazines in the world. Seven houses that make up a type of houses based on the tectonic and stereotomic concepts, mainly for one reason: its place, its landscape. Seven houses that offer a studied and meticulous answer to the place and the functional program that each house requires.

As an answer to the site, meaning how the house comes into contact with the earth, the stereotomic part blends with the environment, while the tectonic one does not seem to rest. According to the landscape, framing it is the solution in the stereotomic, to get away from it placing yourself as an observer; on the other hand, in the tectonic idea, the solution is to underline it, in order to integrate it.

As to the functional program of the house –the most basic architecture–, Campo Baeza relies on 3 main activities: sleeping, living and dreaming. The first of them is linked to the stereotomic, the earth, the dark, the private. The second and third, are linked to the tectonic, which invites you to live between the inside and the outside, to read, write, think and imagine.

Four of the houses mentioned before –De Blas house, Madrid, 2000 [fig 1]; Olnick Spanou’s House, New York, 2008; Rufo’s house, Toledo, 2009; and the currently still at the draft level House in Sitges, Barcelona– are based



Figure 2. Casa del Infinito. Photography by Javier Callejas



Figure 3. Casa Rotonda. Photography by Javier Callejas

on a platform or podium, the stereotomic, which contains the most private rooms of the house. On it, the tectonic sits, a light structure that surrounds the most public rooms with glass.

The Infinity house, Cádiz, 2014 [Fig. 2], is the most radical. Here the architect divests of the tectonic, only remaining with the concept of the stereotomic, which contains the house, and nothing else.

Finally, the Casa Rotonda, 2021, Madrid [Fig. 3], has just been finished being built. A house that goes back to where it all began, Casa Dalmau, 1990, Burgos, which was never built. It is based on a podium or platform, on which a cubic stone construction is born –containing the most private rooms or functions of living– and at the top, a light structure in the shape of a belvedere where you can contemplate the landscape –containing the areas that invite you to dream–.

Seven houses projected in seven different parts of the world, all of them conceived in a simple and precise way. They are based on the same idea –tectonic and stereotomic– and with the same objective: to create the most beautiful house in the world, where people can be happy contemplating the landscape.

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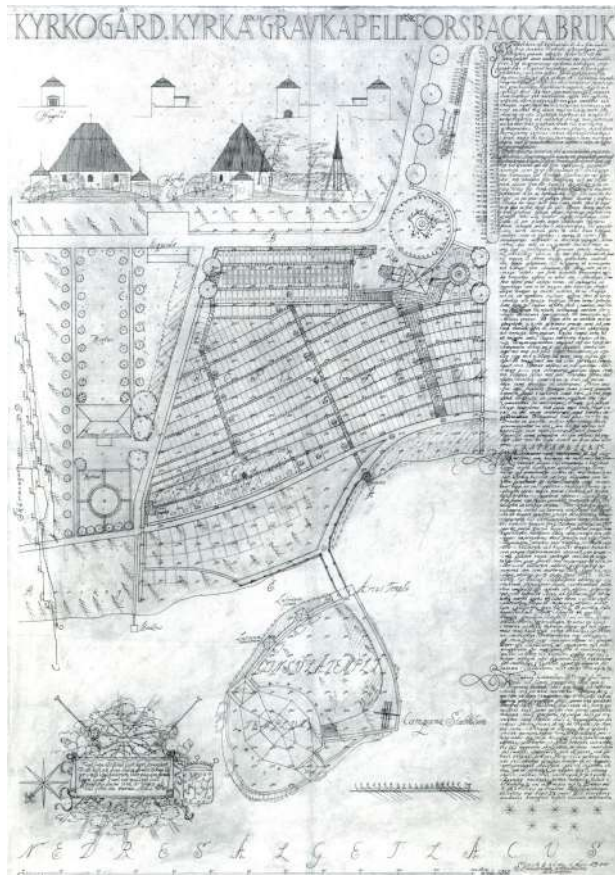


Figure 1. Cementerio de Forsbacka.

## TRES PERÍMETROS

Héctor Fernández Elorza

Al mismo tiempo que Erik Gunnar Asplund y Sigurd Lewerentz desarrollaron el concurso del Cementerio del Bosque de Estocolmo, el segundo realizó la primera versión del Cementerio de Forsbacka [Fig 1].

El proyecto fue publicado en la revista *Arkitektur* en marzo de 1915<sup>1</sup>, dos meses antes del fallo del concurso, con un dibujo firmado por Lewerentz y Torsten Stubelius, su socio, en diciembre de 1914. El cementerio se plantaba al borde de un lago, sobre una fuerte pendiente orientada al norte y una isla próxima a la orilla de la ladera. Los enterramientos se organizaban siguiendo el trazo de menor pendiente, perpendicularmente a la topografía descendente hacia el agua y los accesos transversales. La capilla se situaba en la parte alta del cementerio, con la iglesia acomodada en la zona norte de la isla. A pesar de que ésta última se conectaba con un pequeño puente con la ladera del resto del cementerio, es significativo el dibujo que los arquitectos realizan por debajo de la isla. Un barco de remos es el principal medio de transporte para trasladar a la comitiva hasta ella. Los muros que se construyen rodeando a la iglesia, son, esta vez, de mínima altura; la necesaria para contener y nivelar el suelo próximo al acceso. El desembarco se prevé por la cara sur de la isla, protegido entre ésta y la ladera del cementerio, y conectado con la iglesia a través de un camino que circunda el islote.

La propia isla, su condición aislada, configura el límite. El agua que la rodea, y la acción de acceder a ella en barco, son el espacio y el tiempo con los que Lewerentz y Stubelius construyen la discontinuidad que separa la ciudad del acto de la despedida. El límite, en este caso, no es vertical sino horizontal, se recoge en la extensión del lago y se construye

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<sup>1</sup> Lewerentz, Sigurd y Stubelius Storsten: *Kyrkogård, kyrka och gravkapell för Forsbackabruk, Teknisk Tidskrift, Arkitektur*, núm. 3, 1915, pág. 28.



fundamentalmente con los reflejos; y el grosor de éste no se construye sobre rasante, sino con la profundidad del fondo. Un límite en definitiva que sustituye, en este caso, la tierra por el agua, pero que sigue ahondando en la importancia de la separación entre las dos caras del cementerio<sup>2</sup>.

En 1917, dos años después de ganar el concurso del Cementerio del Bosque Lewerentz, esta vez sin la colaboración de Stubelius, realiza dos versiones para un cementerio en Nynäshamn.

En una primera propuesta [Fig 2], sobre una parcela cuadrada del tamaño de un jardín de apenas 44 x 44 metros, se plantean cuatro cuadrantes de enterramientos, con una pequeña capilla de 5x5 metros de planta situada a eje del acceso, rodeando todo el conjunto por un grueso perímetro. Este borde se construye por medio de un foso exterior de dos metros de ancho y uno de fondo, acompañado de un grueso seto de tres metros de alto y dos de ancho.

La topografía inclinada de la parcela es acompañada por Lewerentz con la rasante superior del seto, configurando, como ya hemos visto en otros ejemplos, un espacio adaptado al terreno como una ofrenda al suelo sobre el que se construye. Al interior, despejado de elementos verticales que puedan competir con el borde, únicamente destacan cuatro árboles: dos de ellos situados en la zona intermedia de los cuadrantes en relación al camino transversal y los dos restantes, acompañando y custodiando respectivamente el acceso al cementerio y a la capilla. Así, los valores de este cementerio radican en su límite y las acciones que lo identifican. El carácter del mismo se determina por un doble mecanismo de excavación y plantación en la definición de un marco del cementerio que reúne en un

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2 La versión construida del cementerio de Forsbacka, finalmente no planteó la construcción de la iglesia en la isla. A pesar de que hoy en día existe un puente que la conecta con el resto del cementerio, ésta se encuentra cubierta de vegetación y sin ninguna construcción sobre ella.

Como anécdota se debe apuntar que Ingmar Bergman, el director cinematográfico sueco, pasó parte de su infancia viviendo en la casa que aparece a la izquierda del plano. Su padre era el pastor del cementerio. Si imaginamos a Bergman jugando en el cementerio las reflexiones y la relación de estas con su obra darían para otra tesis doctoral.

mismo borde lo geológico y lo biológico. Una ondulación del perímetro que acompaña la tierra con la vegetación sobre la que reverbera la reunión de la vida con la muerte; una materialización de los valores simbólicos del cementerio llevados, en este caso, a su perímetro.

En una segunda alternativa del mismo proyecto [Fig 3], a pesar de que la zona de intervención elegida era de mayor dimensión, Lewerentz plantea mecanismos semejantes. El borde se construye en toda su longitud con una doble hilera de árboles que, en este caso, permite proporcionar la altura del límite en relación a la mayor la dimensión del área que acota. La intervención adapta igualmente su rasante a la topografía inclinada existente. El espacio interior vuelve a estar definido en cuadrantes y sectorizado por setos, reduciendo la dimensión de los habitáculos sin quitar el protagonismo al borde. La operación, esta vez, reafirma la importancia de su límite insertando la capilla en el grosor del perímetro. Así, en la esquina sureste del cementerio el hueco abierto entre las filas de los árboles no sólo define el umbral de la capilla, sino el acceso al proyecto. Este hueco surge realmente por la ampliación del pasillo que acota el perímetro del cementerio. La franja de aire entre los árboles es ahora la que engrosa la independencia con el exterior y nos permite pensar que la zanja de la primera propuesta, a un lado de la vegetación, se ha transformado en el hueco que surge ahora en su interior. El límite ya no se configura por la tierra, sino por la intersección de los árboles con el aire, el umbral, que acotan.

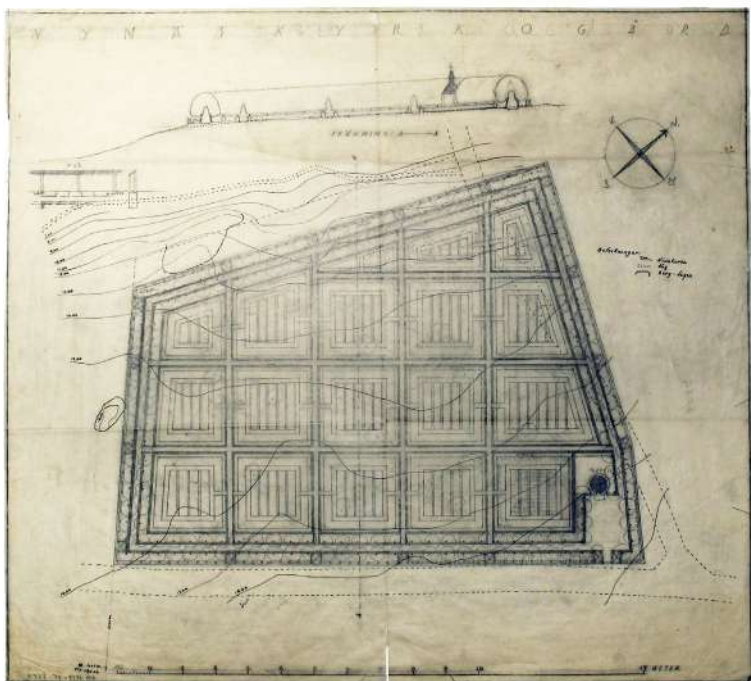


Figure 3. Segunda propuesta cementerio en Nynäshamn



Figure 1 Viviendas en Mulhouse. Lacaton y Vassal

## **MORE SPACE PLEASE! SIZE AS A GUARANTEE OF FLEXIBILITY IN HOUSING**

Alfonso Guajardo-Fajardo Cruz

Filiation: Universidad de Sevilla

To be rich is to have time and space

Alay.

Nowadays, there seems to be a degree of consensus among architects that an abundance of space is the best guarantee of flexibility: “in principle, the larger the dwelling, the more flexible it is” as Ignacio Paricio and Xavier Sust hold in their book *La vivienda Contemporánea* (Paricio and Sust 1998: 25). For these authors there is no denying that maximum flexibility in housing is achieved through a generous amount of space. Based on this, it could be stated, as Javier Terrados does, that the large hall of mirrors in Versailles is an extremely flexible space: “It could be compartmentalized to set up a care home or adapted to host the French web users congress” (Terrados 2013).

The search for flexibility through abundant space is relatively easy to achieve in single-family housing designs. However, it is more difficult to test in social housing projects, where the programme and floor surface are subject to strict limitations. As early as 1961, a report commissioned by the British government to ascertain the conditions of state housing in the United Kingdom warned that the limited surface area of most of the buildings of the country’s housing stock gave rise to a limited capacity for response to updates: “Additional space is also an important long-term investment, for if a house or flat is large enough it can usually be brought up-to-date as it gets older; but if there is not enough space the improvements can be impossible, or at least unduly expensive” (Morris et al. 1961).



The surface area limitations in social housing, affecting its flexibility, are in principle justified by the financial implications of an increase in surface area. There is a general belief that the larger the dwelling, the costlier its construction. However, as Rebeneck holds (1973: 699), some authors do not accept the correlation between “large housing” – “expensive housing”, arguing that space is cheaper than other housing systems such as the kitchen, bathroom or facilities. Therefore, it should not be assumed that a reduction in space results in substantial savings in the price of a housing unit.

One of the architects’ studios which has shown most interest in breaking down the correlation of “large dwelling” and “expensive dwelling” is that led by Anne Lacaton and Jean Philippe Vassal in France. Much of their work on housing displays a constant search to overcome – with limited economic resources – the spatial standards commonly accepted by public administrations and private developers. Thus, it is possible to find social housing projects with surfaces far greater than those usually established.

This is the case for instance of the 14 apartments designed in Mulhouse (France) as part of an experimental initiative in the field of collective housing, a project another four teams also took part in. These housing units have surface areas between 102 m<sup>2</sup> and 170 m<sup>2</sup>, with rooms of up to 60 m<sup>2</sup>. Part of the success of their layout lies in the use of standardized construction systems, inexpensive materials and limited compartmentalization of the dwelling.

However, as these design strategies are not always an option, architects are forced to resort to more traditional forms of housing design. In such cases many architects’ studios have tried to establish the minimum measurements which a space must have to offer a degree of flexibility. Two recent projects have set this as their objective, one in Europe and another in North America.



Figure 2 Social housing, Mulhouse (2005). Lacaton & Vassal

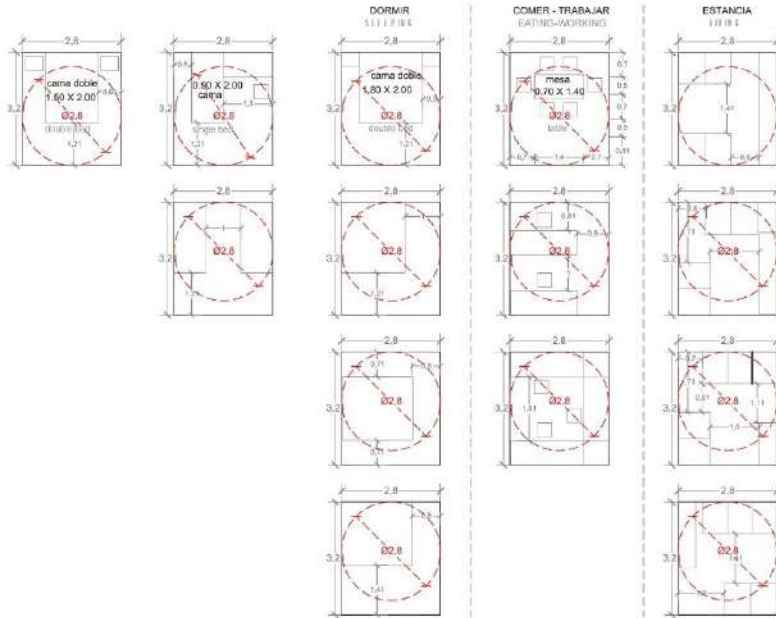


Figure 3 Flexible rooms according to Montaner, Muxí and Falagán

The first of these is the study carried out by Josep María Montaner, Zaida Muxí and David H. Falagán on contemporary housing in *Herramientas para habitar el presente: la vivienda del siglo XXI* (Montaner, Muxí, Falagán 2011). The authors analysed different sizes of modules with different furniture arrangements and concluded that for a room to be considered flexible it must have a surface area of at least 9 m<sup>2</sup> (3 x 3 m for a square floor plan) to allow a 2.80 m diameter circumference to be traced inside it.

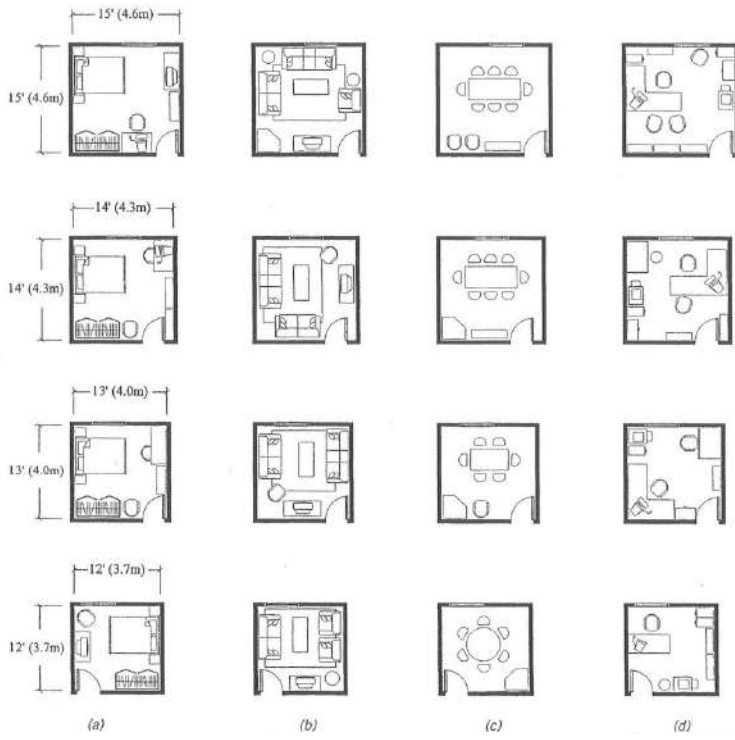


Figure 4 Flexible rooms according to Avi Friedman

The second proposal was developed by Avi Friedman in his book *The adaptable House* (Friedman 2002). In this case Friedman recommended larger rooms, measuring 4.60 x 4.60 m (21.16 m<sup>2</sup>) for medium-sized dwellings, while smaller dwellings have a recommended room size of 3.70 x 3.70 m (13.69 m<sup>2</sup>). In terms of geometry, square floor plans are preferable as they have fewer limitations for the organization of furniture.

The abundance of space as a key pillar of Lacaton and Vassal's proposal is not limited to new constructions. It can also be found in the numerous retrofitting projects for large residential blocks carried out in collaboration with architect Frédéric Druot. The common intervention guideline for all their "transformations" is the extension of the surface area of dwellings through a new load-bearing structure superimposed on the existing building. The new space includes a semi-exterior room, known as *jardin d'hiver*, which is highly flexible (thanks to its size and lack of compartmentalization) as well as a balcony running along the façade. This intervention is completed with the reorganization or extension of some of the interior rooms and with the addition of large openings on the façade to let natural light in: "Doubling the surface area of flats is a recurring theme in our search for luxury. It is unusual for someone, paying the same rent, to turn down a flat that is double the size, or has double the amount of light, double the features, or double the freedom of use" (Druot, Lacaton, Vassal 2007).

1. Existing façade
2. Railing
3. Extension
  - Balcony 1 m deep
  - Jardin d'hiver 2m deep
4. Curtain for solar protection
5. Retractable transparent polycarbonate panels on a lightweight metal frame.
6. Sliding glass doors on a lightweight metal frame
7. Curtain for thermal protection

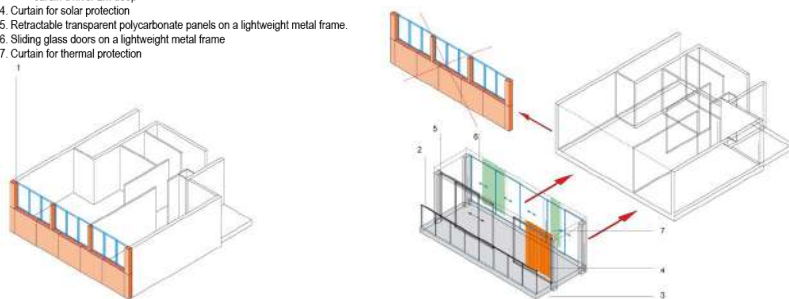


Figure 6 Tour Bois le Prêtre, Paris (2011). Druot, Lacaton & Vassal

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Figure 1 Model of the Temple of Vesta at Tivoli. Altieri

# THE BITER BIT. REFLECTIONS ON THE ROMAN APPROPRIATION OF THE GREEK THOLOS

Imanol Iparraguirre Barbero

Graecia capta ferum victorem cepit et artis intulit agresti Latio.<sup>1</sup>

Horatius (Ep. 2.1.156)

Ever since the 7<sup>th</sup> century BC, the art and architecture of the Etruscan and archaic Greek city-states had slowly conquered central Italy, and provided the Latium with new artistic and architectural forms. A slow but steady process in which Roman builders learned how to adapt and reshape the foreign forms they received rather than create the external forms of their higher architecture.

Over time they developed a unique and undeniably Roman way of appropriation that was not based on employing undigested elements from Greece or the Orient, but on a gradual transmutation of all indigenous traditions as well as foreign loans into a new architecture with its own capabilities for development.<sup>2</sup> A Roman attitude towards the adoption of the best -or most suitable- aspects of other cultures that was beautifully described by Sallust in the famous words uttered by Caesar:

Our ancestors, Conscript Fathers, were never deficient in conduct or courage; nor did pride prevent them from imitating the customs of other nations, if they appeared deserving of regard [...] and, in short, whatever appeared eligible to

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1 "Greece, once conquered, in turn conquered its uncivilized conqueror, and brought the arts to rustic Latium". Translated by H. Rushton Fairclough (1926). Loeb Classical Library 194. Cambridge, MA: Harvard University Press.

2 Boethius, A. (1978). *Etruscan and Early Roman Architecture*. New Haven and London: Yale University Press, pp. 9-10.



them, whether among allies or among enemies, they adopted at home with the greatest readiness, being more inclined to emulate merit than to be jealous of it.

(Cat.51.37).<sup>3</sup>

However, the unhurried process of appropriation of Greek forms that had started five centuries ago suffered a drastic change of pace when the conquest of Greece (146 BC) inevitably multiplied the influence of Hellenistic art in Rome and gave birth to a dramatic and profound acculturation process which originated strong tensions within the Roman society due to an open conflict between the *luxuria* embraced by the artistic and architectural displays made by Hellenised families and triumphant generals, and the so-called *mores maiorum* or Roman tradition.<sup>4</sup>

## LUXURIA

Victorious generals started to fund “private” triumphal monuments in the Campus Martius and the Forum Boarium. They erected – not without criticism from traditionalists such as Cato (Liv.34.4.3) – marble Hellenistic temples for their patronal gods which were sometimes surrounded by enormous porticos built with expensive materials where the most exquisite and famous Greek sculptures they managed to bring as war spoils were publicly displayed.<sup>5</sup>

In this regard, Viollet-le-Duc harshly judged Romans as *parvenus* who thought that the “true expression of art relied less in the purity of forms than on apparent richness”.<sup>6</sup>

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3 Translated by J. S. Watson. (1899). New York and London: Harper & Brothers.

4 Zanker, P. (2018). *Augusto y el poder de las imágenes*. Madrid: Alianza Editorial, p. 17.

5 Ibid., p.43.

6 Viollet-le-Duc, E. (2010). *Entretiens sur l'architecture*. Paris: Infolio, p. 140.



Figure 2 Temple of Hercules Victor and fountain in Piazza Bocca della Verità. Anonymous

An attitude that probably led the conquerors' taste of *nouveau riches* towards the most exuberant achievements of Greek architecture, the Corinthian Order, monolithic column shafts and the use – and sometimes abuse – of precious building materials.

Among those rich and intricate buildings that caught the eye of Roman generals were the circular peripteral temples or *tholoi*. A very specific architectural type, that in spite of its beauty and fame, did have a relatively scarce proliferation on Greek times due to the three main problems their design and construction presented: their roofing, a complicated stereotomy, and the difficulty of successfully adjusting architectural orders – which have their origin in rectangular constructions – to a circular building.

If the exterior intricacy of tholoi, with the playful game of light and shadows of their *peristasis* and their conical roofs crowned with a fleuron was not enough attractive for Roman taste; it should be remembered that it was precisely in the interior of these buildings where the Corinthian Order preferred by Romans was developed and perfected until it was used for the first time on the exterior of a building in the Choragic Monument of Lysicrates (ca. 330 BC).

The first circular temple to be built in Rome was the *Aedes Aemiliana Herculis* (ca. 142 BC) which was commissioned *ex manubiis* by Scipio Aemilianus<sup>7</sup> and stood next to the church of Santa Maria in Cosmedin. Unfortunately, we have very little evidence of how this early Roman tholos looked like since there are no surviving traces of the building but the drawings made by Baldassare Peruzzi (1481-1536) and the reconstruction proposed by Giovanni Battista Giovenale in 1927 that suggests a Doric peripteral building externally similar to the tholos at Delphi (380 BC), but with its cella covered by a dome instead of a conical roof<sup>8</sup>.

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7 Carandini, A., Carafa, P., & Campbell Halavais, A. (2017). *The Atlas of Ancient Rome: Biography and portraits of the city*. Princeton: Princeton University Press, p. 430.

8 Giovenale, G. B. (1927). *La basilica di S. Maria in Cosmedin*. Roma: P. Sansaini.



Figure 3 Dimostrazione del Prospetto del Tempio di Vesta in Tivoli. Piranesi

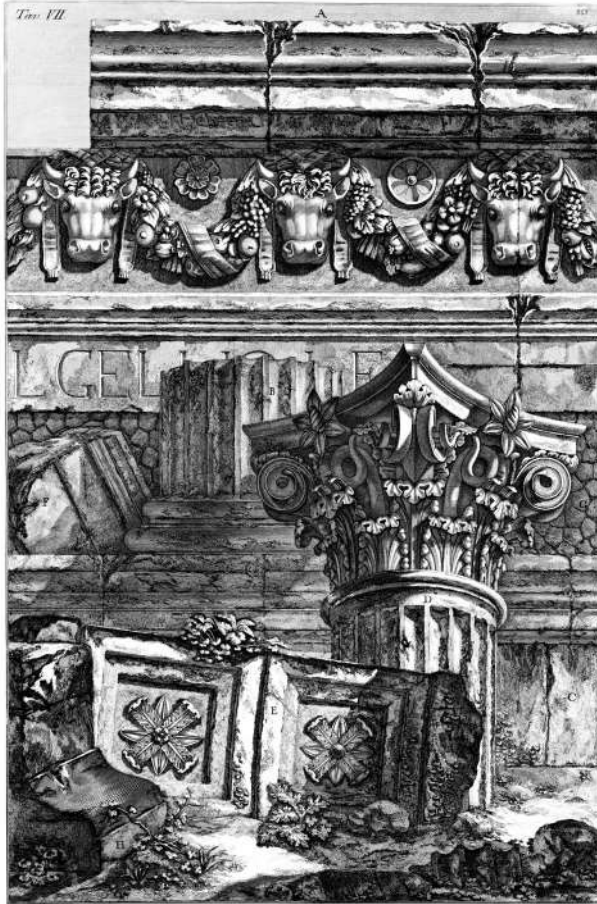


Figure 4 Dimostrazione di varj ornamenti del Tempio di Vesta. Piranesi

He also assigned the famous *Bocca della Verità* as centrepiece of the pavement of the building.<sup>9</sup>

Next to be built was the still-standing Round Temple by the Tiber, that has been identified both as the Temple of *Hercules Victoris ad Portam Trigeminam*, commissioned as a *munia* by L. Mummius Archaicus (ca. 140 BC), or as the Temple of *Hercules Olivarius*, funded by the oil merchant M. Octavius Herrenus (80-70 BC)<sup>10</sup>. Be that as it may, this temple plays a very important role in the introduction and development of the Corinthian Order in Roman temple architecture and the adaptation of the Greek tholos to Roman architecture.

Of special significance is the fact that the plan of this round temple corresponds exactly to the prescription given by Vitruvius for circular temples (Vitr.4.8.2) which is exactly the same of the tholos at Delphi which was, if not the oldest<sup>11</sup>, the first successful model of peripteral round temple<sup>12</sup> and the only one praised by Vitruvius on his treaty because of its exemplarity (Vitr. 7.Preface.12).

The Temple by the Tiber was built by native Greek builders in Roman soil who naively adapted the plan of the Delphic tholos as a *vers donné* to which they – not very successfully – tried to impose the Corinthian Order preferred by their Roman masters. A Corinthian Order which proportions ended up being too slender because of the excessive elongation of the

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9 The idea of assigning the *Bocca della Verità* as centrepiece of the flooring of this tholos would be consistent with the chthonic associations of the cult of Hercules and the possible presence of a *bothros* (βόθρος). It also has a direct precedent in the tholos or *Thymélè* of Asclepius at Epidaurus (ca. 360 BC) where a circular iron grill or perforated marble slab covered the centre of the cella and gave access to the labyrinth beneath.

10 Stamper, J.W. (2005). *The architecture of Roman Temples: The Republic to the Middle Empire*. Cambridge: Cambridge University Press, pp. 68-70.

11 The Archaic Tholos of Delphi had been built in the 6th century BC but destroyed by 548 BC.

12 Roux, G. (1988) La tholos d'Athèna Pronaia dans son sanctuaire de Delphes. *Comptes rendus (...)*, 132<sup>e</sup> année, (2), pp. 290-309.

columns that tried to counterbalance the short height the building would have had if more canonical proportions had been used.

Therefore, the overall feeling of this Romanised tholos, built using Pentelic marble and Greek craftsmanship, is neither Roman nor Greek, but it does start a process of successive adaptations that would continue in the *Aedes Fortunae Huiusce Diei* or Temple B of Largo Argentina (ca. 110 BC) and also in the reconstruction of the temple of Vesta at the Roman Forum, transitional examples in which further but not definitive steps were taken on the adaptation of the Greek model.

At this point, and employing a Clarkian terminology, Roman tholoi were still subject to an important degree of “provincialism”<sup>13</sup> regarding the architectural superiority of Hellenistic Greece. Architectural forms and elements had been adopted not without a certain level of clumsiness and naivety which evidenced the lack of a decidedly Roman style for circular buildings, while the ones being built at this time in Greece started to suffer from an excess of style and revealed symptoms of excessive refinement and academicism.

However, once the artistically provincial Rome was infused with the Greek experience of round peripteral temples, the unique ability of appropriation of the Roman Genius was able to synthesise and deliver a genuinely Roman style able to confront the superiority of Hellenistic architecture in a remarkably short period of time.

## CONSUETUDO ITALICA

Soon enough Roman architects realised that what they could easily appropriate were the eternal principles behind the Greek tholos or, in other words, the way in which Greeks designed their circular buildings, but not just copy their language or disposition. They also acknowledged that forms were not their scheme, their stripped representation, but a substance transformed

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13 Clark, K. (2017). *Momentos de visión*. Barcelona: Editorial Elba, pp. 102-104.

by human hands that transcended the abstract – and dangerously theoretical – frame of geometry.<sup>14</sup>

It cannot be denied that the spirit of the Roman people was completely different from the Greek one. If we analyse Greek buildings, we tend to find a certain finesse or delicacy that is able to turn every difficulty, every obstacle, into a solution which enriches architecture as a whole and to its smallest details. Roman architecture, on the other hand, reveals other concerns. Romans tend to focus more on the ensemble, on the satisfaction produced by a satisfied need. They certainly lean towards splendour, character and a kind of beauty that anticipates the idea of the sublime rather than get entangled into the endless quest for purity, truth and serene beauty pursued by Greeks.

Thus, Romans were able to evolve surprisingly fast towards a Hellenised but profoundly Italic reinterpretation of the Greek tholos in a way that Vitruvius would call *consuetudo italica*. A stylistic evolution that was clearly exemplified in the Temple of Vesta at Tivoli (early 1st century BC), which was the first example of a genuinely Roman peripteral round temple distinct from its Greek sources.<sup>15</sup>

The temple at Tivoli – masterfully depicted by Francesco Piranesi – is undoubtedly the Roman tholos that is more in keeping with Vitruvius's prescriptions regarding the ideal proportions of its plan and elevation of Greek ascent, while also being able to incorporate Italic architectural elements such as the dome or the podium, and re-elaborate the language of each and every architectural element of the building from its foundations to the fleuron.

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14 Focillon, Henri (2013) *Vie des formes*. Paris: Quadrige, p.45.

15 Stamper, J.W. (2005). *The architecture of Roman Temples*, pp. 74-75.



## FINALEM

Now, as in the past, new ideas are built over borrowed ones and accumulated traditions.<sup>16</sup> Thus, models are continuously subject to replicas, reproductions, copies and transformations that, from time to time, are able to shake the entire series of buildings belonging to a same architectural type and produce an entirely new model of equal significance to the original. This is what happened when the Temple of Vesta at Tivoli was able to equal the influence as a model of the Tholos at Delphi by successfully adapting a foreign architecture to a different building tradition. The unsurpassed beauty of the Tiburtine temple standing on its privileged position over the falls of the Aniene ended up taking the place of its Greek ancestor in the centuries to come, until a new building in the middle of a cramped courtyard on the summit of the Janniculum dared to defy its rule.

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16 Kubler, G. (1988) *La configuración del tiempo*. Madrid: Nerea, p. 75.

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Figure 1 Wall of Bernard Rudofsky's house in Frigiliana (Málaga, España)

## WALLS, SHADOWS AND LIGHT: WHEN ARCHITECTURE IS BORN FROM THE PLACE, IT DEVELOPS IN THE PLACE AND IT DIES IN THE PLACE

Pablo Millán Millán

O inhabitants of al-Andalus,  
how fortunate you are to have waters, shadows, rivers and trees!  
To have waters, shadows, rivers, and trees!  
The Garden of Eternal Happiness is not outside but within your territory;  
if I could choose, this is the place I would choose.  
Do not believe that tomorrow you will enter hell:  
One does not enter into the Inferno after Paradise!  
Ibn Jafaya (11th-12th century).

The weight of history in the cities and towns of Andalusia has been an important decanter, not only of facts and events, but above all the very physical reality itself that has endured and which we have captured. Construction, form, and matter have coexisted with the pre-existence, generating a continuity, with or without consent, which has brought us closer to the present as a result of a collective intelligence. After important periods of disruption, either due to misguided developmentalism or alienating economic fluctuations, this continuity has survived unscathed thanks to important exercises in reflection that have shaped an unsurpassable present in the architecture of this land.

As Jesús Aparicio emphasises, *the wall is a boundary*, but it is also an order, a trigger of worlds, possessions, and absences. This feature has shaped large cities within the city itself. It has always had the capacity to provide autonomy and at the same time connection, small meeting points that knit these worlds to the place. The architecture of southern Spain has always been an important field of experimentation of these dreamlike realities on the inside and the reality on the outside. The Alhambra and the Carmen Rodríguez Acosta, both in Granada, are good examples of this.

The use of shade, water or natural materials have also been resources that have allowed the southern man to establish direct dialogues with his immediate surroundings. These elements, the apex of Andalusian architecture, have laid the foundations for new conceptual frameworks, updating them, and giving way to a contextual architecture, an architecture that starts from ideas with profound processes of abstraction without renouncing location.

The worldview generated by this way of understanding the place has constituted the ideological basis of many proposals for houses and domestic spaces, all of them quite disparate and with different developments. It would be interesting to understand what underlies this construct of Andalusian architecture. It may be the idealisation of spaces around a courtyard, or perfectly whitewashed walls defining important walls, or places in semi-darkness to be “al fresco”. This search for the concept of the house is what has motivated numerous approaches and research in architecture, updating discourses and establishing new paradigms. It could be said that, in terms of design, the architecture of the south has been characterised by the perfect combination of simple materials and together with a wise relationship with the environment.

The courtyard has been and continues to be a fundamental architectural element in the configuration of Andalusian architecture, understood as a place to be or a place of neighbourliness. This element likewise had been defined by the wall that allows the territory to be encompassed by a simple fence. These perimeters perfectly delimited by high white walls were well documented in Washington Irving’s commentary on a “carmen” in the Albaicin in Granada: “There are only walls, but behind the wall, a Paradise”.

The gaps in the walls, the never immediate accesses, the compactness and density of the floor plan, the intermediate spaces as an extension of the living areas, the incorporation of the exterior through controlled openings or the search for more flexible rather than fluid spaces, have been

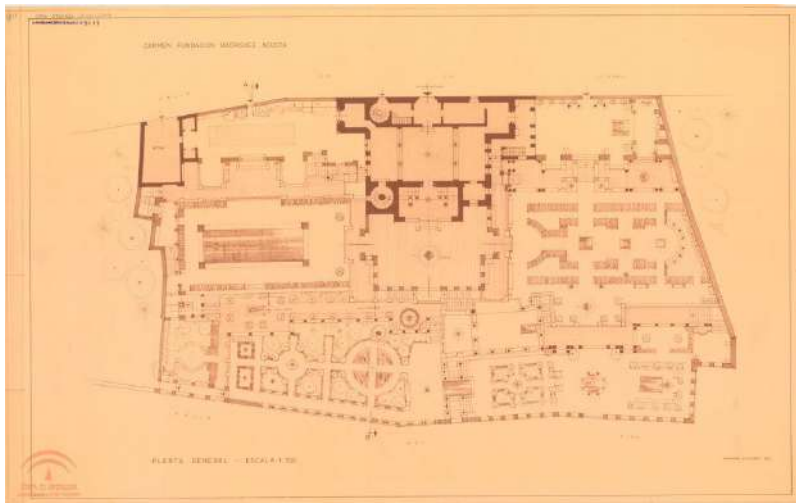


Figure 2 Carmen Rodríguez Acosta foundation plan in Granada (España). 1916. Architects José María Rodríguez-Acosta with Ramón Santa Cruz and Modesto Cendoya (1916), Teodoro Anasagasti y Algán (1921), and José Felipe Jiménez Lacal (1924)

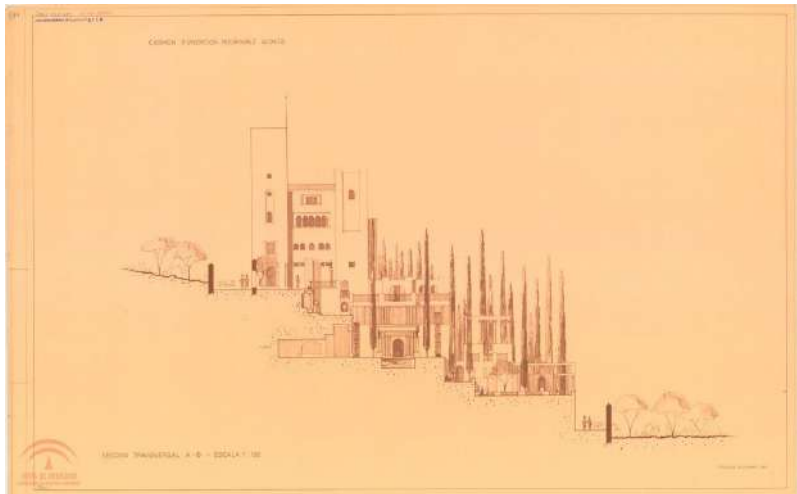


Figure 3 Carmen Rodríguez Acosta foundation cross section in Granada (España). 1916. Architects José María Rodríguez-Acosta with Ramón Santa Cruz and Modesto Cendoya (1916), Teodoro Anasagasti y Algán (1921), and José Felipe Jiménez Lacal (1924)

defining a way of creating and thinking about architecture. To speak of the concept of “Andalusian architecture” would be a discourse relegated to nineteenth-century forums, but to refer to architecture in Andalusia implicitly involves the updating of all the concepts together with the abstraction demanded by the modern age.

In an academic context in which the result is more important than the process, all these genetic nuances of architectures that are born of the place are lost. The condition imposed by Rem Koolhaas when he was invited to give a workshop at Harvard is well known: Having no relationship with the project. Interested only in research, this was the only thing he wanted to share with the students. The experiment proved controversial and eventually disappeared. He concluded: “Unfortunately, they don’t want to research design, they want to design”. This is the reality when importance is given to the end result and not to the process. The architectures defined by these primary elements have always sought to be a process, to be somewhat incomplete in a continued reading of evolution

To walk purposefully through the world that underlies this architecture requires moments of reflection, of reading the place that leads us to observe certain events carefully and to rest after rushed, distressing days. This act of observing has been understood as an active attitude, as the exercise of “uncovering, removing the veil from that which seems to be hidden among the day-to-day business of the city, hiding because the course of daily life seems to say that everything is as always, while the city is, in turn, another city”. We have used this practice of wandering as Careri’s aesthetic practice, in which the act of intellectual movement is understood not only as a tool for configuring the landscape, but as an autonomous art form. We are talking about a projective instrument of knowledge and physical modification of the space traversed, which becomes a new form of knowledge on a city scale. In short, we have wandered, wandered, hesitated, regressed, advanced... We have travelled.

Architecture, as an intellectual phenomenon, forces us to develop critical thinking about the events demanded by society. Thus, the work of reading



a place prior to design is just that, an area where personal positioning is developed and expanded from the point of view of architecture. We are aware of all the limitations involved in putting into writing the different experiences that have arisen in a territory. Socrates said that things must be said and taught orally, the only way in which there is certainty. As Borges emphasised: "The spoken word - the living word of knowledge, endowed with a soul - is therefore superior to the written word, which is only its image. The written word is as defenceless as he who trusts in it".

Reducing the place to the sum of multiple simplicities is a process in which countless relationships are lost. However, the architecture that emerges from place seeks in these small elements and rhythms of the everyday the binding agents of a project. At the annual R.I.B.A. conference given by Alvar Aalto in London in 1957, he emphasised the need for a rhythm or cadence to generate a space, an architecture:

[...] because human movement requires a specific rhythmic form. A step cannot be built arbitrarily; it must have a particular proportion. I spoke on this subject at the University of Gothenburg. The rector said: Stop for a moment, I must go to the library. He went down to the library and returned with a book - Dante's Divine Comedy. He opened it to the page where it says that the worst thing about hell is the wrong proportions of the stairs. With these small things we could build a harmonious world for people.

The everyday, the simple, contains the secret of the harmonic, of the repeated and optimised by the ritual of daily life. The relationship that Aalto emphasises between the architecture of the domestic and the body is manifested in this quotation from the Divine Comedy, which has an immediate relationship between man and his immediate universe, with the wall, with the shadow and with the light of a given place.

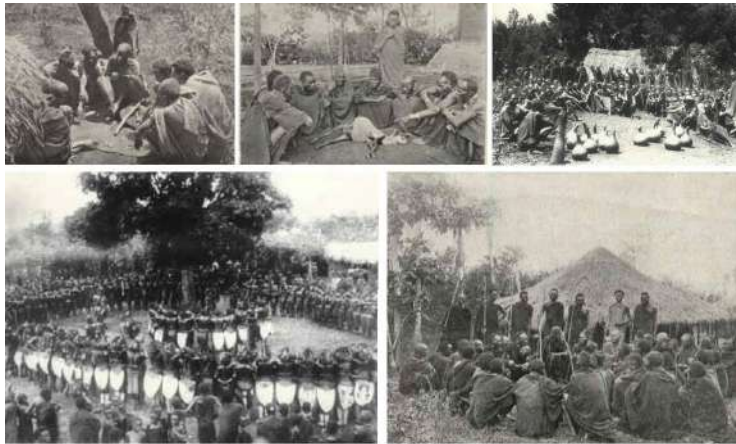
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## ÁFRICA Y LA CIRCUNFERENCIA

Alberto Morell Sixto

Cuando una mujer de cierta tribu de África descubre que está embarazada, se va a la selva con otras mujeres y juntas rezan y meditan hasta que aparece “la canción de la nueva criatura”. Cuando nace el bebé, la comunidad se junta y le cantan su canción. Luego, cuando el niño comienza su educación, el pueblo se junta y le cantan su canción. Cuando se convierte en adulto, la gente se junta nuevamente y canta. Cuando llega el momento de su casamiento, la persona escucha su canción. Finalmente, cuando su alma está por irse de este mundo, la familia y los amigos se aproximan y, al igual que en el nacimiento, cantan su canción para acompañarlo en el “viaje”. En esta tribu de África, hay otra ocasión en la cual se canta la canción. Si, en algún momento de su vida, la persona comete un crimen o un acto social aberrante, lo llevan al centro del poblado y la gente de la comunidad forma un círculo a su alrededor, entonces, le cantan su canción. La tribu reconoce que la corrección de las conductas antisociales no es el castigo; es el amor y el afianzamiento de su verdadera identidad. Cuando reconocemos nuestra propia canción, ya no tenemos deseos ni necesidad de perjudicar a nadie. Tus amigos conocen tu canción y la cantan cuando tú la olvidas. Aquellos que te aman no pueden ser engañados por los errores que cometes o las oscuras imágenes que muestras a los demás. Ellos recuerdan tu belleza cuando te sientes feo; tu integridad cuando estás quebrado; tu inocencia cuando te sientes culpable; y tu propósito cuando estás confuso.

Tolba Phanem

**Descifrar algo de África es como descifrar algo del inconsciente colectivo, pero en su origen más profundo.** Es como acercarse a reconocer algo que pertenece a “tu canción”, como una parte sustancial de la “verdadera identidad” de todos nosotros. Una amiga me ha hecho ver que este hermoso texto de la cultura africana, que se ha hecho viral en internet y que conocía y admiraba desde hace años, probablemente sea

de procedencia falsa. Según un artículo que me ha mandado, no es ni de una poeta, ni es africana ni tiene el nombre de Tolba Phanem, que probablemente no existe, sino de un escritor occidental blanco. Si fuera así, este texto seguiría el mito del “noble salvaje”, creencia que defiende que el ser humano, en su estado natural, es desinteresado y comprensivo, y que la violencia y la codicia son productos de la “civilización”. Me he llevado un buen palo, del que me estoy todavía recuperando aunque, en realidad, me he dado cuenta que da igual si el texto forma parte de otro mito más, creado por un autor “anónimo”; porque aunque siempre buscamos verdades objetivas, sabemos que solo existen las Verdades, con mayúsculas, aquellas que sabes que son verdaderas, dentro de ti, y que son útiles para el desarrollo de tu propia Consciencia.

En este sentido, entiendo que **el ser humano es esencialmente el mismo en un estado “natural” que en uno “civilizado”**, cambian las formas, pero todo el “equipamiento” mental, emocional y espiritual, que llevamos con nosotros, es básicamente el mismo. Aquí y allá, la Comunidad te colocaría en el centro del círculo para recordarte “tu canción” para que seas consciente de que ese no es tu sitio, de que esa no es tu verdadera identidad. Ese centro es un lugar egocéntrico en el que, inconscientemente, uno sitúa en la circunferencia -su perímetro- a personas, objetos o situaciones, para servirte, para engrandecer una existencia que no es la verdadera. De ahí, de esa falsedad, surge la competición con los demás por ocupar ese centro engañosamente privilegiado.

El sitio de cada ser humano está en la circunferencia con los demás miembros de la Comunidad, formando una conexión física y espiritual, hombro con hombro, con ellos. **Porque la evolución del ser humano se ha debido en todo caso a la colaboración, nunca a la competición**, que solamente nos ha traído guerras y más guerras. En este sentido, el centro es y debe ser algo sagrado, lo que nos une, lo llamemos como lo llamemos, en Swahili, “Ubuntu” (“yo soy porque nosotros somos”), en la cultura oriental, “Consciencia Universal” o en nuestra cultura occidental “Humanidad”.



(De izquierda a derecha y de arriba abajo): Organización en línea: colegios con pupitres en línea. Concierto con misioneros dirigiendo. Formaciones escolares. (Imágenes de la tesis doctoral: KAMENJU, Joseph. Transformation of Kikuyu traditional Architecture. Case study of homesteads in Lower Mukurwe-ini, Nyeri, Kenya. Doctoral Thesis, The Oslo School of Architecture and Design, Oslo 2013)

Como nos cuenta el Profesor Kamenju, en su reveladora tesis doctoral, en el origen tribal africano, **la organización tradicional de la Comunidad siempre fue una formación circular**, como podemos ver en las fotografías que acompañan a este texto. Tanto las danzas, como las fiestas o las reuniones se organizaban en círculo, donde cada uno de los participantes era, a la vez, actor y espectador. El centro podría ser el fuego, un árbol sagrado o un animal muerto, pero nunca estaba ocupado por un ser humano, si no era para hacer la función de eco de la Comunidad.

Después del monstruoso negocio de la esclavitud durante más de siete siglos, llegaron a África los misioneros cristianos a principio del siglo XX, y establecieron una organización en parrilla, muy de nuestra cultura occidental desde sus orígenes, con formaciones rígidas y frontales en línea, donde aparece la diferencia entre el actor -sea un cura, un profesor o un músico- y el espectador, es decir todos los demás, que se sitúan en una posición distinta y, casi siempre, inferior. **Y a eso lo hemos llamado “civilización”**.

Es interesante notar que aquella circunferencia de personas puede hacerse más grande o más pequeña, puede adaptarse a distintas circunstancias temporales sin que el espacio, como centro y círculo, cambie. En el momento que llega una persona nueva, no importa desde el lugar que acceda, todos se separan un poco más y amplían el círculo de manera natural. **En la circunferencia, cabe todo el mundo, forma una Comunidad inclusiva**. Sin embargo, en la estructura en parrilla, hay una línea que es la primera y otra que es la última y el espacio con el “orador” es un espacio limitado, preestablecido y confinado, no genera un “en medio” entre las personas, el que llega más tarde tiene que ponerse al fondo o quitar el sitio a otro.

Por otra parte, es importante recordar que **los maestros, que en África son los ancianos, están siempre en la circunferencia**, aunque nos empeñemos en idolatrarlos y situarlos en el centro, en una ridícula discusión de quién debe ocuparlo. Ellos han trabajado en esa cadena de sabiduría -sea la arquitectura, la música, la literatura o cualquier otra materia

compartida- en la que el conocimiento les ha sido transmitido a través de sus maestros y, así sucesivamente, desde el origen de los tiempos.

**Los maestros nos invitan a compartir con ellos la circunferencia,** para servir a los demás, no para satisfacer los deseos del ego, inventando un centro ficticio en el que nos colocamos. Este servicio es la razón de nuestra profesión, de nuestra vida. En el Centro siempre estará lo esencial, las obras maestras, ocupando el Centro de Consciencia, Centro que nos une y que nos sirve para aumentar la comprensión de nuestra existencia -sea a través del encuentro con el espacio, con el silencio o con las palabras-. Estas obras maestras acaban siempre olvidando a sus autores para engrandecer siempre a la Comunidad.





Figure 2. Piero Fornasetti seating inside the Stanza Metafisica

## A METAPHYSICAL ROOM BY PIERO FORNASETTI

Jaime Ramos Alderete

Ana Isabel Santolaria Castellanos

Filiation: Universidad Politécnica de Madrid

This article reflects on the qualities of the 'space of the mind' through the analysis of the successive spaces built with scenographical techniques that can be found in some domestic rooms. The Stanza Metafisica designed by Piero Fornasetti is taken as a case study, placing it in front of the mirror of the *studioli* of Federico da Montefeltro. Two rooms conceived and built in Italy, separated from each other by half a thousand years, that represent the intellectual and artistic concerns of its time, and transport us to a space in the mind.

The *studiolo* type, a small studio typical of Italian Renaissance palaces, was one of the most intimate rooms in the house and was dedicated to intellectual activity, but also had the important function of representing the individual who owned it. For this reason it was decorated with a meticulously studied iconography that sought to embody its owner's personality and aspirations. The space was able to transport anyone to the dweller's innermost world through the ornaments and objects that it contained. The *studioli* were most commonly clad in wood, which would allow for integrating different types of furniture, as well as imparting a cozy and sheltered interior thanks to its thermal properties. In other words, the use of wood was not only a solution for insulation, but also made possible the integration of furniture, benches, shelves, tables, seats and cupboards, thereby forming a seamless entity.

One of the most paradigmatic cases of the time and that gathers all these qualities is the pair of *studioli* commissioned by Federico da Montefeltro in the palaces of Urbino (1473-1476) and Gubbio (1479-1482), made up of embedded wood panels in which displays an extraordinary collection of objects and interior and exterior visions that completely transform the original space.

The rooms are nearly identical; they are very similar in size and composition, the norm at the time for this type of space. On the upper part, under a coffered ceiling made of polychromatic wood, was a collection of paintings that represented an iconographic display of divine and human knowledge. The lower part was clad in wood paneling made using *intarsia*, an innovative technique with wood inlays developed in the early 15th century by carpenters and craftsmen specifically to decorate this type of space. Using the *trompe-l'oeil* technique, they depicted images of cupboards, furniture, books and objects, thus building a scenography – a fictitious set reproducing the contents of a real studio. This novel technique, together with the rise and development of the laws of perspective, conquered the wooden flat surfaces turning them into windows to other imaginary worlds that looked out into the universe of the mind, allowing to penetrate a new fictitious space.

Almost five hundred years after the completion of Gubbio's *studiolo*, between 1955 and 1958, Piero Fornasetti made the *Stanza Metafisica*. It is a screen composed of 32 mobile wooden panels decorated with a surrealist architectural design of volumes, corridors and stairs. Panels are hinged together, allowing them to be positioned in different ways according to the user's needs. It "was conceived...as a place dedicated to meditation, where one or more people may stay and gather their thoughts, whether creative or religious or of some other kind. Modern man is losing this important habit".<sup>1</sup> (Fig. 1)



Figure 1. Extended elevation of the Stanza Metafisica. Photograph credits Phillips

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<sup>1</sup> Casadio, Mariuccia, and Barnaba Fornasetti, *Fornasetti: L'artista Alchimista-La Bottega Fantastica*. Milano: Mondadori Electa, 2009, p. 448

This room originates from a piece of furniture, in this case a screen. Fornasetti was interested in ways of organizing interior space using screens or partitions, so he researched their origins, techniques and styles. During the early Middle Ages in Europe, screens of all kinds of materials began to appear to separate beds for the nobility who slept in the same room, thus establishing a degree of privacy. In Italy they were called *para vento*, because of their use to prevent drafts in churches. Meanwhile, Fornasetti was passionate about Japanese culture and was fascinated by its screens, which he called his “favorite children”.<sup>2</sup> In fact, part of the *Stanza*’s scenography was previously used in a four-part screen entitled “*La scaletta*”.

Fornasetti considered these screens as modular and interchangeable pieces of furniture, blank canvases and theatrical curtains all at once. They were light, mobile elements, referred to in textile terms, which could travel with the owner and create different environments. In a series of photographs published in 1949 in the magazine *Domus*, Fornasetti introduces screens with plant motifs as small gardens inside a room while arranging those representing decorations and architectural motifs in the garden. In a way, this was a project about an interior within an exterior and vice versa, and it highlights the screen’s capacity to transport and transform an environment, but also its ability to create a new one and become a room in itself. “The screen of thirty-two panels that constitutes the room could assume larger or smaller dimensions by adding or removing panels, and could be adapted to the walls of a given room...It can cover the walls entirely...it can be used in the dining room rather than in the bedroom. On a given day it would be used to create a setting within a setting—for example, in a large living room it could be used to close off the space for conversation near the fireplace...or for a dinner or a party...”<sup>3</sup> (Fig. 2)

In Piero Fornasetti’s work, the material presence is almost non-existent: it is a lithograph on transfer paper applied to wood and then varnished.

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2 Casadio, Mariuccia, and Barnaba Fornasetti, *Fornasetti: L’artista Alchimista-La Bottega Fantastica*. Milano: Mondadori Electa, 2009, p. 431

3 *Ibid.*, p. 448

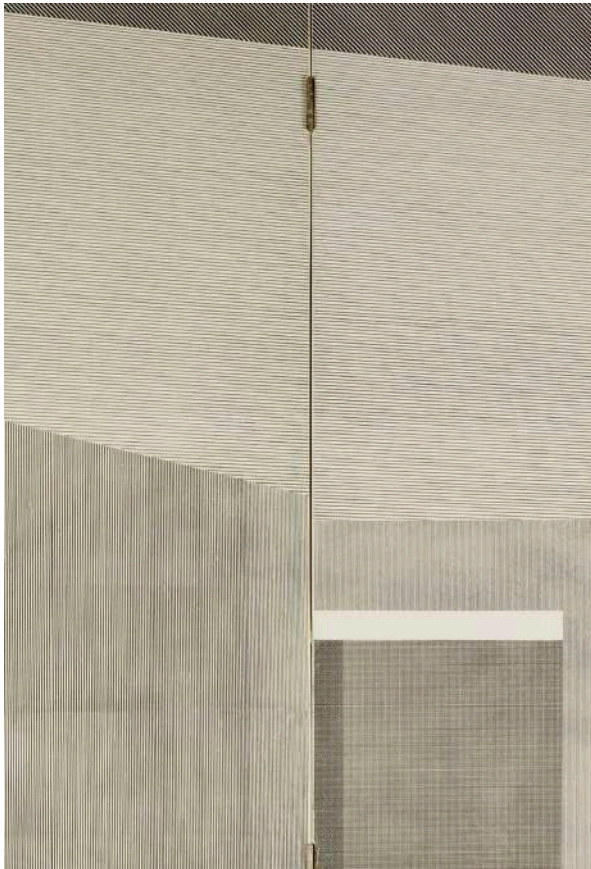


Figure 3. Detail. Stanza Metafisica by Piero Fornasetti. Photograph credits Phillips

Fornasetti used this printing technique in many elements he designed such as screens, tables, chairs, desks and cupboards. What is important in this process is transferring a drawing onto a surface and obtaining a result resistant to wear and tear, as well as a clean and washable finish. Fornasetti collaborated with architect Gio Ponti in many projects, including the so-called “*Casa di Fantasia*”<sup>4</sup>, or Lucan apartment, without a doubt his most radical project. Here, practically all furniture and surfaces are covered by Fornasetti’s imagery. A designer above all, however, he needs to give purpose to his creations, and deliberately refuses all material properties that may cause deterioration with use. This printing technique allows him to put all the emphasis on the drawing, which enables him to display his entire world. It reduces all variables and imposes restrictions, leading to total freedom. His creations multiply and his drawings expand even more thanks to the mechanization of drawing through lithography and engraving techniques. As Gio Ponti once said: “What does Fornasetti give me? With a process of speed and prodigious resources, he creates the possibility of having ‘unique’ things printing fabrics, chair by chair, panel by panel”.<sup>5</sup> In a way, his drawings colonized the space.

For that reason, we can say that in the *Stanza Metafisica* the wood paneling is only a foundation. It provides a rigid surface and a way to physically connect the pieces, but it is insignificant beyond that, because it is hidden. In other words, it is devoid of matter. Everything is built through the use of grouped lines that define planes which, in turn, create volumes. As we get closer, it becomes harder to grasp the drawing’s spatial conception; instead lines become the defining element in this space: a mathematical and impersonal drawing that only reveals the artist’s hand in the lines and their small imperfections and tremors. (Fig. 3)

If the *da Montefeltro* studiolo transports us to a mathematical and perfect perspectival space, Fornasetti presents us with the surrealist domain of the

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4 Gio Ponti, “Casa ‘Di Fantasia.’” *Domus*, no. 270, 1952. p. 28–38.

5 *Ibid.*, p. 28

metaphysicians, with the same strange and incoherent laws of perspective that we find in the paintings of Giorgio de Chirico, that same loneliness. It is an almost dream-like world of distorted realities, a functionless architecture, a desert of objects and references, black lines and pure geometry set against a white background. While the foundation moves through the world and changes owner, the metaphysical space it contains remains inalterable, frozen. It is subject to other laws, capable of transcending even physical ones and preserving its qualities despite the radical external actions to which they are subjected. The two rooms demonstrate this capacity for resistance and immutability.

In conclusion, both examples reveal the existence of a physical room and a distinct metaphysical room: in other words, a fictitious space contained within a real one constructed through the use of technique and perspective. We could almost speak of successive spaces, given that, in reality, they represent one room inside another that, in turn, creates another space. This virtual space is none other than the translation into reality of the place that one inhabits in one's own mind. For, ultimately, it is place for meditation, contemplation and pleasing the intellect. The "room of one's own" is a space fashioned in the imagination that provides the necessary outer garment to embark on a grand journey, which is nothing less than the journey into the inner self. This is the true journey - the only one that really has any meaning.

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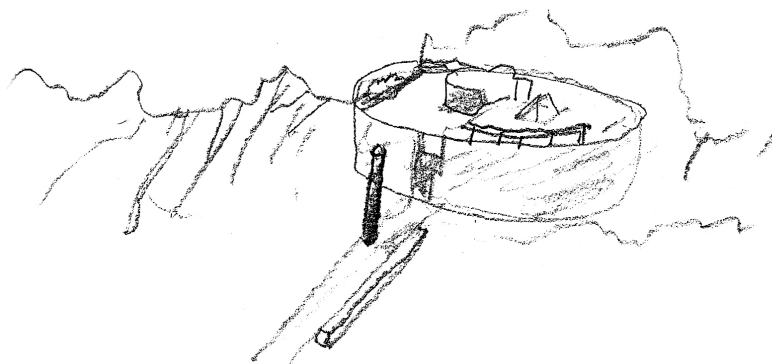
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Sketch casa entre pinos by F. Sáenz de Oíza

## A LITTLE TALE OF SHADOW

Pablo Ramos Alderete

Filiation: Universidad Politécnica de Madrid

Its most striking characteristic is that, when hit by the sun, instead of projecting the shadow of its figure, it casts that of a human being. Some conclude that Perytons are spirits of people who died far from the protection of gods...

Jorge Luis Borges (about the *Perytons*, in *The Book of Imaginary Beings*)

In 1980, Jose Angel Valente, one of the most important Spanish poets towards the end of the last century, published (although they wrote it previously) the Three lessons of darkness, a book of poems based on the structure of music for Tenebrae, composed of three services with three songs each. During that service, the candles on a candelabra with fourteen arms go out one by one. In some way, Valente and the rite remind us that sometimes it is better to stop seeing first. All this to try to explain the inexplicable.

This article is about a small project, full of darkness, by Francisco Javier Saenz de Oíza, the great master of architecture in Madrid during the late twentieth century. A lesson that not only helps us understand his architecture but, above all, to understand architecture in general. It's linked with poetry, with the transcendent, with the enigmatic. With all that scientific analysis forgets or disregards and which, however, is the true heart of architecture.

Twenty years after the publication of Valente's three lessons, a convalescing Oíza is invited to give one last lecture on two of his most emblematic buildings. But he, feeling close to death, will talk about other things: he will talk about literature. He will take many sheets typewritten and chosen by him, some of which he will read. There are extracts of books, of his readings. The images will be on the screen, but he pays no attention to

them. He just wants to talk about books. As if, in them, the secret of what he wanted to convey is found. It stands to reason: he spoke with architecture. Words are best left to writers. The inexpressible, to poets. And in his last lecture, his testament, he just wants to talk about that: the ineffable. He, a former professor of hygiene and sanitation facilities, just wants to talk about the enigma of architecture.

Many years before, at a dinner between Juan Huarte, developer of Torres Blancas, and Oíza, a discussion angered the master, who felt undervalued. Two or three days later, he visited Huarte with a folder full of drawings by hand on parchment, and a paper and cardboard model, with the project called "Vision for a house among pine trees". A cottage located near that of Juan Huarte in Mallorca but in the depths of the pine forest.

Oíza looks for a place with as much shadow as possible in an amazing place that he had drawn earlier for his project of Juan Huarte's house. In Oíza's drawings, the trees have black shadows incorporated. The house is presented as an ellipse of white marble. In Torres Blancas or Aránzazu, Oíza generates a shadow for the buildings: some type of darkness that dramatizes the entrance or the façade. A darkness that is also a symbol of the unknown, a thick limit between the outside and the inside, a way to keep the secret of the buildings. Oíza quoted a Valdez poem called *Black Walls*, which says that the only thing left in the end are black walls, shadows, and that's the reason to go on living: the existence of an enigma, a challenge.

Oíza, a great student of history, knew that sometimes it is more effective to build using shadow. Like, for example, the Romans: this is the Poecile Villa Adriana. Space doubts in the shadows; the walls are made of doubt, which gives us the shadow.

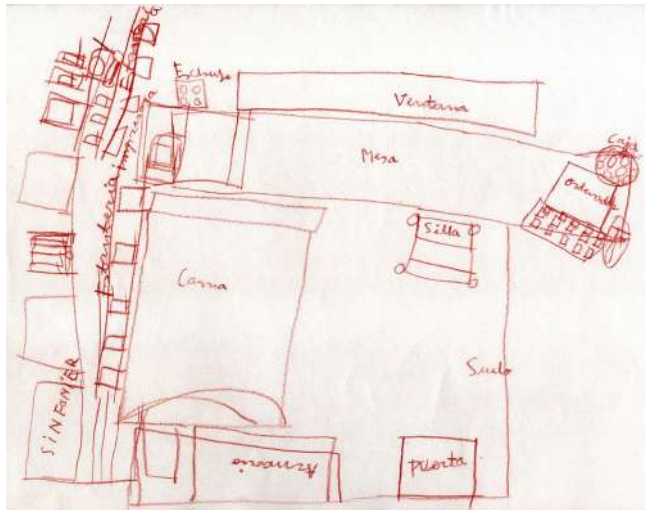
The lesson of Rome was to build with shadows, making them a constructive, supporting element. That lesson is found in the wall of Villa Adriana, a wall made of shadow, which contains in itself an enigma, a secret.

As if we built on doubts rather than on certainties. The foundations of knowledge have always been based on doubts, on shadows, on things that were not known. It is the only way to advance... There is a famous phrase from Tabucchi, when he asked desperately for them not to leave him alone among people full of certainty because they are terrible people. Shadows sometimes show us different things than we expect to see...

Here, in this little house, creating a limit of shadows is not necessary. Oíza doesn't need to create a shadow because this darkness is in the place. The pines create the shadows, the mystery. Probably we can find some similarity with the *Claro del bosque*, a forest clearing: a place to understand the world in a poetic way that Maria Zambrano, and Heidegger, talked about (and we know Oíza knew these metaphors: Heidegger and Zambrano were among his selection of texts for one of his last lectures). The approximation to the house is through a central path with a bank. After the door, a wall, another mechanism of blindness. The house's interior is astonishing; the light is enigmatic and plays in a game of patios, double heights and porches, with a colonnade in the middle. It seems another world.

The views of the forest are almost non-existent. Oíza extinguishes points of light. He leaves only the last candle in the rite of darkness. It's a house for a contemplative interior. Oíza quoted Rilke in that conference: "turn off my eyes, and I will see you, shut my ears, and I will see you. His way of connecting is through blindness".

Borges said that when writing stories, his only intention was to astonish. The Spanish word 'Asmobrar' (Astonish) comes from 'sombra' - giving shade to hide something. Perhaps architecture and art are more about hiding than showing or show by hiding more than they reveal.



## ABOUT VOCATION

Alejandro Vírseda Aizpun

Hello, you ask me about my vocation as an architect. When I felt that it was the activity to which I wanted to dedicate the rest of my days. And, to tell you the truth, it is a question that has made me think a lot and about which I will write a few lines.

I can begin by assuring you that the reflections of these days, the look at the past, although it may seem paradoxical and surprising, have provided me with the mortar that will unite the stones with which to build the firm path of my future activity. I am convinced, and this has been confirmed to me by reading books such as *Letters to a Young Writer* by Mario Vargas Llosa, or Thomas Wolfe's *A History of a Novel* (books which, by the way, I highly recommend because they provide a much more accurate and authoritative answer to your question), that for an activity to be authentic and lasting it must have its germ, and above all it must have its support, in oneself and in the relationship it establishes with the world. Sometimes I think that the knowledge and experiences we accumulate in our profession, if we are not vigilant, can take our daily work away from this true motor, from this true "father... or image of strength and confidence to which life and production are united", as Thomas Wolfe would say. I have tried to find a reason that could reveal this origin, and I can assure you that it has not been easy.

At first, all the reasons that appeared before me were of a very generic nature, read or heard recurrently, and could well be common to any person who, in whatever field, is convinced of the value of the activity they carry out: to contribute a grain of sand to the improvement of society, a radical non-conformism in the face of life, etc. I really had to immerse myself in the past, to dive deep and trace back to my childhood, to begin to glimpse the real motives.

Almost like a Proust in *Search of Lost Time*. It is difficult for me, but I will try to distil into a few words the fruit of many hours of reflection. I was a shy boy, fatherless since I was 3 years old, with a rather shy and nostalgic character (which made me seem older, as the grown-ups said) who lived the reality around him with a certain apprehension, or rather, I would say, as something certainly hostile. Even as a child, I used to draw houses, imaginary plans that helped me to build my own spaces, similar, in which I felt protected and comfortable. These spaces became more and more precise and the time and demands I placed on them increased.

So, in a natural way, I found a creative activity that made me feel better, more confident and fulfilled, and to which it gradually became clear to me that I wanted to dedicate myself for life. So whenever I was asked, "What do you want to be when you grow up? I would answer without hesitation: "Architect". I imagine that other children would write about imaginary worlds to which, unlike me, they travelled to recreate other fantastic realities, different from the one they lived in. They probably ended up as writers or journalists.

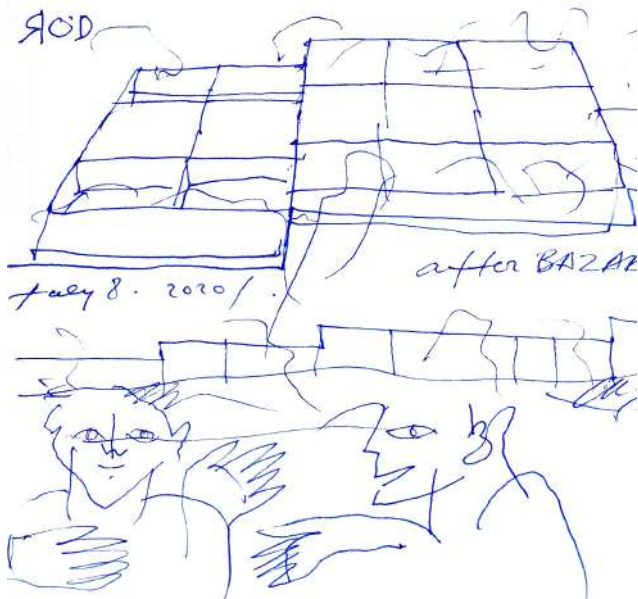
Others would build cardboard machines with which they played at flying to those worlds. They probably ended up as engineers or pilots. So, as you will see, the seed from which my vocation grew was the conception of architecture as a means of protection; a means of creating spaces, and above all, states of well-being. Spaces that mediated between myself and the reality that surrounded me, a reality that I lived, as I said, with a certain fear. When I now review everything I have produced as an "adult", but above all when I analyse my attitude to the creative act, I clearly recognise that this attitude has never left me. Above all, I have tried to create architecture in which the inhabitant feels protected and comfortable. Others will have come to architecture by very different paths, that of entertainment, that of spectacle, that of their particular experience of light - read Alberto Campo Baeza -, of matter - read Peter Zumthor -, that of channelling their interest in art, sculpture, history and so many other possible seeds.

There are as many as there are trees growing on earth. The important thing is that you find that seed in you. That engine that, even if you are not yet aware of it, moves you. It moves your creative activity. And it does you good. And it makes you better and better. This is the only way to keep your vocation for Architecture always burning.



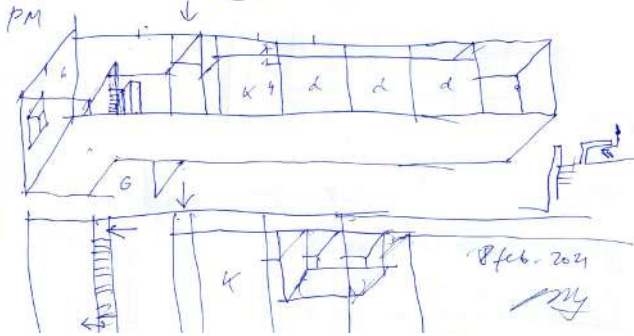


## MASTER CLASSES





FEB 5. 2021



8 Feb. 2021

my

## BEAUTY

### Relentlessly seeking beauty

Quid est ergo pulchrum? Et quid est pulchritudo?

Do we perchance love anything but the beautiful? What then is the beautiful? And what is beauty? What is it that allures and unites us to the things we love; for unless there were a grace and beauty in them, they could not possibly attract us to them?

Saint Augustine, *Confessions*. IV.13. 44

#### PURPOSE

After many years working as an architect, teaching as a university professor and putting my ideas on paper, the reason why I pursue my work, I must confess, what I truly seek with all my heart and with all my soul, relentlessly, is *beauty*.

Can an architect confess this so overtly? Can any creator state outright that what he is seeking is beauty? That is what poets and musicians and painters and sculptors, all artists, do.

But I am convinced that by achieving beauty in architecture with this “art with necessary reason”, as the classics used to say, we succeed in making a happier place for mankind.

Beauty, *Venustas*, together with *Utilitas* and *Firmitas* are the three principles whose fulfillment Vitruvius demanded from Architecture. Achieving *Venustas*, having previously fulfilled the requirements of *Utilitas* and *Firmitas*, is the best way of making people happier, which is not only the aim of Architecture but that of all creative work. Sáenz de Oíza explained it better than me in “The Dream of Paradise” when he said: “I

declare that the works of Architecture are instruments for transforming reality into a splendid and regained Paradise from which through our own fault we were expelled and which we have again been readmitted to thanks to the powers of transformation of Architecture". Venustas, beauty, as a means to regaining Paradise lost, happiness.

Similarly Carvajal spoke of "orderly beauty" and his "desire to create efficiency and beauty at the same time such as only true architects seek to do". "The beauty that we contemplate, being ours, we can use to engender beauty, operatively, in our works. Thus beauty becomes a driving force and not just a consequence".

Over the past number of years I have written about many of the masters of Spanish contemporary architecture and, in attempting to summarize all that seemed to me most substantial in them, I developed a collection of texts under the heading of beauty. Bald beauty for Sota, volcanic beauty for Oiza, chiseled beauty for Carvajal, rebellious beauty for Fisac and beauty itself for Barragán. It was my understanding then that beauty was the cause and the aim of the creative work of the masters. And now, with the passage of time, I see it with ever greater clarity. Beauty!

#### REASON. CERVANTES, GOYA, GOETHE

Beauty in architecture goes hand in hand with reason. I have defended and still defend reason as the architect's primary and principal instrument to attain beauty. Although this may be true for all the arts, it is imperative for architecture.

Cervantes. Those who have read *Don Quixote* do not usually pause at those exceptional pages in which Cervantes prefaces his universal work. And Cervantes himself confesses that he wrote the prologue later. He also confesses that it is the piece of writing to which he devoted most time. Thus he wrote: "Idle reader: thou mayest believe me without any oath that I would this book, *as it is the child of my brain*, were the fairest, gayest, and cleverest that could be imagined". So, having made it clear that reason

was his principal work tool, he declares his unshakeable desire to capture beauty with it.

When I wrote that architecture is a built idea, I was merely making the claim that architecture, and any creative work, must be the product of thought, of reason, and of understanding, as we read in Cervantes.

And when that reason is missing, then bizarre architectures appear which, being so often against nature, produce the amazement and the adoration of this ignorant society of ours that bows before these works as if they were the temples of a new religion.

Goya. “The sleep of reason produces monsters,” Goya tells us in the marvelous aquatint that presides over the office of the President of the Royal Academy of Fine Arts of San Fernando. It is number 43 of the 80 etchings that make up the series of *Los Caprichos* published by Goya in 1799. Goya also wrote a lesser known text, in the form of a list of comments, the original of which is conserved in the Archive of the Prado Museum. In that text, commenting on etching 43, Goya writes: “Fantasy abandoned by reason produces impossible monsters”, but goes on to say that “united with her, she is the mother of the arts and the origin of their marvels”. In other words, reason needs imagination to open the doors to beauty. How could we not agree with Goya!

God forbid that I should wish to compare myself with Cervantes or Goya, but it is with this spirit that I have wished and still wish to build all my works: trying to conquer beauty with all my soul, with the weapons of reason and of imagination. “With the dour desire to endure as the primary impulse of creation,” as Paul Eluard tells us. With the intention of remaining in the memory of humankind. Or as Federico García Lorca said with such simple and lovely words: “I write to be loved”.

Goethe. And it would seem that Goethe agreed with Cervantes and Goya in defending reason as the best pathway to beauty when, referring to the painters of his time, he said that “they must dip their brushes into the bottle

of reason". Of course, he then adds: "and architects into Winckelmann". Tired of the unreasonable digressions being produced around him, Goethe, with these emphatic words, strongly advocated the recovery of reason.

## PLATO AND SAINT AUGUSTINE

Reason as man's primary tool in achieving beauty. But what is beauty?

In "The Banquet", Plato proposed beauty as *splendor viri*, the splendor of truth. Over the centuries further nuances were added to this proposal by other thinkers who, carrying on from Plato, fine-tuned his words with the most interesting of accents. Jacques Maritain sums it up very well: "*splendor veri*, said Plato, *splendor ordinis*, said Saint Augustine, and *splendor formae*, said Saint Thomas". However, coursing through the veins of all these formulas is an irrepressible ambition to discover deeper explanations. If truth must be at the heart of all architectural creation that aspires to beauty, how could we consider order and form to be less important? Truth, and order and form. "Form, as we well know, is not something superimposed; it is generated by the very material that reveals itself in it", as José Ángel Valente so wisely wrote when honoring Chillida. How could we as architects not subscribe to form as the "material that reveals itself in it" in achieving beauty?

And I cannot resist mentioning here Saint Augustine's considerations in identifying beauty with the Supreme Maker:

"Late have I loved you, beauty so ancient and so new: late have I loved you.  
Lo, you were within me and I was in the external world  
and sought you there, and in my unlovely state I plunged into the beauty of  
your creatures .

You were with me, but I was not with you.

They held me back far from you, which if they did not have their existence  
in you, had no existence at all.

You called and cried out loud and shattered my deafness.

You were radiant and resplendent, you banished my blindness.

You were fragrant, and I drew in my breath and now pant after you.  
I tasted you, and I feel but hunger and thirst for you.  
You touched me, and I am on fire to attain the peace which is yours.”

## INVESTIGATION, PRECISION AND TRANSCENDENCE

Let us not, however, go off on intricate philosophical or theological tangents but return to the route that leads to beauty via architecture.

And indeed, the motto on the shield of the AA Architectural Association London says: “Design with Beauty, Build in Truth”, which is an accurate summary of what we are discussing right now.

On the occasion of his Doctorate Honoris Causa conferral by the University of Oporto, I was asked to write a text on Alvaro Siza in which I enlarged on what I consider to be his three principal qualities as an architect –as a factor of beauty more than anything else– being the three characteristics that I consider as inherent in all architecture that participates in that longed-for beauty: an investigative nature, poetic precision and the capacity to transcend.

Investigative nature. One reaches beauty in architecture in the wake of rigorous, profound work that can and must be considered as a true work of research. Beauty is something profound, precise and concrete that rocks the very foundations of human civilization, which makes time stand still and ensures that the created work remains durable in time and in the memory of man. For beauty in architecture is not something superficial, vague or diffuse, but the work of real research.

Not one of my projects has ever been just *another one*. In each and every one of them I have given my all. Each new project has been and is for me an opportunity to seek and find beauty. Each and every one of them has been conceived and designed and built with maximum intensity. With the intense conviction that architecture is the most beautiful work in the world.



I have said *no* many times to many projects in which I wasn't given enough freedom or which I considered were not interesting enough to devote my time to them. Some may call this pedantic. But I believe this is the only way that one can create, that one can live creating, living with the intensity that makes this life worthwhile. All creators understand this very well: poets and writers, musicians and painters and sculptors worth their salt.

When Xavier Zubiri was awarded the National Research Prize in 1982, in his acceptance speech he thanked the Spanish people for being capable of understanding that philosophy is a true labor of research. On many occasions I have recommended to my students that they replace the word philosophy with the term architecture in that illuminating text and they will discover that the result is surprisingly close. Because architecture is a true labor of research. And as Zubiri himself advised in his address, quoting Saint Augustine: "Seek as those seek who still have not found, and find as those find who are still seeking."

Poetic precision. And the beauty we are talking about comes to architecture hand in hand with precision –that same precision with which poetry is chiseled. When I defend the poetic nature that all architecture in search of beauty must have, I am not defending something vague and diffuse. I am looking for the precision required in poetry to achieve beauty, which is the same precision that I look for in architecture.

María Zambrano defined poetry as "the word in harmony with the number". What better way to define the precision inherent in poetry. A word, which in one position says nothing special, when placed in the right place is capable of moving us and making time stand still right there. The same is true, with the same precision, in architecture. Because if poetry is words conjugated with precision, capable of moving the hearts of men, so too is architecture with its materials.

Capacity to transcend. Beauty in architecture appears when it is capable of transcending us. Architecture that achieves beauty is an architecture that transcends us. The true creator, the true architect, is the one whose work

transcends him. Stefan Zweig explains this so well in “The Secret of Artistic Creation”: “There is no greater delight or satisfaction than recognizing that man too can create imperishable values and that eternally we remain united to the Eternal through our supreme effort on earth: through art”. Zweig, like Saint Augustine, links beauty with the Supreme Being.

Moreover, that beauty that transcends us is not something unachievable or simply reserved for a few geniuses. I always try to convince my students that to achieve beauty is a possibility. It is possible to achieve works that are caressed by the “sound of a gentle whisper” with which the Divine Presence was confirmed in the sacred scriptures and which in architectural creation is the sign that beauty is present.

In Chapter 19, 11-12 of the *Book of Kings* we read: “The angel said to the prophet Elias: ‘Go out and stand on the mountain in the presence of the Lord, for the Lord is about to pass by’. And Elias went out. And behold, a great and powerful wind tore the mountains apart and shattered the rocks before the Lord, but the Lord was not in the wind. After the wind there was an earthquake, but the Lord was not in the earthquake. After the earthquake came a fire, but the Lord was not in the fire. And after the fire came a gentle whisper. And there in that gentle whisper was the Lord.”

So it is that same gentle whisper, the *silibus aurae tenuis* as Saint Jerome writes in the Vulgate, that we architects yearn for our works of architecture, and what all creators long for. It is a clear sign that there is beauty in our works when they are worthwhile.

#### UTILITAS, FIRMITAS, VENUSTAS

How could architects not understand that the truth of the idea generated by the fulfillment of function and construction is essential if we are to achieve beauty in architecture? As Vitruvius famously stated: reaching Venustas demanded the prior and exact fulfillment of Utilitas and Firmitas.

Utilitas. “When it is said that Architecture must be functional, it stops being functional because it only attends to one of the many functions it has”, Oíza wisely stated.

Ósip Mandelstam at the beginning of his superb “Dialogue on Dante” says, referring to poetry: “Where a work can be measured by the yardstick of narration, the sheets have not been used, that is to say, (if I may be allowed the expression) Poetry has not spent the night there”. So, in this very pedagogical way, Mandelstam explains the crux of the question in artistic creation. The narrative elements must never be central, nor should they be in architecture. The Utilitas demanded by Vitruvius as a primary condition, the function, must be fulfilled and well accomplished. But architecture is something more, much more, than merely the perfect fulfillment of function. Function in architecture is the narrative.

When Bernini reveals the white marble of the ever so beautiful *Proserpine kidnapped by Neptune*, above and beyond the description of the scene and beyond the loveliness of the sculpture, the essence of what he is doing here is demonstrating his capacity to make the hard Carrara marble appear soft, morbid. He manages to dominate the material, to bend and tame it; something so much more universal than simply representing a scene. The strong hand of Neptune grips Proserpine’s delicate thigh and this is what is most interesting about this sculpture, how he manages to make what is hard appear soft. Once again the creator is conveying a universal theme that goes far beyond the mere narration of a story, something more than just a sculpture. In each and every one of his architectures Bernini seeks and finds something more than the mere perfect fulfillment of a function or the mere perfect construction. He seeks and finds beauty.

Firmitas. And if in order to achieve beauty in architecture the timely fulfillment of function, Utilitas, is important, no less important is its good construction, Firmitas.

Viollet le Duc in his *Entretiens sur l’Architecture* defended the construction, Firmitas, as the fundamental basis of architecture. He called for the

judicious and adequate expression of materials in order to attain beauty in architecture. Beauty emanated from a well conceived and well constructed structure. “Any form that does not adapt to the structure must be repudiated”. It is the structure which, as I have repeated so many times, in addition to bearing the load and transmitting it to the ground, establishes the order of space; that establishment of the order of space, which is a central theme in architecture.

Venustas. And finally, of course, after the precise fulfillment of Utilitas and Firmitas, as prescribed by Vitruvius, necessarily comes Venustas, beauty.

## PANTHEON, ALHAMBRA, BARCELONA PAVILION

Let us now take a look at some buildings that in the history of architecture have clearly materialized the ineffable beauty that we are discussing here.

Few buildings in history have the quality of making us lose the notion of time like the Pantheon in Rome. Not only does it fulfill its universal function to perfection, not only is it extremely well constructed, but it is also of undeniable beauty. All the great creators have acknowledged that on visiting it. Suffice it to quote Henry James describing the memorable scene of Count Valerio kneeling inside the Pantheon illuminated from above by the light of the moon. The scene is quite beautiful. In that marvelous story, *The last of the Valerii*, the Count states: “This is the best place in Rome. It’s worth fifty St Peter’s”.

The Pantheon in Rome is an extraordinary container of beauty, of total beauty. If we stand with our backs against the wall inside the Pantheon, we feel that the space still fits inside our visual angle and therefore, inside our heads. Its 43 metres in diameter make possible the miracle that is the result of the application of precise measurements by Agrippa’s architect, Apollodorus of Damascus, to whom it is attributed. The same dimensions were wisely used by Pedro Machuca in the courtyard of the Palace of Charles V in the Alhambra many years later. And the very same dimensions

I myself, having discovered the secret, used in the white elliptical patio of my Granada museum.

In terms of Utilitas the Roman temple is universal, so universal that it still remains a space for the future. There is no other architecture in Rome so future-oriented.

And in terms of Firmitas, it is so firm, so well constructed that it always emerged unscathed from the onslaughts it suffered. After its construction by Agrippa it suffered such a great fire that Hadrian had to reconstruct it. And even Domitian and Trajan were involved in it. And nothing happened, as Douglas Adams said of buildings destroyed and built again: "it is always the same building". And indeed the Pantheon, its beauty, is an idea, a built idea, precise in its dimensions and in its proportions and in its light. An enduring and eternal beauty. It is always the same building.

And if we were to speak of the light in the Pantheon we might never finish. Suffice a reference to Chillida embracing the column of light that entered through the oculus, who described the sensation: "the illuminated air was lighter than the rest of the room". Perhaps what he felt, what he touched, was the breath of that *gentle whisper*.

Another paragon of Beauty is yet another architecture that was constructed, destroyed and reconstructed so many times while still remaining always *the same building*: the Alhambra in Granada. Built by Yusuf I, reconstructed by Mohamed V, and restored by Leopoldo Torres Balbás in the last century. What could I at this stage add to what has been said about the Alhambra? We have to go back to the lyrical passages that those vizier-poets of the emirs of Granada recorded on its walls. Ibn Zamrak puts the words in the mouth of the Alhambra itself, in the decoration of the fountain in Daraxa's garden, such lovely words as these: "And he has granted me the highest degree of beauty, so that my shape causes the admiration of the sages" and without the least hesitation he continues: "for never have any eyes seen a greater thing than myself, neither in the East nor in the West and in no time has any king, neither abroad nor in Arabia". And we would never

finish if we were to continue with the beautiful inscriptions of the Alhambra. Beauty speaking about beauty itself.

Then there are the words dedicated by Barragán: “Having made my way through a narrow and dark tunnel of the Alhambra, I was delivered to the serene, still, solitary and delightful courtyard of the myrtles of this ancient palace. It contained what a well crafted garden ought to contain: nothing less than the entire universe. I have never forgotten that memorable experience and it is not by chance that from the first garden I did in 1941, all those that have followed humbly attempt to echo the immense lesson of the wisdom of the Alhambra of Granada”.

Of course if we are to discuss contemporary architectures full of beauty, capable of resisting time, physical destruction and their reconstruction, then we must speak of the Barcelona Pavilion of Mies van der Rohe, which appears to have been built only yesterday. Or tomorrow.

The Barcelona Pavilion is not only a synthesis of the principal conceptual achievements of modern architecture, but, in addition, a prodigy of beauty. A simple podium in Roman travertine, at just the right height to transport us into another world. A light slab for a roof, perfectly tensed, and supported by cruciform pillars –like dancers *en pointe*– which, on account of their form and brilliance seem to vanish. Exquisite walls of extraordinary onyx that serve as an epigraph to time with abstract signs moving with the freedom that the continuous space affords. And all with the precise measurements and proportions: nothing over here, nothing over there, and the miracle takes place. Architecture that has conquered beauty forever.

These three examples of architecture are capable of resisting time and reconstruction while always remaining *the same building*. Not only that, in all of them time stands still. In all of them past, present and future are there, suspended: time suspended for beauty to emerge. In all of them we observe what Michael Bockemül expressed so well when referring to Rembrandt: “he converts the conceptual understanding of the canvas into

its visual perception". These three works of architecture convert so well their conceptual understanding into visual perception.

The three architectures cited here corroborate to what extent architecture is a built idea whose beauty remains forever, it is indestructible.

#### MIES VAN DER ROHE, LE CORBUSIER, WRIGHT

But I could not end this discourse without mentioning, albeit very briefly, the words of some of the great masters of contemporary architecture, Mies van der Rohe, Le Corbusier and Frank Lloyd Wright, who, of course, constantly alluded to beauty as the ultimate goal of architecture.

Mies. Mies van der Rohe spoke prolifically about beauty. In a well-known text of his titled "Build in a beautiful and practical way. Enough of cold functionalism!". He tells us: "It seems completely clear to me that, on account of our modified needs and the appearance of new mediums that technology has placed at our disposal, we shall attain a new class of beauty... I do not think that we will ever again accept beauty for itself". And emulating Plato and St. Augustine, he repeats: "Beauty is the splendor of truth".

And he goes on to ask: "And what in reality is beauty? Most certainly, nothing that can be calculated, nothing that can be measured, but rather something ineffable. In architecture, beauty –which is equally necessary in our time and continues to constitute an objective, as it has been in previous ages– can only be achieved when something more than the mere finality is taken into account." How could we not agree with him?

LC. And Le Corbusier was not to be outdone in his defense of beauty: "The architect, by his arrangement of forms, realizes an order which is a pure creation of his spirit. Through forms and shapes, he affects our sense to an intense degree and provokes plastic emotions. Through the relationships which he creates he wakes in us profound echoes, he gives us the measure of an order which we feel to be in accordance with that of our world,

he determines the various movements of our heart and our understanding. And it is then that we experience the sense of beauty”.

FLIW. And of Frank Lloyd Wright so many things could be said concerning beauty. But let us here just echo the final sentences of the manuscript found on his desk on the day of his death. In it he tells us: “Architecture, the greatest of the arts, begins there where mere construction ends and the dominance of man is imposed”. And he goes on to say: “The human being appears dependent on inspiration from a higher source. Because neither through legacy nor instinct does man attain beauty”. And he continues: “Only when the spirit of man becomes conscious of the need for the benediction of beauty, beauty attends and architecture appears, the greatest of mankind’s arts. And in the same way, sculpture and painting and music.” And he finishes with the very explicit statement: “When man proposed that beauty would enter his buildings architecture was born”.

#### MELNIKOV, BARRAGÁN, SHAKESPEARE

However following this incursion into the idea of beauty in Mies, Le Corbusier and Wright, for very personal reasons, I cannot leave out three other figures: two architects and a poet.

Melnikov. Konstantin Melnikov is the Russian architect and contemporary of those masters who best defines that beauty that some of us architects strive for: a bare, radical, essential beauty: “Having become my own boss, I begged architecture in turn to take off her marble dress, remove her make-up and reveal herself as she is, naked, like a young and graceful goddess; and, as corresponds to true beauty, renounce being agreeable and obliging”.

And Barragán. And for similar reasons, once again I turn to the words of Barragán. The universal Mexican maestro expresses himself clearly in relation to beauty in his Pritzker acceptance speech, 1982: “Mr. Jay A. Pritzker stated in a press release that I had been chosen as the recipient of this prize for having devoted myself to architecture as a sublime act of



poetic imagination. Consequently, I am only a symbol for all those who have been touched by beauty. It is alarming that publications devoted to architecture have banished from their pages the words beauty, inspiration, magic, spellbound, enchantment, as well as the concepts of serenity, silence, intimacy and amazement. All these have nestled in my soul, and though I am fully aware that I have not done them complete justice in my work, they have never ceased to be my guiding lights”.

And Shakespeare. I have searched the poets for explicit references to beauty. And I have returned once again to Shakespeare, using a well-known bilingual edition. And when I found that the word beauty did not appear, as in that prestigious edition in Spanish only “beautiful” or “lovely” figured, I returned to the original English and there is hardly a sonnet in which the word beauty does not appear, that the traitorous translator did not dare to translate as beauty. Are they so afraid of the term beauty? How could Shakespeare not speak of beauty? He starts his first sonnet with “That thereby Beauty’s rose might never die”. And he ends his last sonnet, number 54, with “O how much more doth Beauty beauteous seem”. The term Beauty literally invades Shakespeare’s texts with its weapons. No wonder. Just as all of us would like beauty to invade our works.

## HUNGER FOR BEAUTY

After all these observations one ought to consider if beauty is or is not necessary, if it is or is not useful. Nuccio Ordine, in his brilliant essay on “The usefulness of the useless”, defends the need for useless beauty. Of course we could defend the contrary: that beauty is useful to satisfy the hunger pangs of the soul, the hunger for beauty that is in everyone. Of course beauty is useful, indispensable. Man hungers for beauty. Venustas, compatible and complementary to the usefulness of function, and good construction, is what really interests us.

Einstein summed it up rather well: “I am in truth a solitary traveler, and the ideals which have lighted my way and time after time have given me new courage to face life cheerfully, have been Beauty, Kindness, and Truth.”

## BEAUTY, FREEDOM, MEMORY

Is not memory the deep and inexhaustible well for recognizing where beauty appears? How could someone devoid of memory recognize the fact that something, especially architecture, is part of beauty?

How could an architect be blown away by a Mies van der Rohe if he had not previously known of Palladio, or the Pantheon in Rome, or the Greek temples?

How could a painter admire Rothko without having adored Velázquez and Goya?

Today, fully immersed as we are in the third millennium, we are in no doubt about the depth of beauty in the paintings of Rothko or in the architecture of Mies van der Rohe. It is clear that the concept of beauty has not only opened its doors, but with the guiding hand of understanding it will always remain open.

And evidently all this is largely true of architecture. Nonetheless it may be as difficult for society to understand Rothko well as to really understand Mies van der Rohe. One of the merits of the masters of modern architecture has been managing to convince society that beauty was to be found in their works, that they were the bearers of beauty. Le Corbusier, Mies van der Rohe and Frank Lloyd Wright knew this very well and tried to do so and almost succeeded.

In short, to capture beauty in architecture, and to be able to demonstrate it as such to society –beauty!

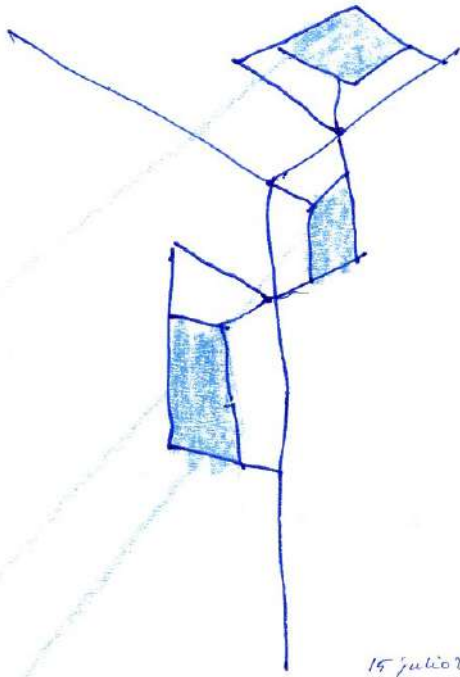
## FINALE

In my architecture I have pursued beauty vigorously. I have sought beauty with tireless dedication. I have chased after beauty desperately. I have searched and still search and will continue to search for beauty unto death or until I kill her. To kill her with love when I find her because I have put my heart and soul into the endeavor.

The search for beauty always involves the search for freedom. Seeking in architecture the freedom arising from the radicalism of reason, in accordance with the desirable dream, always leads to truth resulting in beauty. The English poet Keats said it perfectly in the well-known lines of his Ode on a Grecian Urn:

“Beauty is truth, truth beauty, –that is all / Ye know on earth, and all ye need to know”.





15 Julio 2019

## POETRY

### Architecture as poetry

On Precision. For an essential architecture.

I wish to propose an essential architecture that limits itself to an indispensable number of elements. Architecture that is precise and well-founded, logical and simple.

And because I wish to highlight the importance of precision in Architecture I dare to compare it to Poetry. Architecture is poetry, but would anyone dare propose architecture as poetry? If so, it would have to acknowledge a conception of architecture that goes to the very heart of the questions that the discipline itself poses.

This is exactly what I propose to do here. I will propose that architecture as poetry, without adjectives, is an “essential architecture,” as essential as poetry is to literature as a whole. I’d like that my architecture be poetic, in the deepest sense of the word, so when I propose architecture as poetry, I mean that architecture arises neither from sudden impulse nor fit of ecstasy.

Good poetry, like good architecture, is implacably precise. It not only requires an idea of what we want to say with it, but that its generating idea be expressed—translated—with very accurate words which, moreover, are judiciously placed in relation to each other within the verse and stanza. Once constructed, besides representing its meaning with the utmost naturalness, the poem’s delicate verbal precision must be able to move our hearts—to rupture and suspend time. That is poetry, and likewise architecture.

Should someone remark that John Ruskin already wrote a text entitled *The Poetry of Architecture*, I would reply that, except in name, it honestly has little to do with my own conception; its contents are in fact very diverse.

The text in question, from the same author who penned *The Seven Lamps of Architecture*, is largely a meditation on some of his favorite architectural works of his time. His book, which was very influential in Victorian times, is a collection of articles (previously published in *London's Architectural Magazine*) on villas by architects like Wordsworth. However, he did not really delve into the deeper meaning of the relationship between architecture and poetry. Notwithstanding in "*The Seven Lamps of Architecture*", Ruskin puts forward the proposal that "*Architecture and Poetry are the great enemies of oblivion*", while defending Memory as their common ground.

Sometimes the most essential architectures are dubbed as minimalist. Although I hear continuous talk about minimalism in architecture, I think we would be hard pressed to find a single soul who would accuse poetry of "literary minimalism." In fact, everyone understands that poetry is a distillation of literature itself. The best writers of literary prose have turned to poetry when they wanted to distill their ideas and refine their words, as Shakespeare and Cervantes did. Both were prolific writers, but equally poets of the highest rank.

The quality of Shakespeare's sonnets is in every sense on a par with the immortal verses pronounced by Hamlet. Nor could he be considered minimalist. The same is true of Cervantes who, apart from providing us with his renowned Don Quixote, delights us with the charming sonnets of La Galatea. Writers of universal acclaim, they both reached the pinnacle of literary creation as sublime poets.

Most of the time, poetry appears in relatively short individual poems, of which we could call numerous examples to mind. The same occurs in architecture. It is good that architects also test themselves with small works, with little architectonic poems. There is no architect worth his weight in salt who has not made some small work of high quality, as if it were a poem. Bernini in his Baldacchino in St. Peter's, Palladio in the Villa Rotonda and Mies Van der Rohe in his Tugendhat House, are as brilliant as when they produce some of their larger works.

At other times, writers choose verse for dazzling, epic texts, such as Homer's *Iliad* and *Odyssey*, Virgil's *Aeneid*, or Dante's *Divine Comedy*. I insist however, that neither Homer, nor Virgil nor Dante are the greater poets on account of the size of these works. They are masters because of their capacity to invoke Beauty in each and every verse.

I think something similar happens in architecture. The quality of Architecture is not measured in terms of the large dimensions of certain works. It is measured by their capacity to stop the hands of the clock, to hold time in suspension and in their expression of Beauty.

## PRECISION

When I compare or identify architecture with poetry, I do so for reasons that lead me to defend what I called above "essential architecture." I do not just label it this way abstractly, it actually is essential. I try to go to the heart of the question, as much in the ideas that support it as well as in its forms of translation. What architecture and poetry have in common is the achievement of beauty by means of no more than the bare essential number of elements from which they are constructed. As Octavio Paz astutely observed, "poetry must be a bit dry so it can burn well, and so enlighten and warm us."

On numerous occasions, I have also quoted the Spanish writer María Zambrano when she said that poetry is "the word in harmony with the number." What better definition for architecture, which is precisely that: materials in harmony with measure? It is fitting because both types of creators, architects and poets, must be precise and accurate by virtue of the craft itself.

Osip Mandelstam expresses this concept so well: "*Everything in Poetry is measurement; everything derives from, rotates around and through measurement*". In architecture it is the very same: measurements and numbers are central.



Edgar Allan Poe, in his essay *"Philosophy of Composition"* recalls to mind the creative processes and progressive steps in the creation of his most famous poem "The Raven" and how it attained its ultimate point of completion: *"no one point in its composition is referable either to accident or intuition- that the work proceeded step by step, to its completion, with the precision and rigid consequence of a mathematical problem."* Not a bad definition of the importance of precision in artistic creation.

Therefore, an architect must be precise, and to be precise he must know what he wants to make and how he has to go about making it.

Architecture demands he be able to respond to its questions before he begins construction: what does he want to make? What idea can respond to all the requirements that design demands in each specific case? Vitruvius summed up the key terms of these questions so well in his three principles of architectural design, *"Utilitas, Firmitas, and Venustas."* And he told us how to go about it, how to materialize such ideas, which requires precise knowledge of the materials and the techniques required.

In architecture, as in poetry, the idea is not something diffuse. Both the idea and the means required to construct it, are tremendously precise. An idea is not a notion, a mere whim. In architecture, an idea is not valid if it cannot be materially constructed, just as an idea would not be valid in poetry if it could not be translated into appropriate words.

In this vein, while the invention of new technologies ensures that the architect can conceive of new ideas better, it is not valid to use an unproven technology that one has only dreamt about for constructing something that seems beautiful and radical. I guarantee that an endeavor violating function and structure, by means of unproven methods and materials, will likely fail in all respects. Precision in ideas and precision in their materialization go hand in hand.

METRICS

In poetry, precision starts with meter—the rhythm, rhyme, and beat of words, verses, and stanzas. This is self-evident by dint of the observation that should a poet even wish to break the rules of metrics that belong to his or her language and poetic genre, he or she must already know them very well. A poet with a deep learning of poetic meter has already gained the upper hand should he or she wish to turn the tables in experimentation.

An architect, likewise, has his own “metrics” that allows him to know when an architectural mechanism works with certain measures and proportions, but not with others. This has been the focus of the scholarly works of many great writers throughout history from Vitruvius in his ten books *De Architectura* to Alberti with his *De Re Aedificatoria*, from Vignola with his *Regola delle cinque ordini d’Architettura*, to Palladio in his *Quattro Libri dell’Architettura*.

When we ask ourselves what is so fascinating about Mies van der Rohe’s Farnsworth House, and what is lacking in Philip Johnson’s Glass House, we must return to this kind of consideration relating to the precision of measurement. Mies van der Rohe, with great skill, raises the main plane of the ground floor of the house to eye level (1.60 meters) so that it floats, so that the plane becomes a line, almost disappearing. And he measures the precise distance between the ground and roof to achieve this exact horizontality. Philip Johnson, on the other hand, leaves that plane farther down almost at ground level, and fewer things happen. I would argue that the floor of Glass House ought to have been even with the terrain in order to achieve complete spatial continuity.

Again, at the crux of the matter is the issue of measure, or better yet, the knowledge of the effect of measure; with one set of measurements one thing happens, and with another set, yet other things. In short, it is a question of metrics in the poetic sense—measure not reduced to mere measurement in and of itself.

Thus, when Saint John of the Cross in his Spiritual Canticle writes: “*y de-jame muriendo un no sé qué que quedan balbuciendo,*” not only does he

bring the poem to its climax of feeling when he repeats in a sublime alliteration, “*qué que quedan*,” a stutter that precedes the verb in the gerund, but he does so with a maximum precision that profits from his deep dexterity with the Spanish language. It is the same wisdom and precision that Mies van der Rohe uses in Farnsworth House; the same precision that I want for my architecture.

## TRUTH

Plato defined Beauty as the splendor of Truth. And Saint Augustine echoes these sentiments centuries later. And yet again that indissoluble relationship between Truth and Beauty is reflected on the coat of arms of the AA, the Architectural Association in London, the most prestigious architectural school in the UK, with the motto: “Design with Beauty, Build in Truth”.

If essential architecture uses but few elements, it is because all are necessary and all are true. Not a single one is in excess or deficiency, and each acts with the highest intensity and efficacy. In this way, essential architecture’s beauty comes from that truth.

The desired beauty of the greatest works of architecture must be a reflection of the coveted truth with which architects should work, focusing their efforts on ensuring that the truth of the conceived idea and the truth with which it materializes are capable of blossoming in the beauty of their works.

I want the beauty I envision in my works to be a reflection of the truth from which it derives as an idea and which, in turn, guides it in its materialization.

These two, beauty and truth, are inseparable, and furthermore, in architecture they will always come to fruition under the guiding hand of reason. Hence that Thomistic definition of truth that indeed suits Architecture so very well: “*Veritas est adecuatio rei et intellectus*”—truth is the correspondence between the thing and the intellect.

Josef Pieper recalls that the concept of “the truth of things” was obliterated by Kant when he identified truth with reality. But what in philosophy is disputable, in Architecture is very clear: all built architecture is real, not abstract and not metaphysical. On the other hand, evident and real presence in architecture does not necessarily mean that it is also true.

Only when Architecture is true, in its conception, in its idea, and in its material expression can it gain access to beauty. It does this when it is the result of a specific and developed idea that is laid down in a coherent structure and remains consonant with logically arranged materials. In short, this architecture fulfills the Vitruvian principles of *Utilitas*, *Firmitas* and *Venustas*. Only when the idea, the development, the structure, and the construction are true can it arrive at the level of aesthetic beauty. We must remember that, for Vitruvius, the achievement of *Venustas* demanded prior and exact fulfillment of *Utilitas* and *Firmitas*.

For obvious reasons then, a great deal of the architecture we see put up today is of little interest. The vices of self-indulgence and superficiality have taken the place of the Vitruvian virtues, and the former are giving rise to a kind of contemporary architecture that crumbles and falls apart in our hands. To forge new paths for the future of architecture, we will have to return to the start.

How well Berthold Lubetkin put it in the closing of his speech to the RIBA when he was awarded the Royal Gold Medal in 1982:

“Goethe rejected the easy option of neurotic rhetoric, refused to share the fashionable enthusiasm for the inexplicable. Surrounded on all sides by anguish, turbulence, and shadowy dread, he challenges the folly of events by producing a reasoned grid of his poems, the very embodiment of classical calm, ordered logic and lucid clarity. He advised painters to dip their brushes in reason, and architects to follow Winkelman’s instructions to aim at calm grandeur and noble simplicity.

I have no doubt that it was for this humanist attitude full of confidence, his calm restraint and rational cohesion that Goethe wished to be remembered. And, *mutatis mutandis*, so I do.”

## WEIGHT

Words have no weight; they are not subject to the laws of gravity to which the materials of architecture are inexorably bound.

Though good writing uses words sparingly, it doesn't cost anything to use more words, as so-called “baroque” writers tend to do. It is preferable, however, to “omit needless words” as W.Strunk and E.B.White prescribe in *The Elements of Style*.

In architecture, however, simply from an economic point of view, the use of more elements than is necessary always turns out to be excessively costly. Moreover, it also entails an increase in weight which, because of gravity, would put greater stresses on the structure. With age and reason on his side, Fuller wisely asked the young Foster -“How much do your buildings weigh, Mr. Foster?” : a very pedagogical way of speaking of precision.

## TO TRASCEND

Stefan Zweig once remarked during his 1940 Buenos Aires lecture, *The Secret of Artistic Creation*, “I am not aware of a greater delight and satisfaction than in noting that it is also given to man to create lasting values and that we remain eternally united to the Eternal by means of our supreme effort on earth: by means of art.”

His words can serve as a suitable colophon to this text. If we were to replace the phrase “artistic creation” with architecture, both titles would make perfect sense.

Similarly Heidegger in his “*The Concept of Time*” calls for an understanding of historicity. And that is what we architects should strive to achieve:

an essential, poetic work that will be capable of transcending ourselves, capable of writing our names in the history books, capable of remaining indelible in time.

## ADDENDA

In my lectures I explain how in order to bring the Museum of Memory in line with the existing Central Headquarters of the Caja Granada Savings Bank, “the Cube”, I merely had to align the podiums of the two buildings. This alignment of the two facades onto the main avenue, coupled with the fact that their height is the same, means that they both echo one another in unison. And I explain to my students how, just like in poetry, I simply employ the same mechanisms as those of a poem when the words are in unison, when they agree with precision.

And I tell them that the main building of the Granada Museum of Memory is like a “slice of the cube”, because it has the same width and height, immediately bringing the two buildings into line. Like the words in a poem.

I go on to relate how I endeavored, with the creation of a second building along with the existing one, to create the new city. Similar to a great epic poem composed of separate verses, this new city would be made up of many buildings arranged in harmony with one another. The Manhattan grid plan is a fine example of how to accommodate the verses of that great epic poem in a structure that combines freedom and order.

When I embark on the Lanzarote project in black concrete, made with dry volcanic lava as gravel, my aim is for the building to disappear as it melts into the volcanic lava terrain in which the great platform is embedded. With this arrangement I am simply producing harmony. Like free verse in poetry the great piece appears as if it was always there, and just like any poem, as if its words had always been so fine-tuned.

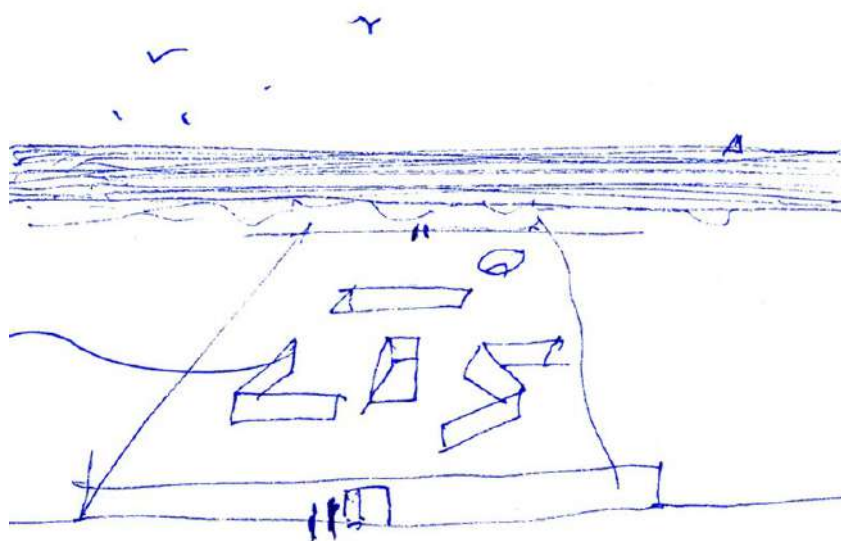
Using the same kind of poetic device or architectural mechanism, I have devised a great platform for the House in Zahara, a large crate made of

Roman travertine. On the one hand, the golden Flaminio travertine matches perfectly with the golden sand of the beach, with the same effect as the black color of the volcanic charcoal on the building in Lanzarote. In this case the travertine gives expression to the Roman presence in the area so many centuries ago, as borne out by the remains at nearby Bolonia.

The ensemble of volumes in Granada, the charcoal concrete in Lanzarote and the Roman travertine in Zahara, what are they all but an attempt to establish a poetic harmony capable of evoking Beauty?







## HORIZONTALITY

### Flat horizontal plane

#### On Horizon

The Flat Horizontal Plane, the platform, is more than just one of the most basic mechanisms of Architecture. In this essay, I would like to move towards understanding this Flat Horizontal Plane not only as the primary mechanism of Architecture, but also, when it is erected, as the spatial limit between the stereotomic and the tectonic.

Standing before Rembrandt's precious 1655 dry point engraving, "Christ Presented to the People," I once pondered how the strokes set down by that genius's hand bring to the fore the central horizontal line which functions as the base of the composition's construction. The upper plane of the stone platform, or stand, upon which the action of the scene transpires is placed at the height of the viewer's visual perspective, so that it becomes a line. This horizontal line is so perfect that one could say that Rembrandt used a ruler to make it. Or better yet, his hand was perfectly steady.

Rembrandt clearly takes inspiration from an earlier engraving by Lucas van Leyden. However, Leyden's perspective is set higher, more at a bird's eye view, so that the main plane is seen as a trapezium. Once again Rembrandt, the master, shows his clear wisdom and skill in the precise handling of spatial mechanisms.

On the other hand, the double terminology that Holy Scripture employs for this place, *lithostrōtos* or *gabbatha*, is very expressive. *Lithostrōtos*, as its Greek root makes clear, means "stone floor;" in Spanish it is called "*enlosado*," tiled with stone. Moreover, in Hebrew *gabbatha* means "a raised place," so that between the Greek and Hebrew terms, the rostrum or platform had this double condition of meaning: raised on high and made of stone.

Here one can observe the same operation, with other dimensions, that one sees in Athenian Acropolis.

Indeed if Rembrandt borrowed from Leyden's form, correcting it with the perfect horizontal line at eye-level, Picasso in his "Ecce Homo: Le Théâtre de Picasso" also borrows from Rembrandt's form and in his very free version conserves the horizontal line from the edge of the top of the pavement, of the *Gabbatha*, exactly at eye-level. And as with Rembrandt, the line is so horizontal that it seems, or is, traced with a ruler.

It is curious how both geniuses coincide, with astonishing premonition, in their perspicacity of understanding the transformation of plane to line at eye-level. Something Mies van der Rohe was to later use in such a defining manner in his Farnsworth House.

A contemporary architect will immediately recall now what Mies van der Rohe attempted and achieved when he put the ground floor of Farnsworth House at eye level: the plane became a line in front of the viewer, making the house appear even lighter.

So, today I'd like to discuss this flat horizontal plane, Rembrandt's and Mies', understood as the limit between the stereotomic world and the tectonic world.

It is very significant that Jorn Utzon in his well known text *Platforms and Plateaus* begins by saying that "the platform as an architectural element has a fascinating attractiveness. I fell in love with it for the first time in Mexico on a study trip in 1949, where I found many variations of the platform, both in regard to size and condition, and where many stand alone save the natural world which surrounds them." Certainly, it is no surprise that the platform, the raised flat horizontal plane, was the central theme of many of his buildings. The idea of the flat horizontal plane is so definitive in architecture: it is an idea of yesterday, today, and for tomorrow. The horizontal plane puts man, standing on the ground, juxtaposition to the physical sky thanks to the very gravity on which the human body depends

for all of its functions; man has the maximum sensation of balance on the absolutely flat horizontal plane. Furthermore, as this plane is the dividing line between these worlds, the plane is also where they, the tectonic and the stereotomic, come together.

Curiously, Spain's Royal Academy of Language and Letters defines a flat surface as "that which is situated in a position parallel to the horizon, in the lower part of a painting." Moreover, it defines the horizontal plane as something "defined by the surface of a liquid in a state of rest." I say 'curiously' because it uses an unstable physical situation, that of "liquid in a state of rest," to define what is really a stable physical situation, in fact the most stable of all: the constructed plane.

In his book *Studies in Tectonic Culture*, Kenneth Frampton aptly analyzes, on the basis of profound and extensive commentaries on Utzon and his work, the validity of the platform as a universal architectural mechanism.

Likewise, in my long text, *The Establishment of Architecture: On the Construction of the Horizontal Plane: the Podium and the Platform*, I presented a heated defense of the horizontal plane, giving all kinds of arguments that in one way or another stemmed from the analyses of Utzon and Frampton.

In this text, which is, in some way, a continuation of that earlier essay, I will insist still more upon those arguments as well as explain how I have radically materialized them in some of my latest projects.

I intend, once again, to emphasize the how theory must accompany practice in architecture. It's not a matter of drawing some designs, building them and then, as if a ventriloquist, lending them a voice. On the contrary, I would like to demonstrate something that is fundamental to the artistic creation, and even more to the architectural creation: that constructed works are the synthesis of an extended and anterior process of deliberate thought which, in connecting with past history, needs construct future history. This rational-artistic process could be considered "true research."

Kenneth Frampton in the aforementioned book, reconsiders and gives life to some of the forgotten theories of Gottfried Semper; his distinction between the Stereotomic and the Tectonic in architecture is especially brilliant: the Stereotomic, on the one hand, refers to what is heavy–gravity bound, immobile, unitary, and continuous, while the Tectonic refers to what is light–mobile, fragmented, and discontinuous–on the other. Frampton didn't imagine the extent to which new architecture could be generated from that idea he recovered. On my part, I owe the discovery of these ideas to Jesus Aparicio, who after his stay as a Fulbright scholar at Columbia University, brought them to Madrid, and later collected them in his penetrating book *El Muro*, "The Wall."

My intention in this text is to take this one step further and consider the flat horizontal plane as the materialization of the border between the tectonic and the stereotomic.

When man establishes the horizontal plane, he is doing something more important than just satisfying a physical need for stability demanded by the universal laws of gravity. When primitive man settles and takes possession of a place, the first thing he does is construct the flat horizontal plane. Accordingly, from that first moment, in order to control and possess it, he tends to look for places that are already flat, so that they are found first, and afterwards shaped, fenced in, and delimited. The plane is the earth itself, clearly a stereotomic plane.

Furthermore, when he builds it with light elements, and makes it mobile, he is doing something even more profound: he is raising himself over the earth in order to dominate it. In constructing the mobile and raised horizontal plane, it is already tectonic: man proclaims his recognition of the tectonic world by which he gains a dimension of mobility, and most importantly, freedom. The hut becomes a sign of freedom before the cave.

When Mies van der Rohe builds his Farnsworth House, he is performing an act that goes far beyond merely making his truly beautiful, light, and transparent house. He is, for the first time in the history of architecture,

consciously setting the flat horizontal plane floating in the air as an architect. This feat is absolutely key to the operation, and something that Philip Johnson never succeeded in fully understanding.

Given the self-evident perspicacity of the operation, it is not easy to explain why later generations of architects have not repeated, in a general way, Mies van der Rohe's creation of the floating, flat horizontal plane in Farnsworth House. Not even Mies himself did it again, nor Adalberto Libera, whose Casa Malaparte was a radical proposal to set the horizontal plane as the main floor of the life of the house, like the beginning or end of a stereotomic podium, as if it a small acropolis. Nothing that radical was ever repeated, either by Libera or any other architect.

#### ADDENDA

The aim in my latest projects: the construction of the flat horizontal plane. In the project *Between Cathedrals*, already constructed in Cadiz, the Center for Nature Interpretation in the Janubio Salt Flats, Lanzarote, Canary Islands, and in the Van Thillo House in Tarifa, the central theme is the creation of a flat horizontal plane, on high, radical and bare.

In none of these cases does it become flat rooftop that is exploited for other purposes, otherwise occupied, or used for landscaping, as many architects are doing these days in the name of sustainability. Wherever such aims may be, nothing could be further from our idea, and Utzon astutely observes in the last paragraph of his text: "To materialize the platform, make it visible, and avoid its disappearance, is a very important topic when one begins to build on top of it. A flat roof alone does not express the flat nature of the platform."

Speaking for myself, from the very start I have no doubt that the plane must take the lead role in these projects, as the flat horizontal plane is origin of their most central guiding idea. If any emerging element has been eliminated from their design, it was not done so for reasons of either purity or rout minimalism. On the contrary, the spatial force of this flat horizontal plane,

of this platform facing nature, is of such a nature that any emerging element could distort it. It is a flat horizontal plane between the stereotomic and the tectonic, between heaven and earth.

It is clear that this is only possible in places that, on the one hand, have a landscape with a distant horizon that renders this operation meaningful, and moreover, have a climate that permits the intended function wide open sky. In all of these cases, in the three projects, the distant horizon is the line of the Atlantic Ocean; the three places possess a privileged climate.

### THE THREE PROJECTS

The first of these three projects, already built in Cadiz, the so-called oldest city in the West, is called Between Cathedrals. We were asked to “cover an archeological excavation,” and give the city a public space. To do so, we made something more than just a flat roof. We made a raised flat horizontal plane, paved in Macael white marble, and to which we built a ramp for easy access, also placing a white canopy on it to give it some shade. Hugged by the two cathedrals, the platform on high blocks the view of the cars passing in front of it and we are left to take in the sea alone, in an effective operation of abstraction. The immense Atlantic Ocean lies before us, nothing more and nothing less. This type of plane clearly belongs to the tectonic world.

The building in Lanzarote is situated in the center of the hills that surround the Janubio salt flats that open to the sea. Sitting in the center, at the highest point stands a large, square, and flat horizontal plane, measuring 90x90 meters. This plane is black, just like the lava found throughout the island, and capable of underlining the fascinating landscape we face, endowing it with spatial value. An entrance is dug out in the plane as a “trench”, and some courtyards that will serve the functions housed below are spread out in front of the sea. The shade produced by these excavated spaces gives the operation still greater force. This plane clearly belongs to the stereotomic world.

The Van Thillo House<sup>8</sup> in Tarifa, Cadiz, also on high, in fact on a coastal dune in front of the ocean, rises up as a square flat horizontal plane, measuring 20x20 meters, and is made of travertine stone. Life takes place on the plane which stresses the seascape before us. An entrance, pool, and an amphitheater, which will also serve as protection from the winds that blow in from the straits, are carved into it. The rest of the house is situated below, facing the sea. This plane also clearly belongs to the stereotomic world.

In each of these three cases, the geometry adopted, open to all four directions, further clarifies the proposed spatial emphasis. This is true, most of all, since in all of the cases they open to the west, the sunset, and also to the Atlantic Ocean: our line and nature's line thus parallel.

Also, as I mentioned, the climate in these places is perfect for these spatial operations. We may recall here how the *azoteas*, or roof terraces, have traditionally been common living spaces in such island and coastal areas. A few well-known Le Corbusier photos could come to mind here as well.

I still remember my experience when, as a child in Cadiz, we ran around the flat roof terraces at home while the women chatted calmly in that privileged, open-sky living room from which we saw the sea and the sunsets. Time there was always suspended. Of course, current technology allows the operation to be taken to its most radical extreme, building these new horizontal planes totally and completely flat.

A radical flat horizontal plane of this sort will, without any intermediate element, exaggerate the spatial qualities of these places I've described with their distant horizons. The distant landscape in front of us, in this case the sea, will seem to be coming towards us since it is accentuated by the line of our flat horizontal plane; or it will seem that we, as if riding on Aladdin's magic carpet, are moving towards it. The living functions, for example, of the solarium where one can descend into a trench in order take in the sun or of the excavated quarters in which one can seek shelter from the wind, can be perfectly performed there.



In some of my earlier projects, I had already used this spatial resource, in De Blas House in Madrid, in the Olnick Spanu House in New York, and Rufo House in Toledo. In all of them, the lightest part of the building was constructed over this horizontal plane, and complemented the work with a very good spatial outcome. In these new projects, I insist on a radical conception of the plane that increases the intensity of the operation.

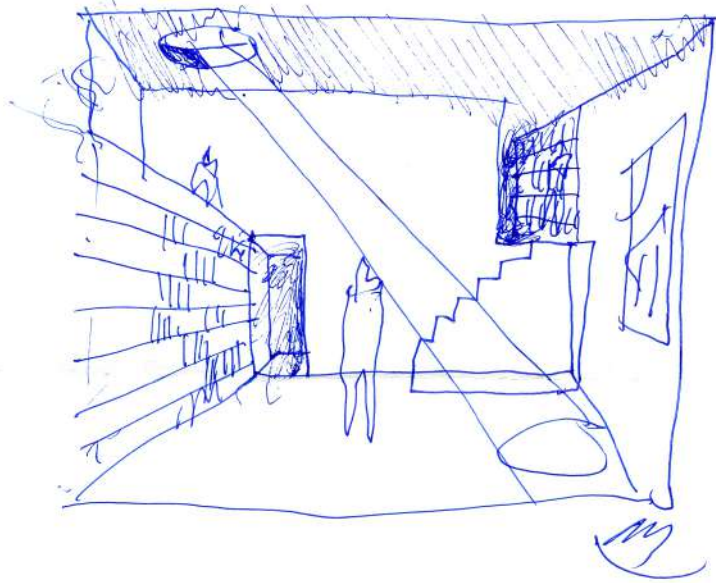
To convince people that it is perfectly possible to realize the intended functions on a radical horizontal plane, bare and flat, it helps to imagine it like the decks of a ship. Standing on a flat horizontal plane is like being standing on the deck of a ship under the open sky, or like being on a raft, as Mies van der Rohe argued when speaking of his Farnsworth House.

And while this theme of the platform frequently appeared in my earlier projects, with some element built on top of it to house practical functions, I believe that the search for refinement in making sure that the upper plane is truly the main plane remains a contribution that can still be made to architecture: the construction of the radical flat horizontal plane. In each case, the material used in their construction, i.e. the super-white marble in Cadiz, the black concrete in Lanzarote, and the sand or travertine in Tarifa, contributed effectively to the spatial dominance of the horizontal plane.

## CONCLUSION

In short, we must defend the flat horizontal plane as the limit between the stereotomic and the tectonic worlds. Well-defined in proportions, dimensions, and materials, it remains one of the most basic mechanisms of Architecture since time in memorial. It is bound to the human body by gravity and balance and to the human soul by the indispensable serenity of connecting with the heavenly. According to Utzon, the operation that the Indians sought by raising their platforms to over-look the jungle in the stone age continues to be that which that man seeks in the third millennium: happiness, in our case, through architecture. As Utzon said, “inhabiting the Gods’ abode.”





## LIGHT

### Architectura sine luce nulla architectura est

On the material nature of light. On light as matter and material.

And God said, Let there be light: and there was light. And God saw the light, that it was good: And God divided the light from the darkness. And God called the light Day, and the darkness he called Night. And the evening and the morning were the first day.

*Genesis 1: 3-5.*

When an architect finally discovers that light is the central theme of architecture it is then that he or she begins to understand and starts to become a real architect.

Light is not some vague or diffuse thing to be taken for granted just because it is always there. The sun does not rise for everyone, every single day, for nothing.

Yes, although we may no longer subscribe to corpuscular theory, light is nonetheless something specific, precise, continuous, material. It is the most measurable and quantifiable matter, something physicists are well aware of, but the fact seems to pass many architects by.

Light, like gravity, is unavoidable. And it is fortunate that this is so, since the history of architecture is defined by these two primeval realities: light and gravity. Architects should always carry with them a compass to measure the direction and angle of light and a photometer to measure the quantity of light, just as they carry a tape measure, a spirit-level and plumb line.

If the struggle to master gravity continues to be a dialogue, from which the material construction of architecture is born, it is with the addition of

the search for light, and the corresponding discourse, that this dialogue reaches the most sublime levels. It is then that one discovers the essential truth that only light and light alone can truly overcome and conquer gravity. So, when the architect manages to trap sunlight, thus penetrating the space formed by structures of greater or lesser mass which need to be rooted to the ground to transmit the primitive strength of gravity it is that very light that breaks the spell, making the space float, levitate and soar. The Hagia Sophia, the Pantheon and Ronchamp are tangible proofs of this wondrous reality –of the triumph of light over gravity.

Light has as much material substance in architecture as stone. We tend to think and write that builders in the Gothic period accomplished veritable marvels with stone, making architecture work to its utmost to attain more light. Properly speaking, we should be saying that what Gothic architects did was to work with light as matter, as another material. Since they knew that the sun shines diagonally, they stretched their windows, raising them up to trap those diagonal, nearly vertical rays. They foresaw the possibilities available to us today. Rather than organizing stone to trap light, Gothic architecture can be seen as a desire to organize light, material light, in order to create spatial tension.

We know that matter cannot be created or destroyed, it can only be transformed. That is why, instead of the term modern materials, it would be more accurate to say materials used in a modern sense. In this way we can include centuries of thought which we can then enjoy sifting through. As always, when all is said and done, it's just a simple question of reasoning and thought. Thus was stone, plain old stone, transformed into the most modern of materials in the hands of Mies van der Rohe. Steel and sheet glass were not born out of nothing. These two materials, which have revolutionized architecture, have always been there, latent. Today, the conception of new ideas enables them to produce spatial miracles.

Might we not then think that the secret lies in a profound understanding of light as matter, as a material, as a modern material? Could it be that the moment in the history of architecture has arrived, that tremendously

exciting moment when we finally confront light? “Let there be light! And there was light”. The first material created, the most eternal and universal of materials is thus identified as the central material with which we can build and create space. Space in its most modern sense. So the architect once again recognizes himself as a creator, as a master of the world of light.

The luster and gleam of the stone, though itself apparently glowing only by the grace of the sun, yet first brings to light the light of the day, the breadth of the sky, the darkness of the night. The temple's firm towering makes visible the invisible space of air.

Martin Heidegger. *The Origin of the Work of Art*.

SINE LUCE NULLA!

On light as the central theme of Architecture.

When I propose the axiom “*Architectura sine luce nulla architectura est*”, I mean that no architecture is possible without light. For without light, an indispensable material would be missing.

If I were asked to give three prescriptions for the destruction of architecture, I would suggest: 1/ covering over the central opening in the Pantheon dome, 2/ walling up the glass block facade of the Maison de Verre and 3/ closing the openings which illuminate the priory of La Tourette.

If, so as to protect the Pantheon from the elements, the new mayor of Rome decided to cover over its crowning oculus of nearly nine metres in diameter, a lot of things might or might not happen. Its skillful construction would not change, nor would its perfect composition; its universal function would not cease to exist; nor would its context, ancient Rome, notice (at least not on the first night). All that would happen is that the most wonderful snare that man has ever laid for the sun, to which that heavenly king joyously returned day after day, would be eliminated. The sun would burst

into tears and so would architecture, (because, after all, they are rather more than just friends).

If Doctor Dalsace's grandson had walled up the facade of La Maison de Verre for security reasons a lot of things might happen. Or they might not. Its construction would remain untouched. Its composition would remain intact. With good electric lighting, it would continue to function without a problem. The immediate environment, the city of Paris, wouldn't know anything about it, even after the first night, given La Maison de Verre's private, not easily accessible location. All that would happen is that a most wonderful container of clear, diffuse light would be destroyed, a container that achieved its splendor thanks to the subtle and wonderful mechanism of the glass block, which surreptitiously allows light to pass through, transforming it into pure glory. Darkness would fall on the house, and architecture would be plunged into utter despondency.

If a new Dominican monk at La Tourette, zealously seeking a way to improve concentration levels, were to cover up the cracks and holes in the monastery chapel, many things would happen, or stop happening. Its robust construction would not change. Its composition would remain untouched. Its sublime functions would continue, although they might become more *concentrated* in the candlelight. No one in the surrounding area would know, or it would at least take a long time for word to get out. Only the alarming stillness of the roosting pigeons would eventually alert the local country folk to the sacrilege that had been perpetrated there. The overly concentrated space would have darkened and the monks would find to their amazement that the luminous Gregorian chant was sticking in their throats. The monastery, and the architecture along with it, would have entered into a long, dark night.

Covering over the central opening in the Pantheon dome, walling up the Maison de Verre glass block facade and filling the openings in La Tourette Chapel would signify an end to architecture, and history too. And the sun would refuse to come out again. Whatever for? The fact is that architecture without light is nothing; it is less than nothing.

“Spring is coming. I want to see the light!’ And he sent his daughter-in-law Otilia to open the windows before closing his eyes forever.” Goethe’s last words before his death.

## LIGHT TABLES

On how light is quantifiable and qualifiable

Lorenzo Bernini, a magician of light if ever there was one, drew up his own tables to measure light accurately, which were very similar to those now used to calculate structures, Meticulous and precise. The master knew that, like all matter, light can be measured and classified; it can be scientifically controlled.

What a pity that on Bernini’s return from a tiring and fruitless trip to Paris in an attempt to build the Louvre, his young, absent-minded son Paolo lost his tables. On the 20th October 1665, Bernini was quite relieved to be leaving the city of light, which had treated him so badly, but discovered to his horror that he did not have his tables, which were more valuable to him than the Law itself. He searched for them in vain. Chantelou, the punctilious, reliable chronicler of the trip to France made no mention of the unfortunate incident in his felicitous narrative.

It is reported that many years later Le Corbusier managed to acquire some of the key pages of that valuable manuscript in a secondhand bookshop in Paris, and knew how to use them cleverly. And he too was able to control light with great precision.

However, while capable of stirring our emotions and making us tremble in our innermost being, light is more than a feeling.

Light is quantifiable and qualifiable, whether with Bernini’s tables or those of Le Corbusier. Or with a compass, solar cards and photometer, Or with scale models or the most perfect computer programs now available. It is possible to control, tame and dominate light.



The mechanisms, the snares with which architecture traps light, with their well-defined dimensions and proportions, are the cause of that spatial tension, the inimitable beauty of works that constitute the best history of architecture.

To change the small diameter of the skylights in the baths of the Alhambra, either reducing or enlarging them, or to change the height of the horizontal upper plane of the *continuum* that is Farnsworth House, by enlarging it or decreasing it, would be sure recipes for destroying two brilliant pieces of our culture.

That is because continuous space, with Farnsworth House as its archetype, is also a question of light. The break in tension produced by doubling its interior height would not be so much an error of compositional dimension as a break with the clear and exact amount of light, of transparency, which permits space to accurately speak of continuity, achieved with such great effort by the Modern Movement. It took Mies van der Rohe many long years to build such an esteemed piece. To achieve the difficult continuity of continuous space, it must be controlled, its dimensions and proportions mastered so that light can efficiently sweep through them.

Thus one can affirm that light is quantifiable and qualifiable, controllable. With man as a yardstick; for in the end, it is for him, for mankind, that we create architecture.

This open and secret temple (the Pantheon), conceived as a sundial. The hours were to circle the center of its carefully polished pavement where the disk of the day was supposed to rest like a golden buckler; there the rain would make a limpid pool from which prayer could spiral like smoke toward the void where we place the gods.

Marguerite Yourcenar, *Memoirs of Hadrian*.

## TRIAL BY FIRE

### On different types of light

We have already discussed the seductive quality of the Maison de Verre thanks to light and how dark it would be without it. With everything else intact (construction, composition, function, and context), it would nevertheless be nothing without light, less than nothing. But, can you imagine if Doctor Dalsace's grandson, tired of so many visits and finding the light we have described as divine to be a trifle dim, decided to replace the great glass block wall with a technological and transparent curtain wall made of the biggest and flattest sheet glass he could find on the market? Many things would happen then, perhaps too many. Among other things, all the ugliness of the Parisian courtyard where it is located would be invited inside the defused space.

To avoid this, anticipating the disastrous results, it might occur to him to use the Gothic windows taken from the demolition of the nearby St. Denis church. Things would take on another hue, or rather, other colors. The invasion of angels with trumpets and biblical figures would block out the view of the bare courtyard and would transform the well-known space into a pure celestial glory of a thousand colors.

So this very same space, with identical dimensions, construction, use and context, has appeared in our imagination in various forms: dark at first, then very light and finally gloriously colored; three different spaces and one true one, the original: merely by changing one material, light. Merely by changing its quantity and quality.

The architect of the Maison de Verre, Pierre Chareau, used light as a material, knowing that it had to be given a physical definition. To say the word light in the same way as one might say the word stone is to say almost nothing; it is only the beginning. Of course, most architects never move beyond this first stage of definition, which accounts for the results they achieve.

There are many kinds of light and we shall discuss some of them now; whatever its direction, horizontal light, vertical light, or diagonal light. Whatever its quality, solid light or diffuse light.

In the old days, when people needed to take light from above, what I call vertical light, they could not, because if they made openings in the roof, water, wind, cold and snow could enter. It was not a question of risking death just to obtain light. Only the immortal gods in the Pantheon dared to harness it. And in their honor, Hadrian commissioned that lofty architecture to anticipate the achievement of vertical light.

Thus, throughout the history of architecture, light has always been horizontal, taken horizontally, piercing the vertical plane –the wall– as was logical. Since the sun's rays fall diagonally upon us, a great part of the history of architecture can be read as an attempt to transform horizontal, or diagonal, light into light that might appear to be vertical.

This is what was achieved in Gothic architecture, which should not be understood simply as the desire to obtain a greater quantity of light, but fundamentally to achieve light that was qualitatively more vertical, in this case diagonal.

Similarly during the Baroque period, architects tried to twist light with ingenious mechanisms in order to convert horizontal light into a light that would appear as vertical light, and sometimes was by reflection. By taking one more step and achieving greater verticality than in Gothic structures. The magnificent transparent Baroque light achieved by Narciso Tomé in the beautiful Toledo cathedral is a masterful lesson in this very achievement.

The type of light –horizontal, vertical or diagonal– depends on the position of the sun in relation to the planes that make up the spaces tensed by that light. Horizontal light is produced by the sun's rays as they penetrate through holes in the walls. Vertical light is produced when the sun enters through holes in the upper horizontal plane. Diagonal light is produced when the sun passes through both the vertical and horizontal planes.

This means that the possibility of vertical light entering climate-controlled spaces was not achievable until the advent of large-scale flat glazing. Thanks to the option of constructing the upper horizontal plane, which is drilled and glazed, it has become possible to introduce this vertical light. This is one of the keys to the Modern Movement, to contemporary architecture, in its understanding of light. These are the skylights in the upper horizontal plane, now a regular feature of contemporary architecture.

I don't know if the architects of the Alhambra Baths were aware of the wonder they had produced when they made those star-shaped openings in their domes. These were used not only to illuminate an area that demanded a certain degree of discretion, but also basically served as a natural outlet for the steam from the baths. However, above all, they were, perhaps without knowing it, allowing the entry of solid light that would slice through the air and steam like a knife. It is fascinating to spend some time in those rooms and watch the sunlight move and change as it streams in. It would be even more exciting to bathe there. Even now, it is still possible to see spaces of this kind in certain Turkish baths dating from Constantinople, where the intersection of solid light and steam makes the material nature of this white light all the more palpable.

I don't know either whether or not Le Corbusier, who was to later use solid light with such effect, was aware when he constructed the unequaled Ozenfant studio that what he was really constructing was a treatise on diffuse light. The ingenious construction of the small, glazed saw-tooth roof produced a material plane of diffuse light across a continuous translucent roof. Then, in alignment with the angle of large panes of glass, and with the necessary arrangement of lines, he created that amazing trihedron of diffuse light which has not yet received due consideration from contemporary Architecture. That diffuse light which reaches its maximum state in the previously-mentioned Maison de Verre.

Obviously that particular solid light can only be taken in when the architecture is oriented towards the south so as to receive the perfectly apportioned light that is cast upon it. It is this dramatic southern, solid, cast light,

when properly handled, produces the most spectacular effects capable of taking our breath away.

In the same way, diffuse light is normally taken in by orienting the architecture towards the north to obtain a serene and peaceful, reflected, diffuse light, the light that produces restful, calming effects.

Bearing all this in mind, we understand that we can search for and use the various qualities offered by light depending upon its orientation in space and time. We can, therefore, tell the difference between the clear, blue morning light, when we look towards the east, and the warm, golden light of dusk when we look towards the west, knowing that both types of light are basically horizontal.

In this way, we could continue to delve into concepts and nuances relating to light in architecture, such as transparency, backlighting, shadow or darkness, luminosity and color.

And we should also mention that characteristic of light as matter in constant movement, following the solar rhythms marked out periodically by Nature. With man and for man, this light gives its life to the service of true architecture.

And rising one morning, with the rosy dawn, he went before the sun and spoke to it thus: You great star! What would be your happiness if had not those for whom you shine?

Friedrich Nietzsche, *Thus Spoke Zarathustra*.

## WITH MANY LIGHTS AT THE SAME TIME

On the combination of different types of light within a single space.

Just as Edison would later invent electric light, (how difficult it still is to use it wisely!), Gian Lorenzo Bernini, the greatest master of light, invented

something equally simple; the work of genius known as *luce alla bernina*. Using various sources of visible light he first created an environment with diffuse, homogeneous light, generally from the north, with which he illuminated and gave clarity to a space. Then, after centering it geometrically in relation to the shapes, –bang!– he would step in at a specific point, hiding the source from the spectator’s eyes, producing a funnel of solid light –*luce gettata*– making it the protagonist of the space. The contrast or counterpoint between the two types of light, creating a furious tension in the space, produced a first-rate architectural effect: solid light in visible movement dancing over an invisible, diffuse light in calm stillness.

The Greek architects Anthemius of Tralles and Isidorus of Miletus did the same thing without the aid of the Neapolitan’s universal tables. The great miracle of their Hagia Sophia, more in terms of light than size, is its fabulous dome. The sun throws its rays in diverging directions, and due to their distance from the ground, they arrive as if they were parallel. So what is happening in the interior of Hagia Sophia, which receives light through all its high windows as if lit by many different suns? What is happening when the rays of light converge inside, producing those incredible effects? The simple secret is found in the exact dimensions and thickness of the windows, which infuse reflected light with nearly as much strength as direct solid light, and the effect is there for all to see. The secret formula of the miracle is the canny combination of both sources of light, direct and indirect.

Light, like wine, as well as having many varieties, shades and nuances, does not favor excess. The combination of various types of light to excess, just like wine, reverses the possible quality of the result.

The appropriate combination of different types of light, when one knows them, offers infinite possibilities in architecture. Bernini and Le Corbusier knew that well, as did Anthemius of Tralles, Alvar Aalto, Hadrian and even Tadao Ando.

## FINALE

On how light is the theme

Finally, is not light the *raison d'être* of architecture? Is not the history of architecture the search for, comprehension and domination of light?

Is not the Romanesque a dialogue between the shade of the walls and the solid light which penetrates its interior like a knife?

Is not the Gothic an exaltation of light that ignites unbelievable spaces with rising flames?

Is not the Baroque an alchemy of light in which the wise addition of diffuse light breaks through solid light, making it possible to create indescribable vibrations within its spaces?

Finally, is not the Modern Movement after breaking down the walls, a flood of light that we are still trying to control? Is not the contemporary period the time when, finally, we have all available means to dominate light?

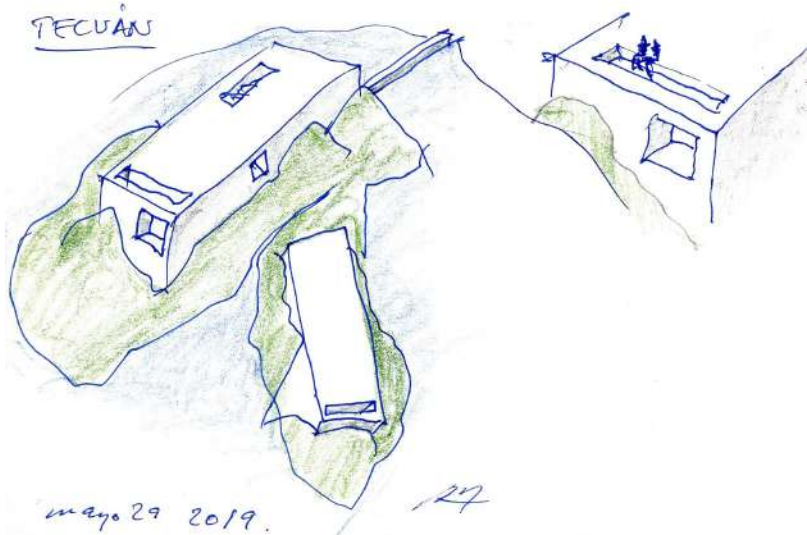
Deep reflection about light and its infinite possibilities must be the central focus of the architecture of the future. While Paxton's intuitions and Soane's successes were a prelude to Le Corbusier's discoveries and Tadao Ando's experiments, there is still a long and rich road to follow. With light at the heart of it all.

If I am able through my work to make people feel the rhythms set by nature, harmonizing spaces with light, tempering them with the passage of the sun, then I believe that what we call architecture is all worthwhile.





TECUAN



mayo 29 2019.

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## INTELLECTUAL ENJOYMENT

### On intellectual enjoyment in architecture

An overwhelming sense of joyful radiance.

How can I express in words the overpowering feeling of intellectual enjoyment that has occasionally possessed me in recent times? Time and again, something related to culture touches us in such a special way that we are possessed with an intangible quality that I have termed intellectual enjoyment. Many of you reading these words will understand perfectly what I am speaking about.

As this very special *je ne sais quoi* has been happening to me lately, I decided to write down my thoughts on this none too original discovery. And I discovered that what we call intellectual enjoyment, intellectual satisfaction, intellectual pleasure, tends to happen more frequently and more especially as one gets older. The enjoyment I get from reading Homer's *Odyssey* is quite distinct from the joyful wonder I felt the first time I came across it. And that deep and profound feeling happens with a frequency that quite surprises me. It is like a joyous radiance that quite takes your breath away.

Plato said to a young apprentice in philosophy: "The burning impetus that propels you towards the reason why is beautiful and divine; but while you are still young, practice and train yourself in those philosophical efforts that do not appear to serve a purpose and are what the crowd calls idle talk; otherwise, truth will escape your grasp". That very stage of renewed youth is where I would like to be when speaking of the intellectual enjoyment.

## MEMORY

I know well that all this is largely due to memory. As the years go by, our memory fills up in such a way that relationships often occur between things

and events, which becomes a reliable source of this intellectual pleasure. And, like a well, this memory needs to be replenished with the water of knowledge, which requires time and deep study. That devotion to study, regarded as an obligation in our youth, becomes a pleasure in later life.

Saint Augustine speaks of the enormous space of memory, the *aula ingenti memoriae*. The memory that is not only able to accumulate new knowledge but, better still, to bring it all together. Who has not been surprised on recognizing common themes or ideas in authors that would seem to have nothing in common? To recall –to re-collect– is to travel to the heart, to put the heart back in someone or something that happened.

And St. Augustine speaks so clearly of memory that we have only to transcribe his wise words:

“And I enter the fields and spacious halls of memory, where are stored as treasures the countless images that have been brought into them from all manner of things by the senses.”

“Men go forth to marvel at the heights of mountains and the huge waves of the sea, the broad flow of the rivers, the vastness of the ocean, the orbits of the stars, and yet they neglect to marvel at themselves. Nor do they wonder how it is that, when I spoke of all these things, I was not looking at them with my eyes—and yet I could not have spoken about them had it not been that I was actually seeing within, in my memory, those mountains and waves and rivers and stars which I have seen, and that ocean which I believe in –and with the same vast spaces between them as when I saw them outside me.”

## TIME

I still remember the frisson of excitement on reading “Burnt Norton”, the first of T.S. Eliot’s *Four Quartets*, and Jorge Manrique’s songs on the death of his father came into my head and into my heart. When I put the poems of Eliot and Manrique together before me, even the order in which they spoke

about time, past, present and future, were the same. And the same desire was there.

Whereas Eliot (1888-1965) writes:

“Time present and time past / Are both present in the future time / And time future contained in time past. / If all time is eternally present / All time is unredeemable.”

Jorge Manrique (1440-1479) had long before written:

“And so we see the present / as if at some point absent / and finished; / if wisely we judge, / we’ll know the not yet now / is past.”

It would almost seem that Eliot had read Jorge Manrique’s couplets on the death of his father and was feeling something similar to the intellectual enjoyment we are talking about. Past, present and future.

And it has finally dawned on me that the doxology of the “Glory be to the Father and the Son and the Holy Spirit” that we Christians frequently repeat closes with “as it was in the beginning, is now and ever shall be, world without end,” which is the same way of understanding the poets’ time past, present and future.

I must admit that I have since searched and found poems and poets working with the same structure on time. Even Shakespeare has joined the encounter with poems like his Sonnet 129: “Had, having, and in quest to have, extreme;” And such encounters are the reason for the intellectual enjoyment we are talking about. Any poet reading these lines will understand this perfectly.

The universality of the human being in time and space is so clear that unsurprisingly on reading the beautiful poem “The Three Oddest Words” by the wonderful Polish poet, Wisława Szymborska, I was rendered speechless by the words: “When I pronounce the word future, the first syllable

already belongs to the past.” With less material than architects, with almost nothing, how is it that poets can have so much strength?

## ARCHITECTURE

In architecture we find intellectual enjoyment in many moments, the three principal ones being, in my view: moment of conception, final moment and moment of recognition.

### CONCEPTION. THE GENERATING IDEA.

The moment of conception, the moment an idea is born. This happy idea is no chance occurrence. Quite the contrary, it tends to happen when, faced with all the ingredients, the architect starts thinking, researching patiently almost always over a considerable length of time and produces an idea as a result. An idea capable of being materialized. In his book *A Beautiful Question*, Frank Wilczek, Nobel prize-winner in Physics in 2004, refers to *incarnate* and asks the question: “Does the world incarnate beautiful ideas?”. In that joyous moment when one knows that potentially everything is already resolved, the idea is so powerful that it is generally the cause of enormous intellectual enjoyment.

It is the moment that we have so often called inspiration. When following a battle in our thoughts, with our inner selves, in which we architects look for that added something capable of substantiating a new work, inspiration appears at a very precise moment, the vibrant instant we call inspiration; then everything is turned upside down, a thousand Handelian trumpets sound, and our being is invaded by that intellectual enjoyment so difficult to describe and so easy to recognize. And the idea is born that is capable of bearing fruit, of materializing.

### FINAL. THE BUILT WORK.

The final or nearly final moment of a work that we have conceived and initiated very often produces that intellectual satisfaction. There is no

satisfaction comparable to what one experiences when the built work reaches the stage when those spatial operations, which the architect has conceived in his head, explained in his writings and expressed in his drawings, become reality. I must confess that I shall never forget the emotion I felt on seeing for the first time the sunlight shine through the open skylights in the central area of my Bank of Granada. I cried openly like a child, like Ulysses on hearing the bard's song. Not only was I witnessing the entry of that solid, real, material light; it was something much stronger. That slowly moving light placed the whole area in tension and made it resound divinely, just as music does when the air comes in contact with a musical instrument. It was the very history of architecture recalling other related episodes that I had studied so many times.

When my mother baked a flan, it was a time of celebration at home. And just before taking it out of the oven, where it lay in its *bain-marie*, we children observed the ceremony of introducing a knitting-needle into the almost set liquid. If it came out with even a touch of the mixture adhering to it one had to wait a little longer, as it was still a little too liquid. But if it came out clean –oh, so clean– this was proof that it had set. And it was party time.

That is what happens to me with my works. And having mentioned my experience with the Granada box, which was built many years ago, I must tell you of my latest, as yet unfinished, experience. Before me right now, a space that promises to be, that will be something marvelous: the main area of the sports pavilion for the University Francisco de Vitoria, which is just about to set. It is almost there, but we have to wait just a little longer for the needle to come out clean. The structure is beautiful, now entirely painted white. The two translucent northern walls give a marvelous light. The two southern walls, white inside and out, reflect and qualify this equally marvelous white light. A facade, inside and out. The remaining elements will also be white. I can imagine it, I can already see it, all filled with an extraordinary light. Just like a *boîte à lumière*, which is what it is. And I know that it won't be long now, not long at all, before the needle comes out clean, when the baked flan is set. And I know that right then that feeling of intellectual enjoyment will invade us all.

## RECOGNITION

The moment of recognition in architecture, on visiting a significant work for the first time, is the cause of great intellectual enjoyment. To recognize, on viewing for the first time a work of architecture that we had never seen with our own eyes but had studied so many times, in chapter and verse. This moment of intellectual enjoyment occurs when we witness at first hand something which is already familiar to us. We architects are very well acquainted with this. I shall never forget the first time I entered the Pantheon in Rome. I cried.

This intellectual enjoyment produced by architecture is somewhat akin to what is known as the Stendhal syndrome, an impulse provoking a rapid heartbeat when we are faced with a particularly beautiful work of art.

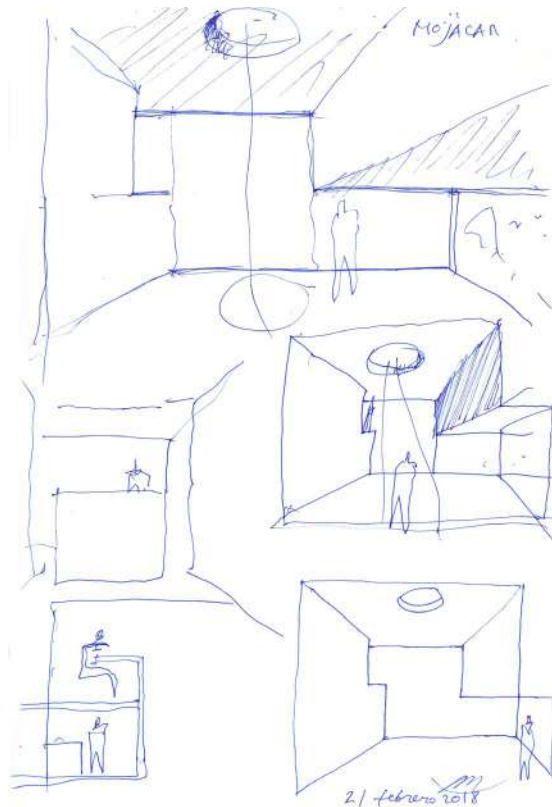
It is named after Stendhal, who, on visiting the Basilica of Santa Croce in Florence in 1817, wrote in his book *Naples and Florence: a journey from Milan to Reggio*: "I reached this emotional turning-point where those celestial sensations of Art are met with passionate feelings... Everything spoke so vividly to my soul. As I emerged from Santa Croce, I had palpitations of the heart. Life was drained from me. I walked with the fear of falling to the ground".

## FINALE

Not long ago, I heard on the radio Ángela Núñez Gaitán, a woman from Seville who is director of the restoration department of the Vatican Library. When she described the emotion, the fear, the day she held in her hands the autograph of Petrarca author of *Il Canzoniere*, she was merely describing the intellectual enjoyment of someone for whom that was an almost unthinkable gift. That overwhelming sense of joyful radiance, which we mentioned at the outset.

I'd like to finish off on a musical note. The story goes that when Handel's servant used to bring him his cup of hot chocolate in the morning, he often found the maestro sitting there with large teardrops on the paper before him, smudging his recently written notes and the servant would stand there stock-still while the chocolate went cold. I have absolutely no doubt that the maestro was in a complete trance, in a moment of sheer intellectual enjoyment. Perhaps that is why, when we listen to the "Rejoice Greatly" from Handel's *Messiah*, we cannot but feel that rejoicing, that jubilation, that intellectual enjoyment.





## WISDOM

### On the wisdom of the architect

Wisdom is the reflection of eternal light.

There is [in wisdom] a spirit that is intelligent, holy, unique, manifold, subtle, mobile, clear, unpolluted, distinct, invulnerable, loving the good, keen, irresistible, beneficent, humane, steadfast, sure, free from anxiety, all-powerful, overseeing all, and penetrating through all spirits that are intelligent, pure, and altogether subtle. She is more beautiful than the sun, and excels every constellation of the stars. Compared with the light she is found to be superior, for it is succeeded by the night, but against wisdom evil does not prevail.

*Wisdom 7: 22-30*

She reaches mightily from one end of the earth to the other, and she orders all things well.

*Wisdom 8: 1*

T.S. Eliot makes an accurate distinction between information, knowledge and wisdom. First in his poem *Choruses from The Rock*, written in 1934, and later in his landmark essay "What is a Classic?", the text of the keynote address before the Virgil Society in London on October 16, 1944.

In *Choruses from The Rock* he writes: "Where is the wisdom we have lost in knowledge? Where is the knowledge we have lost in information?"

And in *What is a Classic?* he writes: "In our age, when men seem more than ever prone to confuse wisdom with knowledge, and knowledge with information."

I am an increasingly fervent admirer of T.S. Eliot. Maybe for the same reasons that Octavio Paz gives us in his acceptance speech for the T.S. Eliot Prize: “The magnet that attracted me was the excellence of the poem, the rigor of its construction, its depth of vision, the variety of its parts and the admirable unity of the whole”.

Besides being a wonderful poet and a wise one at that, T.S. Eliot was a true sage. Because I must confess –a daring confession indeed– that what I, who only know that I know nothing, would like is to become a wise architect, as my teachers were. And when talking to my students about beauty, in the same way that I tell them that they, as architects, can also achieve that beauty which is not reserved for exceptional beings, I also tell them that they can become wise, that they can attain wisdom. Let me explain.

Being equipped with all the information is very good, because if we filter it and order it judiciously, we can achieve knowledge. “That is a very knowledgeable person”, we sometimes say. But that is not enough. Because afterwards, if you are unable to process that knowledge, it is of no use. But if we *cook* it, if we develop it for a specific purpose, it becomes activated, it becomes truly useful. Which is what the wise do.

I am convinced that, like beauty, wisdom is not reserved for a mere few. All the wise men and women I have met have turned out in person to be normal, simple and direct; in a word, humble.

## INFORMATION

Today we have more sources of information than ever thanks to IT resources. I have never known where those thousands of people are, who produce and order and put such a quantity of information at our disposal. Google and its like are admirable. They provide and make available to us comprehensive and orderly information that makes some people think that libraries are no longer essential, although this can never and should never be so. But if the Library of Alexandria was on fire, all that would be required

to remedy the disaster is for someone to have had the precaution and patience to store all that digitalized information that occupies so little physical space.

I remember my last sabbatical year at Columbia University in New York. Every day I spent a long time studying, in its marvelous Avery Library, which is where the School of Architecture is located. I was the only one who had books on my desk and who wrote by hand, hastily filling up my notebooks. The others were buried in their computers, in sepulchral silence, isolated by their headphones and illuminated by the divine light of their screens. I never saw anyone get up to consult a single book or write anything by hand.

And all that overwhelming information is now available to the millions of users, people who more often than not waste their time with nonsense on their smartphones and tablets.

Because information is still simply information. If it is not processed, it remains like an inert material. It might help to turn someone into a scholar. On the scale of being informed, knowing and understanding, they remain on the first steps of the ladder leading to wisdom.

## KNOWLEDGE

But if information is processed, ordered and developed, one gets to the next stage, which is knowledge.

Whenever I'm writing a text, the first thing I do is prepare a script. Of course, before that I have to find a good excuse to tackle a particular topic. In this case, it was reading the wonderful text of T.S. Eliot's "What is a classic?", which quite by chance I happened to receive as a gift twice in the same week, in a delightful little edition by the National Autonomous University of Mexico in 2013. And to crown it all, in today's post I received from Germany a second-hand copy of "What is a classic?" by T.S. Eliot in English, in the Faber & Faber fourth edition, May MCML, printed in Great

Britain by R. Mac Lehosé and Company Limited, The University Press Glasgow. A real gem.

When we take on board a considerable amount of information and store it in our memory, it can later be studied and related to a topic with the result that we attain a certain amount of knowledge of the subject in question – what we have always understood as studying a subject.

And so I view a school, in my case a school of architecture, as an instrument not only for the transmission of information but also for its development. It is an instrument for the creation of knowledge, and for its transmission. Like coffee beans that need to be selected, toasted, ground, and filtered with hot water in order to achieve that final delicious potion. And, perhaps, having tasted that splendid coffee, the neurons awake and even lead one on to wisdom.

I have been studying the *Meditations* of Marcus Aurelius (121-180 AD) for several years, written in Greek by this stoic emperor. I have acquired 44 different editions in several languages, and it goes without saying the enormous enjoyment it gives me every time I go back to them. But I assure you that I still *know nothing* about this amazing person, or about his work, although I have dared to publish something about him and the numerous editions of that wonderful text.

I remember as a child I always saw my father studying. And I used to wonder, with all that he knew, why he was still studying? My father was a surgeon and for a time Assistant Professor of Anatomy at the Faculty of Medicine in Valladolid. His career was brilliant. And he was a true sage who was an example to us all his life, never ceasing to study. And that is what I now try not to stop doing.

“Knowledge is science, the know-how provided by many data, combining induction and deduction, which does not tell me what it is, but what I can do. Science tells me what I can do, but not what I should do” –the words of Emilio Lamo de Espinosa in a clear article on information, science and

wisdom. It is wisdom that deals with the ultimate meaning of our existence. Without wisdom, science is no more than an archive of instruments. And he concludes by saying: “We are swamped with information, with solid scientific knowledge, but almost completely starved of wisdom”.

## WISDOM

According to T.S. Eliot, after information and knowledge, comes wisdom. But what is it really to be wise? To know everything about everything? To know everything about something? Because once we know a great amount of things relating to a particular subject, we surely could take one step further, we should attain something more.

Maybe it would be something like a doctor’s diagnosis. Having gathered all the patient information, which is then filtered by the doctor’s knowledge, this should lead to an accurate diagnosis, capable of solving the problem.

In the *Book of Kings*, we are told how the young King Solomon asks God for his listening ear and how God grants him the gift of Wisdom. “Now, O Lord my God, you have made me king instead of my father David. But I am but a boy, and I barely know how to behave. So give your servant a discerning heart to govern your people and to distinguish between right and wrong.”

God was pleased that Solomon had made that request, so he said to him: “Since you have asked for this, and not long life or riches for yourself, nor have you asked for the death of your enemies, but for discernment in administering justice, I will grant you what you have asked for. I will give you a wise and discerning heart, as no one before you has had nor will ever have again.”

That is why, when we speak of wisdom, we have to quote King Solomon, the wise Solomon. Wisdom as the capacity of discernment.

## ON THE WISDOM OF ARCHITECTURE

Of course, some of you will say: what is an architect doing talking about wisdom? Why? What for? I am doing it because, among other reasons, I think that to make the best architecture possible, it is necessary to be wise. “He who knows only medicine doesn’t know medicine”, said Marañón. Well, he who knows only architecture, doesn’t know architecture, say I.

I remember well my teachers, the architects who were my teachers at the School of Architecture of Madrid, who were truly wise. How discerning they were about architecture. They combined professorship with being extraordinary architects. They were true teachers. Their project critiques were classes where one talked about everything. Philosophy or History, Music or Poetry were all topics that emerged in the most natural way from their rich pool of wisdom. This was more than information and more than just knowledge. This was wisdom.

And those teachers were wise. Francisco Javier Sáenz de Oiza in his apocalyptic classes, Alejandro de la Sota in his quiet classes, Javier Carvajal in his precise classes, Julio Cano Lasso in his delightful classes and Miguel Fisac in his classes without classes. All of them were true sages. They all had a capacity of discernment about architecture, and about life. Of each of them, it could be said that they were a fountain of wisdom. I would like to be like them.

So too were those egregious professors under whom I studied a selective course at the Faculty of Sciences, Madrid, in the 60s, which I will never forget. Enrique Gutiérrez Ríos, Salustio Alvarado and José Javier Etayo Miqueo were true sages in such complex subjects as Chemistry, Biology and Mathematics. They were so wise that not only had they acquired the knowledge of such topics, but they communicated it to us with crystalline clarity, with convincing conviction.

I recently published a text on “Project design is Research: a Project design is a work of research”, because I firmly believe that it is so. I would like that text, like this one, to be like depth charges. In that text I describe how, more

than thirty years ago, I dared to present a project of mine under construction at the time, the Library of Orihuela, as the Research Project for my candidature for the Chair of Design. And all the members of that generous tribunal, full of wisdom, with Oíza and Carvajal at the head, understood it perfectly and accepted it as a work of research.

## ON THE HISTORY OF ARCHITECTURE

How can we not understand that the History of Architecture, with capital letters, is full of architects who were sages?

Ictinos and Callicrates (5th Century BC), the Greek architects of the Parthenon of Athens were true sages. The Parthenon, and before it, the Acropolis, were creations out of time; they were of yesterday, today and tomorrow. Not surprisingly, both Le Corbusier and Mies van der Rohe were photographed in front of those ruins, as a testimony to their timelessness, and in recognition of the roots of their architecture, which is ours.

And, was not Apollodorus of Damascus (50-130 AD), architect of the Pantheon of Rome, a true sage? Definitely. The structural and building operation of this architectural marvel can only be the result of a privileged architect's head. Every time I go back to study and analyze the Roman Pantheon, I continue to learn.

And what can we say of Marcus Vitruvius Pollio (80-15 BC) with his *De Architectura*? How many times in word and deed have we not used your *Utilitas, Firmitas and Venustas*?

Andrea Palladio (1508-1580) was so wise, that in addition to making first-class architecture, and writing the *Four Books of Architecture*, he has continued to influence architects to this day. And so it is that Mc Kim, Mead and White (1869) designed the most representative buildings of Columbia University in New York.



When Michelangelo (1474-1564) officiated as an architect in the Campidoglio, he showed how wise he was, making the world visible, making it emerge in that unequalled space. And to crown it all, there he placed our Marcus Aurelius on horseback in the center of the world, to make that spatial operation even more visible.

And so great was the wisdom of Sir John Soane (1753-1837) that, to contradict the architect of the Pantheon, in proposing his lightness *vis-à-vis* the heaviness of the Roman dome, he makes the light of his suspended domes slide down the edges, causing them to float. If this is not wisdom, let God come and take a look for himself!

And Le Corbusier (1887-1965) and Mies van der Rohe (1886-1969) what could we say of these two old sages? The two of them were proudly photographed on the Acropolis in front of the Parthenon, as if wanting to bear witness that they, the great modernists, have their feet, their roots, in history and in this way are revolutionizing the world and building new history.

And even Jorn Utzon (1918-2008), like an old druid, who withdrew with his wisdom to his house in Mallorca. We can still hear the echoes not only from his Sydney Opera House, or from Can Lis, but also from his "Platforms and Plateaus", a key text published in 1962 that has influenced so many architects.

## FINALE

In *The Banquet*, Plato advised us: "It would be a happy state of affairs, Agathon, if wisdom were something that could flow between us through mere contact, from the one who is full to one who is empty, like water flowing along a strand of wool from a full cup to an empty one".

If we are to do things in the best possible way in life, in all fields, including architecture, we should try to approach wisdom; we should try to be wise. This involves not only having all the information, developing it and

acquiring knowledge, but above all, on attaining that wisdom, employing study and discernment to make it the best, or better than the best.

And if we started out with T.S. Eliot as our guide, we're returning to him again. Because in a nutshell, this business of being wise is nothing more than being able to bring together present, past and future time: what the poet proposes in "Burnt Norton", the first of his *Four Quartets*:

Time present and time past / are both perhaps present in time future / and  
time future contained in time past. / If all time is eternally present / all time is  
unredeemable.

#### ADDENDUM

Recently a rare gem fell into my hands, Aristotle's *Protrepticus*, translated into Spanish in 1983 by Alberto Buela in Argentina. In that wonderful text, in its fragments, wisdom is spoken of with such clarity that I would recommend my readers and my students to exchange this text *On the Wisdom of the Architect* for that of the Greek philosopher. They would certainly benefit from it.

The Emperor Marcus Aurelius was inspired by Aristotle's *Protrepticus* to write his *Meditations*, and Cicero to write his *Hortensius*. And St Augustine had explored the *Hortensius* before writing many of his admirable texts.

I cannot resist transcribing and sharing with you some fragments of that *Proteptic* by Aristotle:

#### Fragment XXXVIII

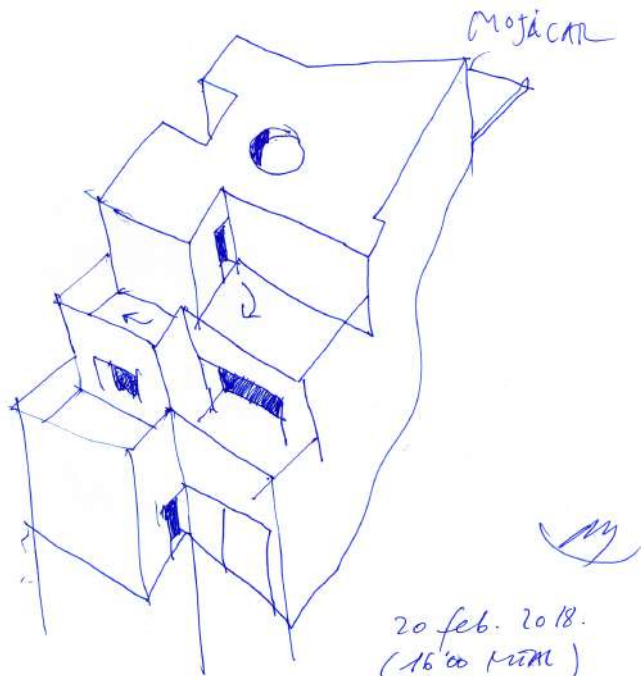
That wisdom is the greatest of all goods and the most useful of all things is evident from this: we all agree that the most virtuous among us, who is by nature the best, should be the one to lead. And that it is the law alone that directs and has authority, that which is the expression of wisdom and the manifestation of wise thought.

### Fragment LIII

We ought, therefore, not to flee philosophy, if it is, as we think, the acquisition and use of wisdom, and wisdom is among the greatest goods; and if in pursuit of gain we run many risks by sailing to the pillars of Hercules, we should not shrink from labour or expense in the pursuit of wisdom.

“Nothing is more desirable than wisdom; this alone seems to be immortal, this alone to be divine.”





Mojača

20 feb. 2018.  
(16:00 min)

## TIME

### Suspending time

#### ON TIME. ON THE INEFFABLE DETENTION OF TIME

“Burnt Norton” is the first of the *Four Quartets*, one of T.S. Eliot’s key works. In its first six lines, the word *time* appears seven times with surprising reiteration:

Time present and time past/  
Are both perhaps present in time future,  
And time future contained in time past.  
If all time is eternally present/  
All time is unredeemable.

And Benedetto Croce seems to sum it up even more concisely: “All history is contemporary history, it is the past seen through the eyes of the present”.

This time that poets and philosophers express so well, the time of Eliot and Croce, is the time that architectural creation wants to capture. Because this time is the central theme of architecture.

In this text, I would like to analyze why some architectural spaces are able to stir up such an inner commotion within us. Although it may seem an abstract concept or theme more properly pertaining to poetry or philosophy, this concept of suspension of time occurs with an especially real and palpable force only in architecture. After all, architecture is the only artistic creation that surrounds us, that we enter into and that we move around in. When we stand before or inside certain architectural spaces, time seems to stop, suspend itself, and become almost tangible.

There is no denying the profound emotion –the suspension of time– one feels on entering the Roman Pantheon. There time stands still and we are moved. I still shed tears every time I go back. I often mention to people the deal I’ve made with my students for many years now. When they visit the Pantheon they have to send me a postcard, a *cartolina*

*illustrata* with a picture of the inside, telling me whether or not they cried. All of those who have written have cried. I've amassed a good collection by now.

I will never forget how, when my building for the Caja Granada headquarters had just been inaugurated, one of the people who worked there recalled having wept on entering the central space for the first time. Right there, at that very instant, time stood still. I must confess that, years later, every time I return there and enter that space, my heart still skips a beat, and even more so if the sun, up to its usual tricks, alights upon and strolls over its alabaster walls.

Architects must deepen their understanding of the architectural mechanisms that make these results possible. I'm still trying to reach that perennially elusive beauty that every artistic creation seeks to embody. And this is what architecture is all about.

It might be helpful to consider how architecture, in comparison to other art forms, is the only one whose creations are capable of physically enveloping man, its protagonist. The experience of being able to stand inside a work of art in flesh and bone pertains solely to architecture, and is impossible to produce in the other arts.

If a space built with gravity, with materials possessing an unavoidable gravitational weight is tensed by light –light which itself builds time– so that we are moved through the physical, beyond the physical, then we can properly say that we have attained architecture. Architecture happens when we succeed in stopping time in the constructed space: when it seems that time itself is suspended.

Time is a central theme of architecture: time that is structured by light; capable of stopping our hearts or tying them in a knot, much more than the forms of a passing style or the exquisite adornments of the best construction. *Utilitas* and *Firmitas* only acquire their full meaning when *Venustas*, Beauty, is attained.

Time in Architecture can be analyzed from many perspectives and that is what we are about to explore.

## THE TIME OF UTILITAS. FUNCTION

There is a time that refers to the capacity of ensuring that the function for which the building was erected will endure. A time relative to function: use, utility, Utilitas, of making a building carry out the functions for which it was commissioned and, moreover, of being adaptable to different functions over the long haul. When I was a student we learned this in terms of the *architecture of cases* versus the *architecture of boxes*.

The case meets the requested function exactly, but it can't be used for anything else. A knife sheath cannot be used for a spoon and vice versa. If the question is changed, the answer is no longer valid. This tends to happen when, in addition to the specific nature of the function, the dimensions are bound within certain settled parameters. A social housing building, even if it is resolved to the last millimeter, will most certainly not serve for any other purpose.

The box, in contrast, can admit many different functions over time. Obviously, the larger the size of the space, the greater the number of different functions it can allow. Boxes endure the test of time better than cases do.

Time is kinder to boxes than cases. And kinder still to large boxes rather than smaller ones. Berthold Lubetkin was right when he proudly proclaimed that he did no more than build boxes, shoe-boxes in concrete. Boxes, little boxes, big boxes.

## THE TIME OF FIRMITAS. CONSTRUCTION

There is another time that speaks of physical duration, of the effective combination of materials that culminates in the most perfect construction of architecture. Firmitas means firmness, strength, and a well-constructed building will



be able to last many years and remain on solid footing for a long time. All of the great masters of the past have been, furthermore, great builders.

I am particularly interested in the duration of the foundations of some buildings throughout history. The ruins, the worthwhile ones, are the traces of the architecture that was built there. And in them you can clearly read the architect's idea. They provide the ground plan of that architecture that has been able to remain in time.

#### THE TIME OF VENUSTAS. BEAUTY

The time of Venustas is that which can be suspended, that stops when we encounter beauty. It is the most difficult to control, but for that reason it is what most interests us.

All great writers on architecture have sought to come up with a few universal rules that would not only serve to transmit certain forms or styles, but also emit a beauty capable of moving men deeply on viewing their works.

It is a difficult enterprise. Just as happens with many excellent cookbooks in which nothing is spared to provide every last detail and consideration regarding a recipe, the exquisite dish still requires a skilled and passionate chef. No recipe can guarantee the quality of the cooking. The same thing is true in architecture; one needs a good head, a good hand and one has to have a talent for it.

#### THE TIME OF MEMORY. PERMANENCE

Another thing is the time that the building is capable of remaining in men's memory: a built work's resistance to oblivion, or in other words the thing that secures its trajectory into architectural history, which has little to do with current fashion or passing fame. Those of us who are no longer children have seen lofty names and works that mean nothing today. The phenomenon, controlled and exaggerated by the press, still works at full strength. Many of the names that make up today's architectural *A-List* are

sure to disappear tomorrow, their fame short-lived. They will never remain in men's memory.

But there are other, quieter sorts of architecture that are much more eloquent and capable of transcending our tendency to ephemerality. Above and beyond fashion and vanity, our aim should be to erect more profound architecture for history. Such architecture has a different rhythm, and belongs to truth and beauty in fullest sense.

The time of memory –of permanence– is the “difficult desire for duration” (“Le dur desir de durer”) which Paul Eluard spoke of poetically and which is so profoundly rooted in the will of every creator: the will to transcend. Picasso put it so eloquently: “I am tired of being modern. Now I want to be immortal.”

And it is memory that enables us with the passage of time to value more highly those works of architecture that are truly worthwhile. In that wonderful volume *War of Time* by Alejo Carpentier, time passes simultaneously backwards and forwards. Carpentier manipulates time in such a way that only the novel, imagination guided by memory, can achieve; so it is that on his death, Don Marcial at the feet of Ceres, starts going back in time, living his life backwards to his birth. Sentences such as “the furniture was growing taller” and “when the furniture had grown a little taller still” and then: “but now time passed more quickly...” are Carpentier's tricks of the trade to explain this backward progression of time.

Doesn't something similar occur when we return after a long period of time to some of the best artistic creations and suddenly we understand them perfectly? Not only that, they seem even better than they did before. So it is that, like Marcial in *War of Time*, I read the poems of Horace and Virgil with so much more pleasure than I did when obliged to read them as a child. I used to learn and now I learn too. And I enjoy. And here and now, just like that, time appears to stand still.

In a very special way this is what occurs with architecture. On my most recent visit to the Pantheon time stood still when that stream of light, travelled across the deep coffers of its bare dome at something other than physical speed and I felt it with much greater intensity than on the first occasion many moons ago. Thus, we architects must remind ourselves that the possibility of stopping time, of halting the sun as Joshua did, is something that we are capable of, just as we are capable of creating something that transcends us.

## HISTORY

There are many buildings in History with that special capability of causing us to lose our sense of time.

The Roman Pantheon is the example *par excellence*. Well built, and a perfect embodiment of the universal function endowed to it by its creator, the Pantheon is also overwhelmingly beautiful. All of the great creators have understood that when they have been inside. Suffice it to quote Henry James when he recounts the memorable scene of Count Valerii kneeling inside the Pantheon as the sun struggled through the heavy clouds above with the rainwater making the light from on high material. Exquisite. Or Piranesi's engravings of the Pantheon that should be in the libraries of all architects.

And if I were to give just one example of contemporary architecture, it would be Mies van der Rohe's Farnsworth House. A small, white, sublime piece, capable of giving continuity not only to space but also to the history of architecture. It belongs, with its radical beauty, to an architecture without time, capable of generating, like the Pantheon, the desired suspension of time.

## THE BLUE-EYED ROTHKO

Every time I enter the Olnick Spanu family home in Manhattan my heart skips a beat: there in front of me, I see a painting by Rothko, my favorite painter, in an unusual size and color. Its small dimensions and blue and

green tones completely blow me away. A good friend of mine, with whom I often discuss this painting, tells me it is *the blue-eyed Rothko*. He's right. I can testify that there, in front of this wonderful painting, time stops, it disappears.

It happens that painting, like architecture, shares this special capacity to carry us away and suspend time. I'll never forget my first visit to London when, with Sáenz de Oíza, my beloved teacher and Spanish master, we stood in front of Velázquez's *Venus of the Mirror* in the National Gallery. Time, space, desire –everything– disappeared. In that brief infinite lapse we stood as if in divine rapture.

#### MUSIC CAPABLE OF STOPPING TIME

Peter Phillips, director of The Tallis Scholars, in an interview he gave in early spring 2011, before performing Tomás Luis de Victoria's *Requiem* in New York, spoke of "suspended time".

In that interview, the words flowed from his mouth as if in a cascade: intensity, sobriety, profundity, precision, simplicity, clarity, but above all, suspension, referring to time. When asked where his musicians had sounded best, he replied: the Sydney Opera House by the master Jorn Utzon. It could not have been otherwise. Utzon's sublime architecture welcoming Victoria's marvelous music.

The concert, devoted entirely to Tomás Luis de Victoria, and commemorating the fourth centenary of the Spanish composer's death, was long, but I would say that for all of us who filled the packed church of St. Mary the Virgin in 46th Street, everything happened in a second. Time stopped there, in the way that only beauty can make possible.

#### SORT OF DISAPPEAR: CINEMA

And while we could survey all artistic creations and discover that the crux of the matter is always the same, namely reaching man's heart through his

head, I am going to limit myself to a couple of examples of how film, the seventh art, is also capable of stopping time.

An unforgettable scene comes to mind: the white plastic bag floating in the air in the film *American Beauty*, something so elemental magically transformed by the work and grace of a young director, Sam Mendes, into a masterful piece. Given the supreme beauty of something so simple, we all cry with Wes Benly and Thora Birch. There, time disappears and our heart dissolves in five infinite minutes.

Of course, Billy Elliot expresses it still more clearly in that “sort of disappear” that he repeats twice when the panel asks him what it is that he feels when he dances. With a stroke of genius, Stephen Daldry summed up something as abstract as suspended time in artistic creation so precisely in that short phrase!

## THE SECRET OF ARTISTIC CREATION

Architecture, painting, literature, music, and film are, in fact, no more than the creative works of human beings which redeem us and make this life worth living.

Edgar Allan Poe in his “Philosophy of Composition” captured this suspension of time so well:

“I kept steadily in view the design of rendering the work universally appreciable. I should be carried too far out of my immediate topic were I to demonstrate a point upon which I have repeatedly insisted: that beauty is the sole legitimate province of the poem.”

“Truth, in fact, demands a precision, and passion, a homeliness (the truly passionate will comprehend me) which are absolutely antagonistic to that beauty which, I maintain, is the excitement, or pleasurable elevation, of the soul.”

That “pleasurable elevation of the soul” is precisely the suspension of time that we are referring to here.

Our works go on to “transcend material and limited life”. Stefan Zweig, in that essential text I have quoted so very often, “The Secret of Artistic Creation”, manifests this with such force: “There is no greater pleasure or satisfaction than recognizing that man is also capable of creating everlasting values”.

Works that are worthwhile transcend us; they transcend their creators and no longer belong to us. They already belong to the memory of men.

Paul A.M. Dirac, 1933 Nobel Laureate and one of the great physicists of our time, proclaimed, “Beauty and truth go together in theoretical physics”. Could today’s architects, instead of musing on vanities, concur with the poets, philosophers, and physicists in the primacy of the pursuit of truth, and attempt to actualize this all-too-possible miracle of the suspension of time?

Le Corbusier, in simpler language, spoke of the “unspeakable space,” and on other occasions, of how the “most useful buildings were those that fulfilled the desires of the heart.” The master was so very right.

And as we started with one poet, T.S. Eliot, we will conclude with another, William Blake. In his “Auguries of Innocence” he proposes: “To see a world in a grain of sand, / And a heaven in a wild flower, / Hold infinity in the palm of your hand, / And eternity in an hour.”

Eternity, suspended time, is what we would like to achieve with our architecture.



## STUDENTS' WORKS

ANDOR, JULIA

BERKE, TZVI

HERNANDEZ, SANTIAGO

KISHINEVSKY, LIZZARD

MANGELS, EMMA

MANNINO, FRANK

O'CONNELL, EMILY

RIAZ, MUHAMMAD ALI

SHAMALOV, SARAH

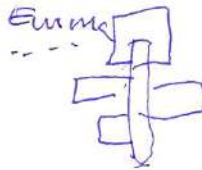
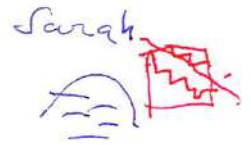
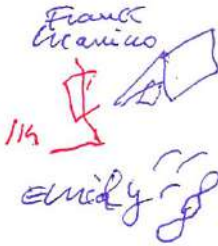
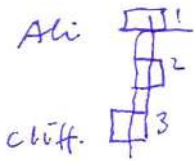
STACHNIK, AMANDA





# THE DREAM HOUSE

A dream house in the paradise



Feb 11. 2021  
Feb 12 *ms*

📍 VALLEY OF CUZCO, PERU



📍 CLIFFS OF MOHER, IRELAND



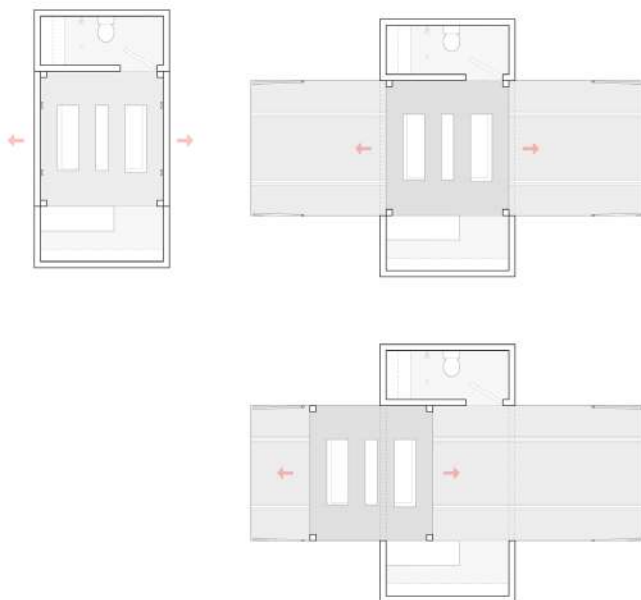
📍 CATHEDRAL COVE, NEW ZEALAND



📍 PACIFIC COAST HIGHWAY, UNITED STATES OF AMERICA



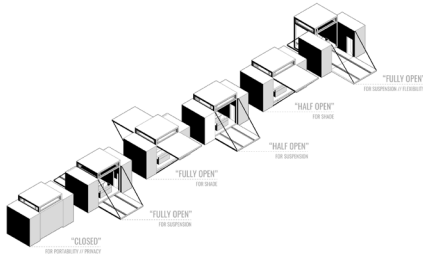
### Perspectives



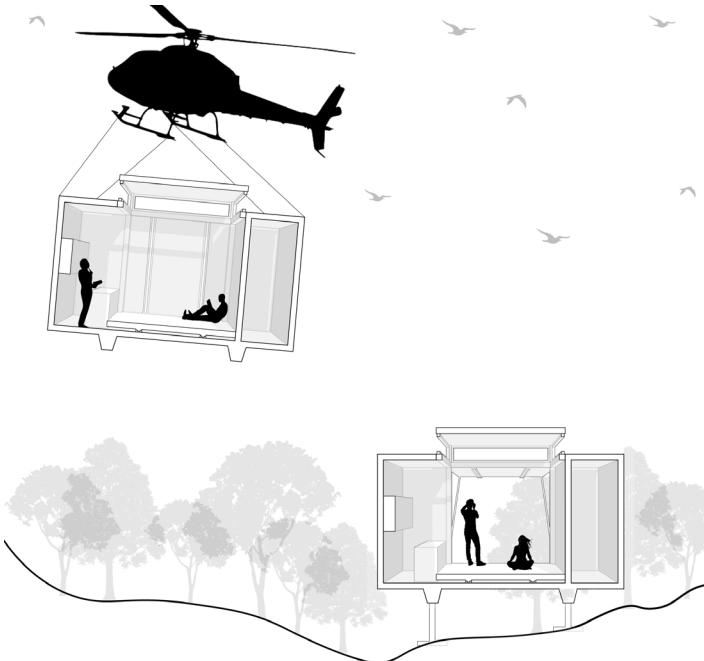
### Plans

# THE HOME THAT DEFIES SITE

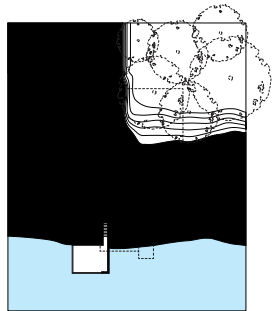
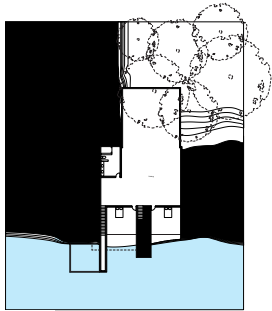
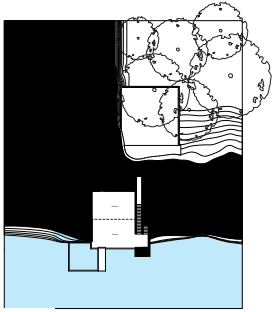
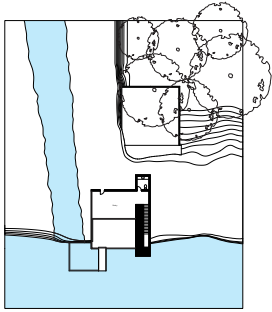
Julia Andor



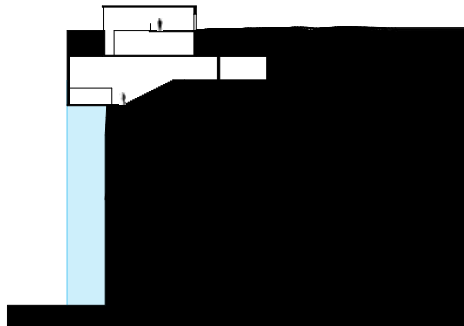
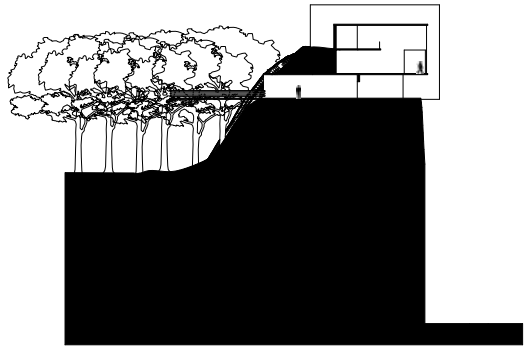
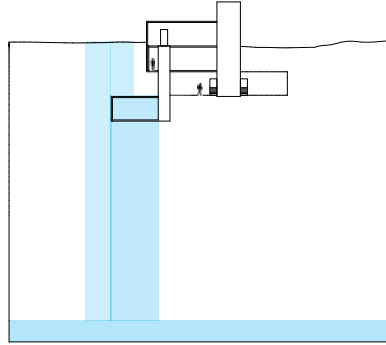
The “dream home” breaks away from a conventional site, instead following the concepts of travel and freedom. society’s definition of home usually consists of a singular space weighed down with possessions and by a foundation; The dream home is easily movable by any means. It can also adapt to its location by opening a deck or shading device as well as slide back and forth on its base.



Sections



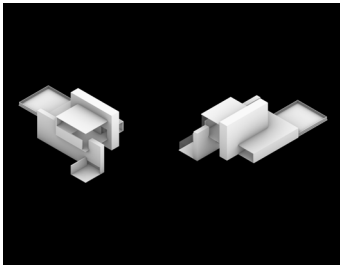
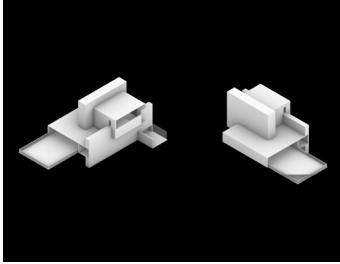
Plans



Sections

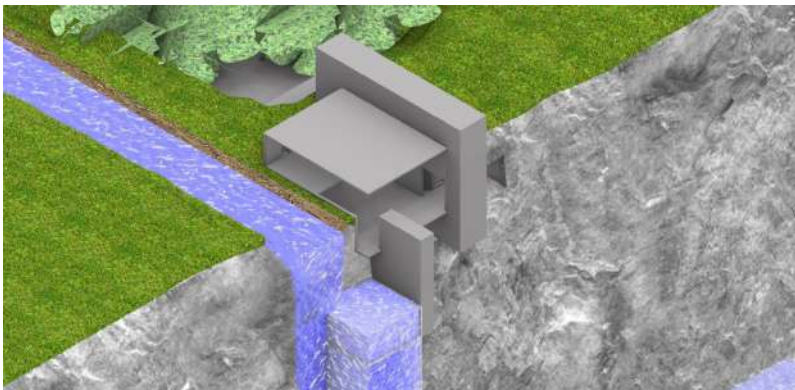
# A HOUSE IN A CLIFF, IN A TREE AND BY A WATERFALL

Tzvi Berke



Model

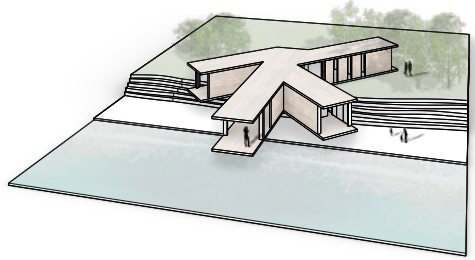
My attempt was to focus on the experiential qualities of my buildings. How would a person feel when experiencing my design? For the dream house my initial focus was not as much what it would look like and how it would be designed. I first thought about the qualities of the house and what kind of opportunities it could create. I decided that in a dream house a person could have many different experiences but all in the same house. That was the dream. So, for my project I wanted to figure out how to create a house that would contain the ideas of a cliff house, a tree house, and house by a waterfall all within one single house.



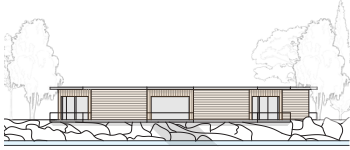
View



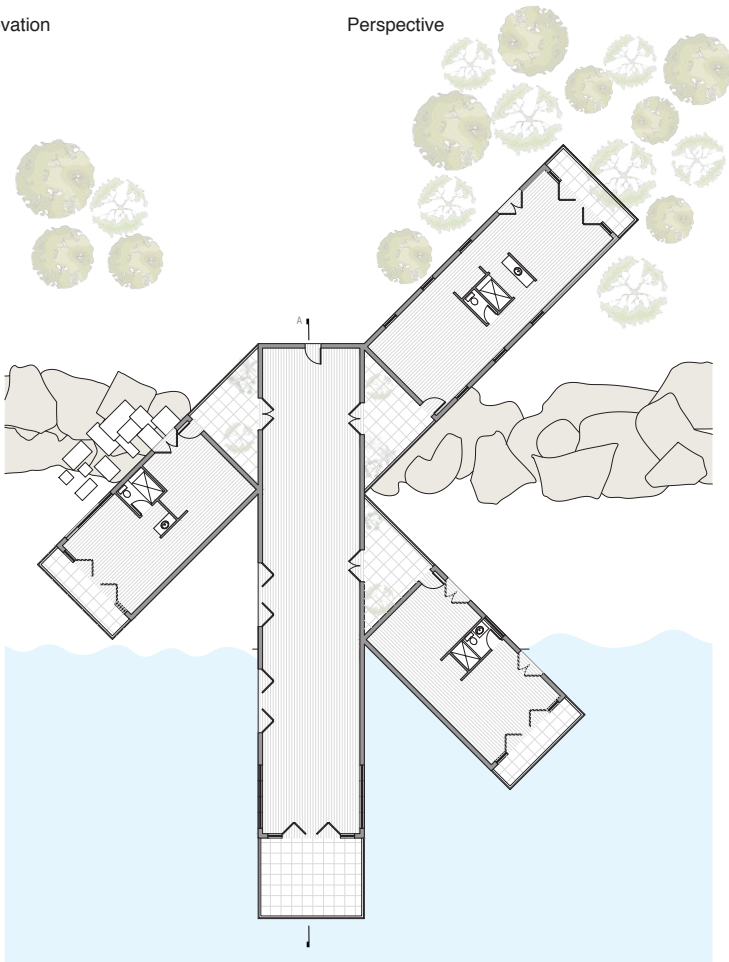
Section



Perspective



Elevation



Plan

## CANTILEVER HOUSE

Santiago Hernández



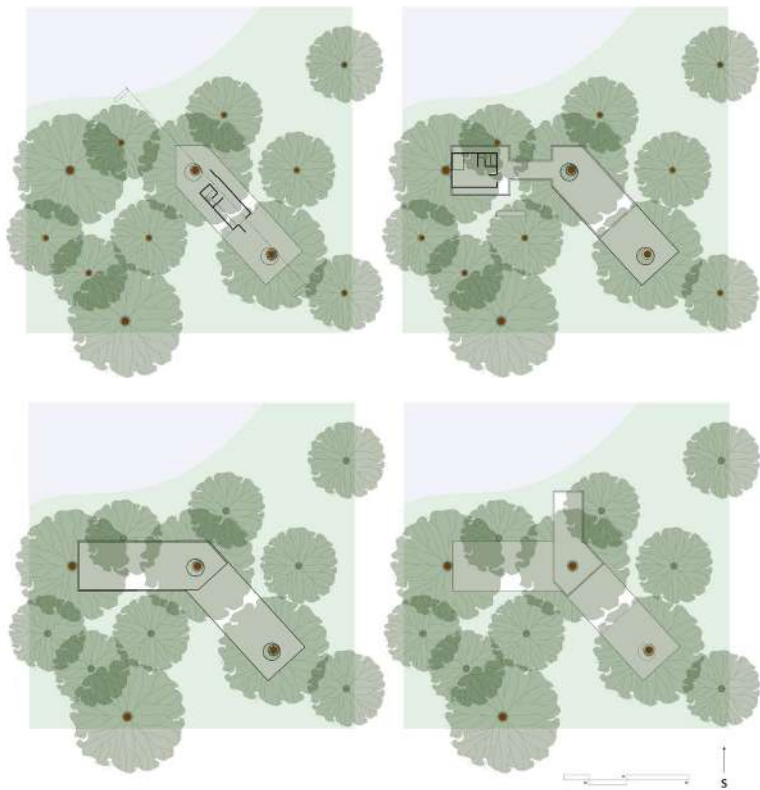
My two projects consist of a Dream House and a Skyscraper project, two different projects that impact a small or large scale, a family (dream home) and a community or city (skyscraper). The main idea was to create a space that connects to various environmental experiences starting from being surrounded by nature, going through rocky and sandy terrain, and concludes floating above the water body. Throughout this journey, the members of my home can have their room within one of these characteristics.



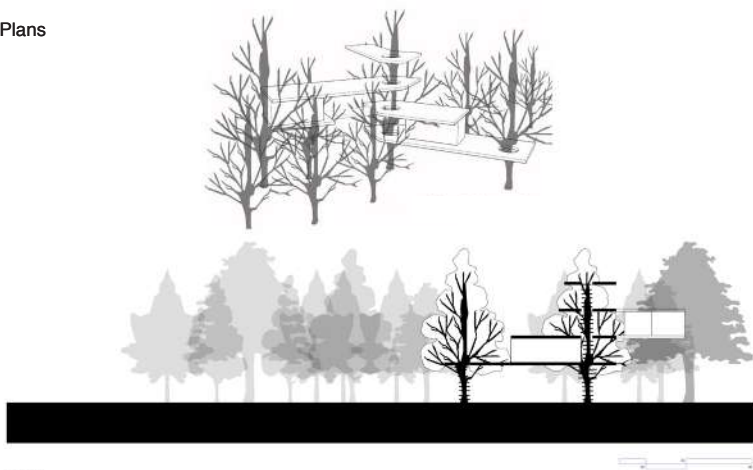
Model







Plans



Section

## THE EMERGING HOME

Lizzard Kishinevsky

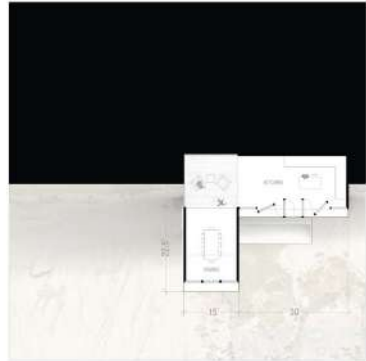
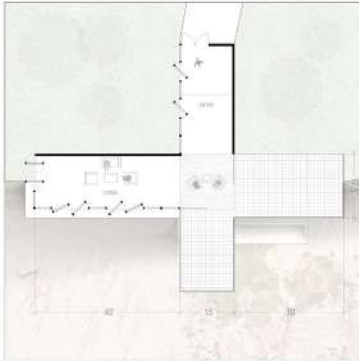


Located on a forested peninsula off the Hudson River, The Emerging Home is a place that was designed to connect the human form and spirit to the experience of emerging from the woods. At the ground, the human is nestled in the woods, and protected from the elements. As the human travels through this home, they become more removed from the forest ground and ascend to the sky. At the highest level, the home is no longer confined to the trees, and instead it floats above them, connecting the human to the sky and overarching landscape.

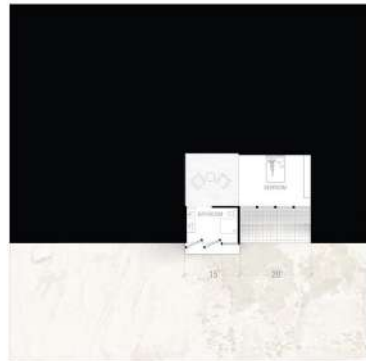




First floor views



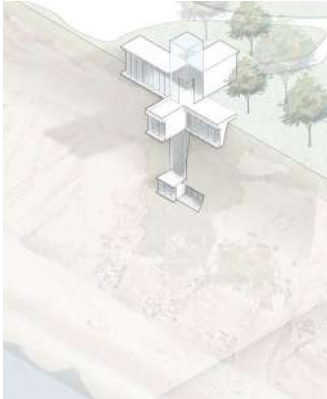
First and second floor plan



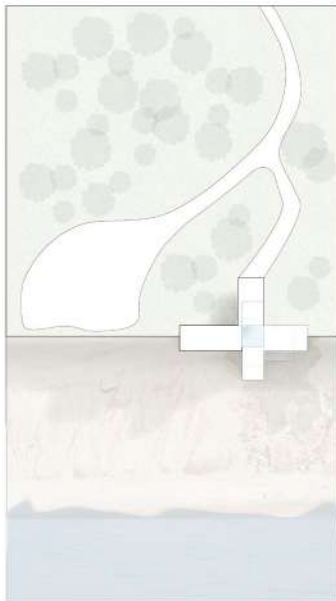
Third and fourth floor plan

# BLUFF LOOKOUT

Emma Mangels



Axonometric



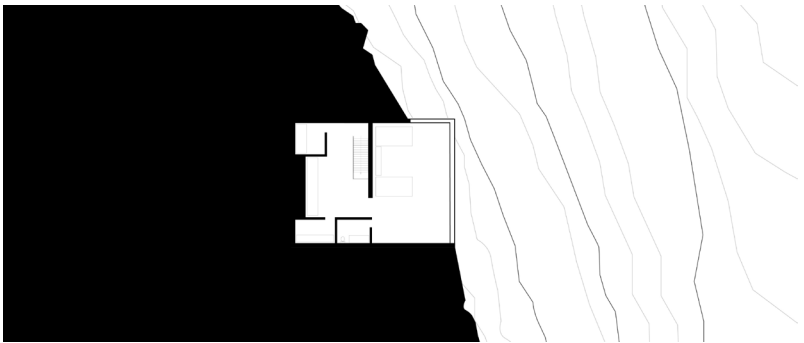
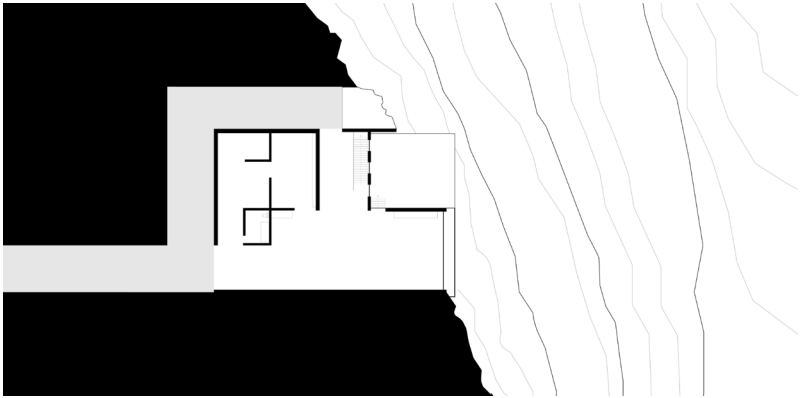
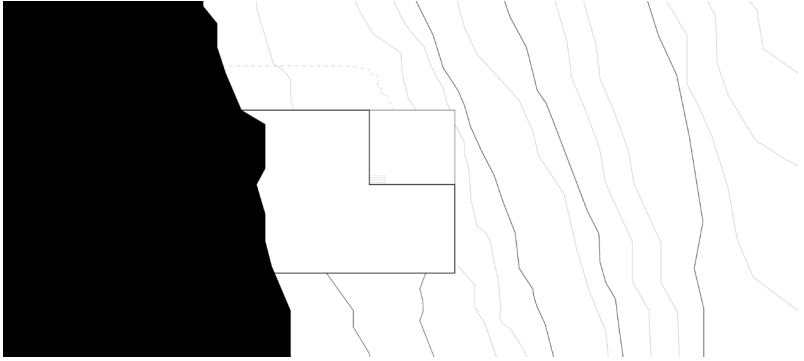
Site

My initial idea was to place the house on a small cliff side in Montauk, New York.

The design then stemmed from my goal to experience the different elevations of the cliff by utilizing an “elevator floor” as the sole circulation. Someone would enter the house above the ground into the most public space, the living room, then move down past the kitchen at the second level, then the office at the third level, and finally the most private space, the bedroom, at the fourth level.



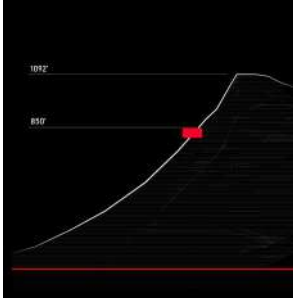
Section



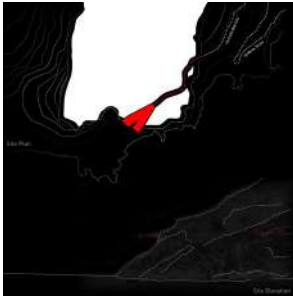
Plans

## THE CAVE

Frank Mannino

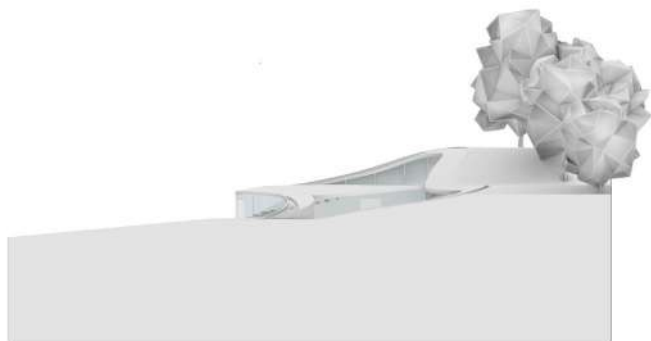
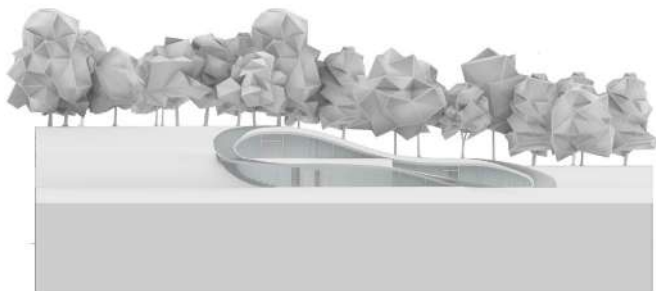


Site elevation



Site plan

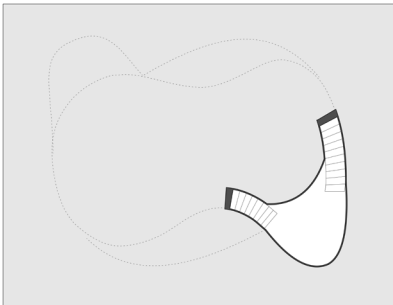
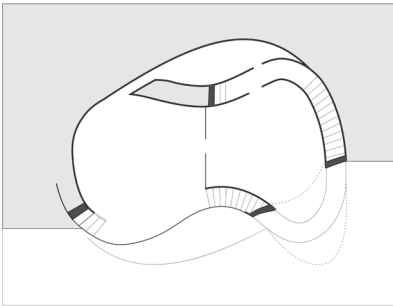
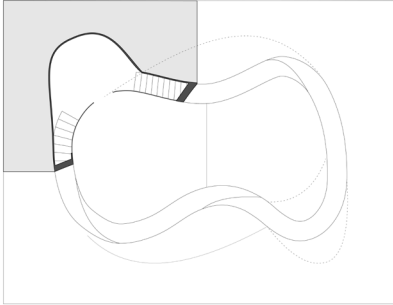




Views

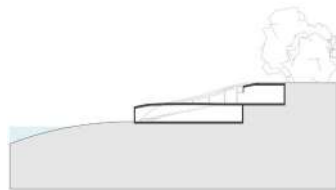
# THE MÖBIUS HOUSE

Emily O'connell



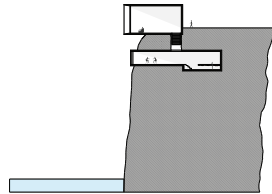
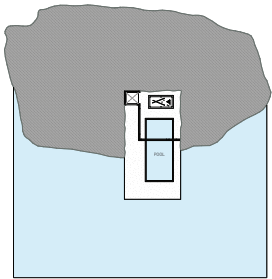
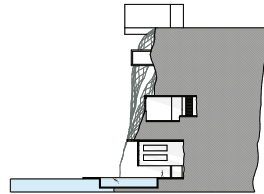
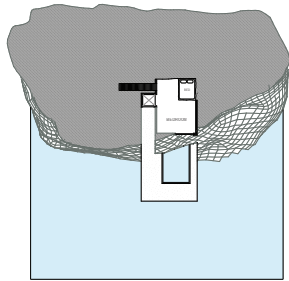
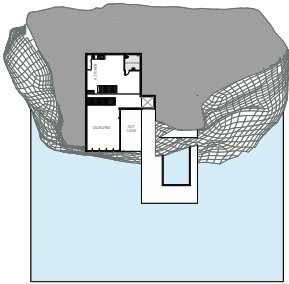
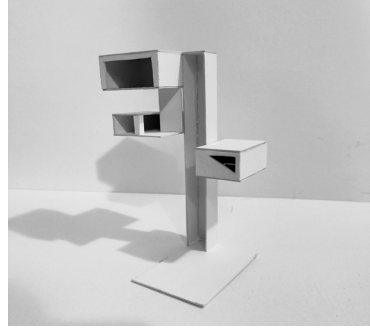
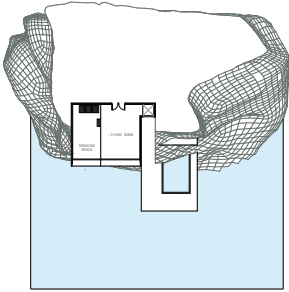
Plans

I imagine the house of my dreams to be one that is somewhat submerged into the Earth. My 'Dream House' design peels away from the ground, creating opportunity for both secluded, private areas and grand, projecting openings. I took inspiration from the Möbius Strip in the form of the project. The circulation through my site on the inside follows this same condition of continuity. The main circulation path leads you to each separate space of the house. If someone is on the top level in the bedroom, they have several options of progression that bring them through to the middle and bottom levels. This connected circulation and abstract form of the site promoted movement throughout.



Section





Plans

Sections

## CLIFF HOUSE

Muhammad Ali Riaz



Views

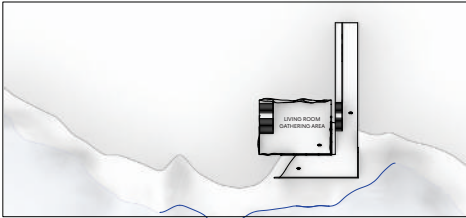
My dream house, located on a cliff, was inspired by Pyrrho's search for tranquility, and his analogy comparing the 'suspension of disbelief' with descending down a cliff.

This is not just meant to be a house but rather a state of mind. The journey through the contrasting environments makes one realize the necessity of equanimity.

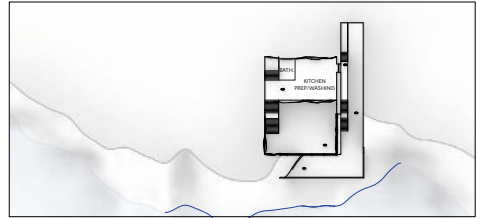
As one descends into the house, the spaces becomes more ambiguous until 'open-closed', 'light-dark' and 'wet-dry' all become one and indiscernable.



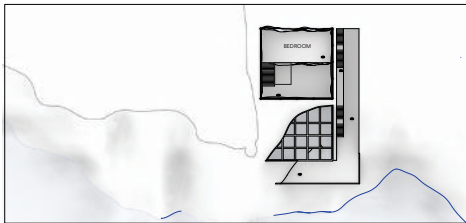
Model



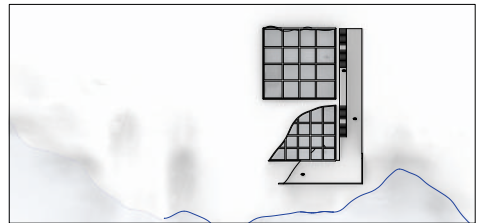
First floor plan



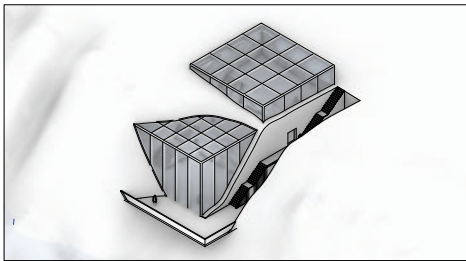
Second floor plan



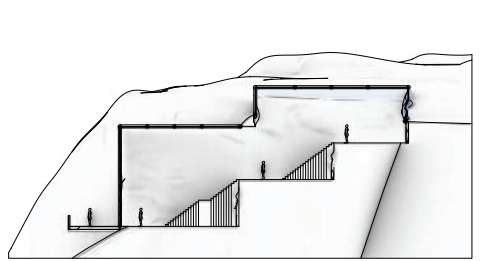
Third floor plan



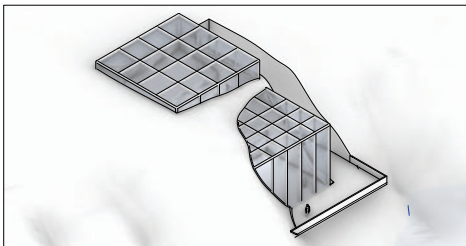
Roof Plan



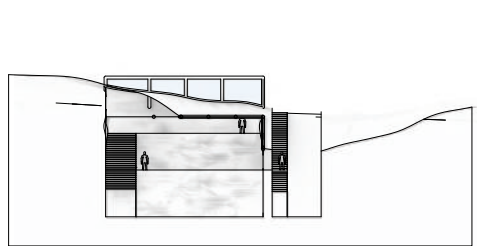
Axonometric B



Section A



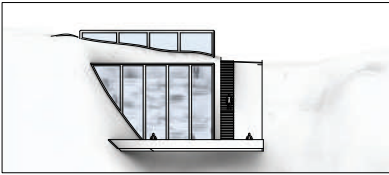
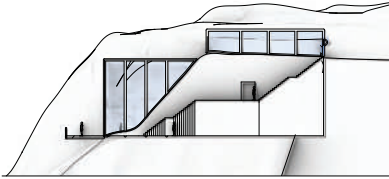
Axonometric B



Section B

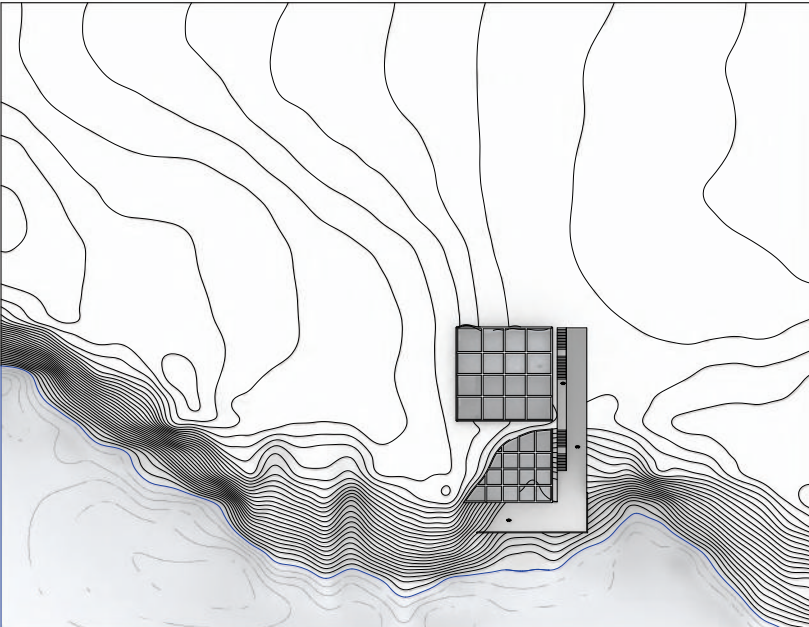
## GLASS AND ROCK HOUSE

Sarah Shamalov

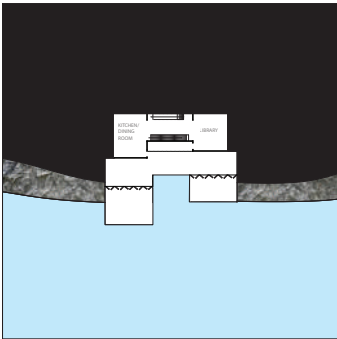


Elevations

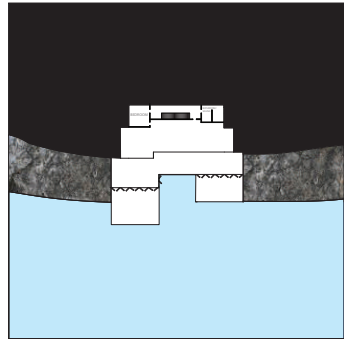
Starting with the Dream house, the goal of the project was to create/design a space that accommodates the simple aspects of life, such as sleeping, cooking, gathering and washing. These could be accommodated through bedroom, kitchen, living room, bathroom etc. This helped understand layout and understanding the purpose of accommodation that a person would need.



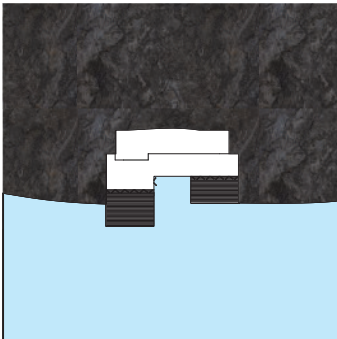
Site plan



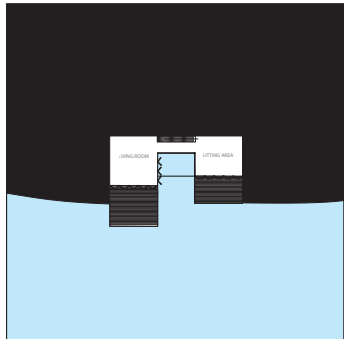
Second floor plan



Third floor plan



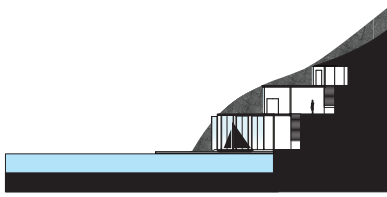
Site plan



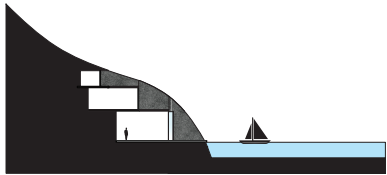
First floor plan

## TERRACES HOUSE

Amanda Stachnik

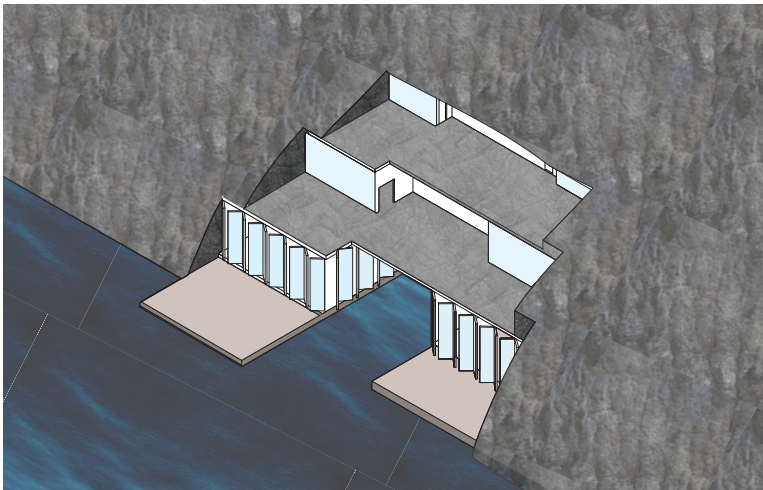


Section A



Section B

I decided that my dream house was one that emphasized seclusion, the relationship with the natural environment, and movement in and out of the house. Because of this I designed it to have various spaces of different sizes and openness, carved out of a sloped, rocky terrain that extends out to the water and allows for experiences upon its terraces. The views facing the ocean and the mountain enveloping the house creates the sense of tranquility that I envision for my dream home.

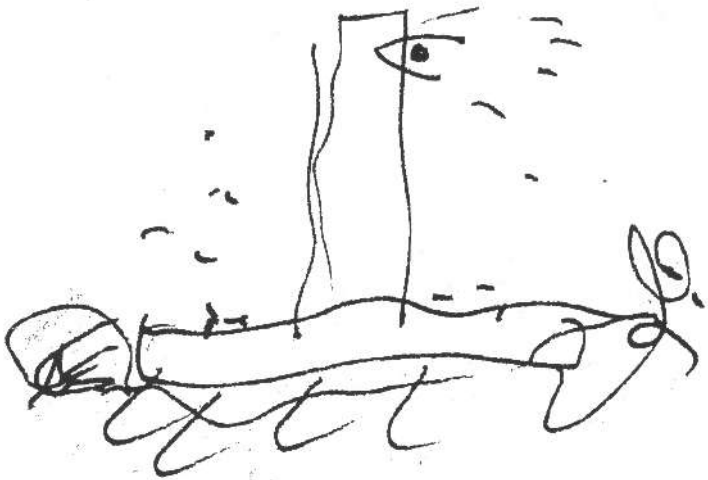


Axonometric

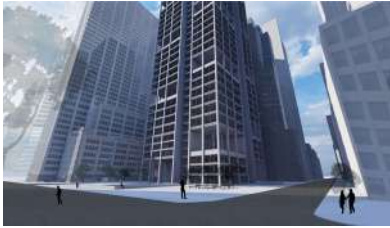


## SKYSCRAPER

A new tower where the Seagram building is



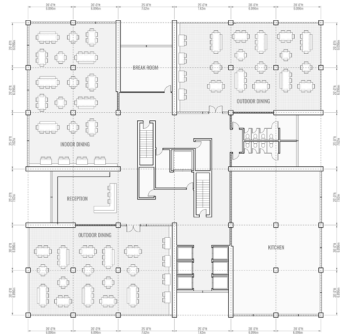




Views



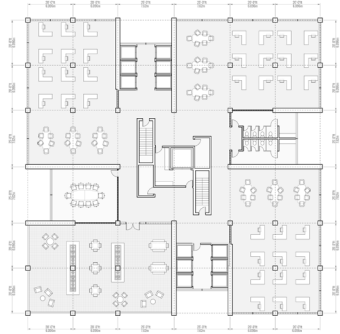
Apartment plan



Restaurant plan



Ground floor plan

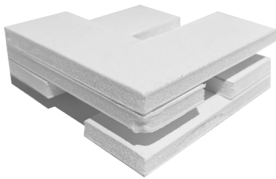
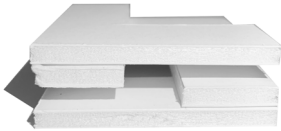


Office plan

# PINWHEEL TOWER

Julia Andor

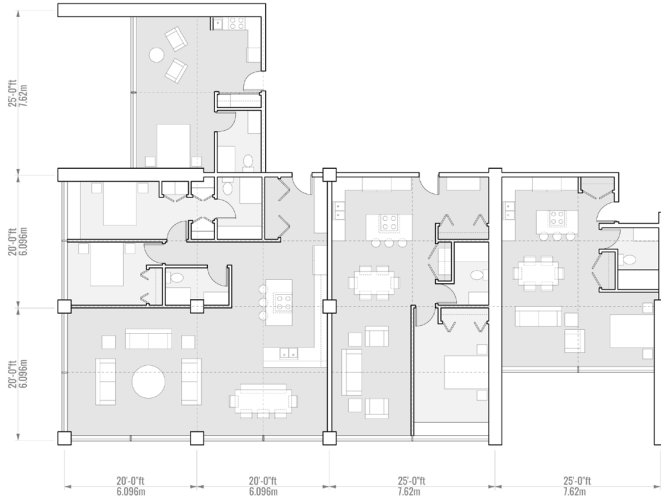
The skyscrapers unconventional nature stems from three concepts. The first being access to the housing units. The residential floors have four different sized units that are intended to attract residents of all income statuses and demographics. The multi-use nature of the building requires some degree of separation, but there are curated spaces where the residential, office, and public can connect- these include the library, cafe, and ground outdoor spaces. The building is based on the outdoor space that rotates around the facade, and these outdoor spaces are intended to allow for a shared space between neighbors, who are intended to be a diverse group of people that reflect New York city.



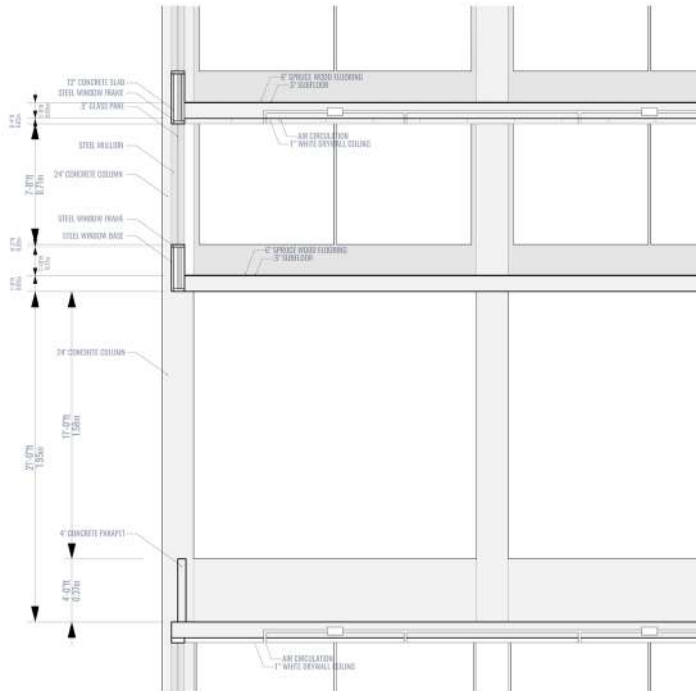
Models



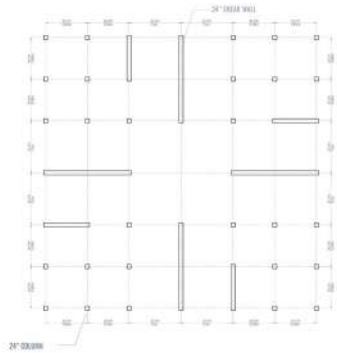
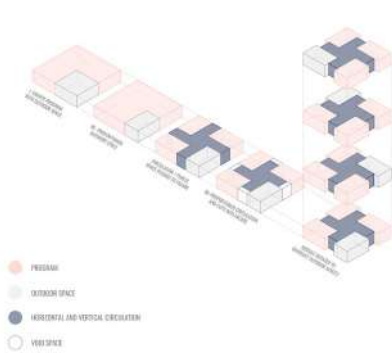
Site plan



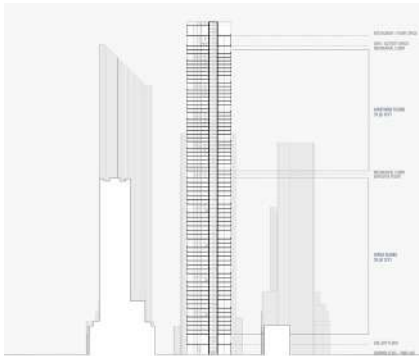
Apartment detail



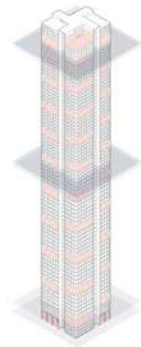
Wall detail



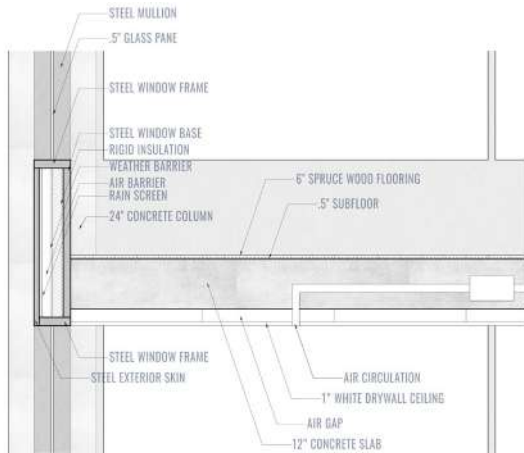
Structure diagram



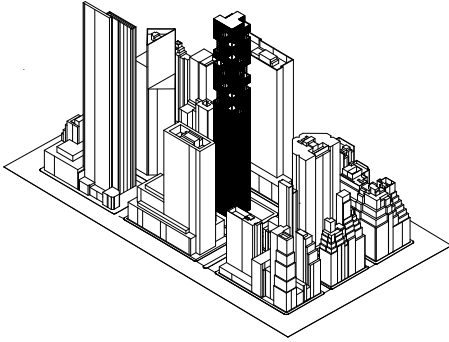
Section



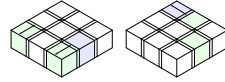
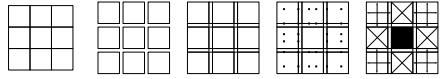
Diagram



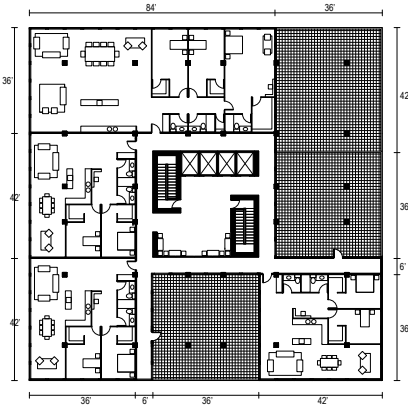
Section detail



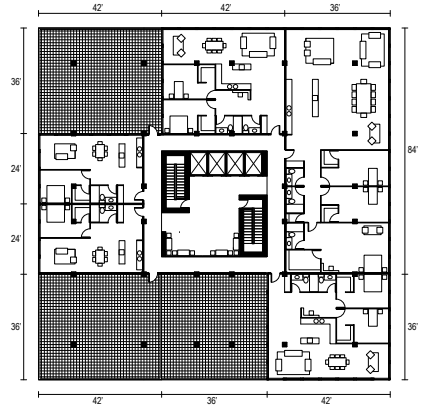
Axonometric



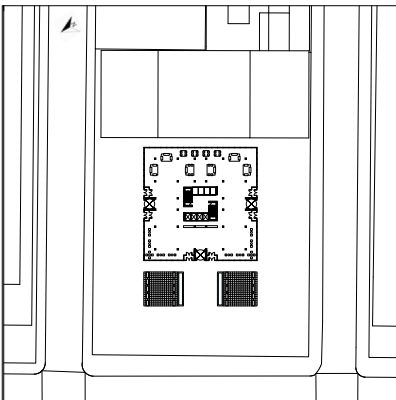
Diagrams



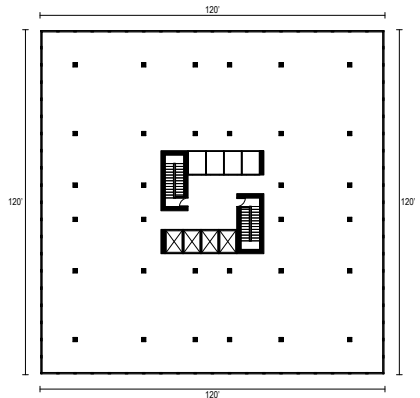
Apartment floor plan



Apartment floor plan B



Ground floor plan



Office floor plan

## CARVED TOWER

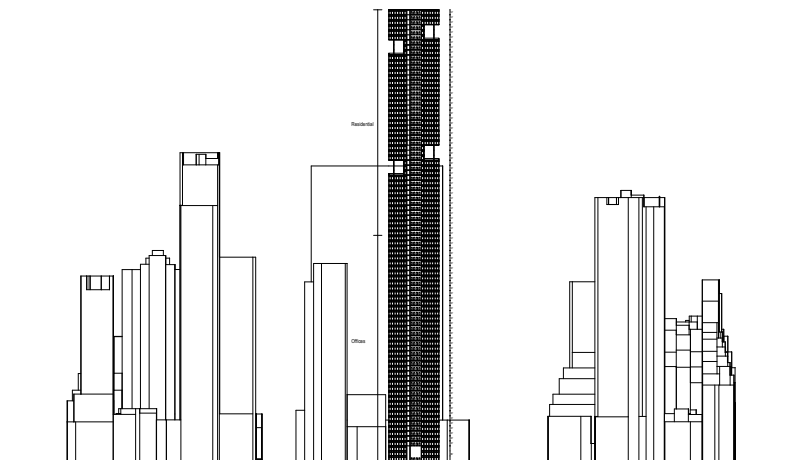
Tzvi Berke



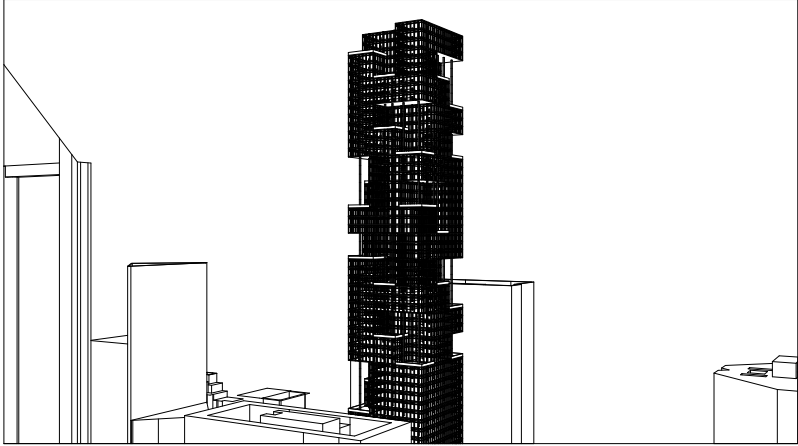
View

For the second project I was to design a skyscraper for Manhattan. Again, my focus was on the experience and the quality of the tower. I always thought skyscrapers felt very solid and rectangular, so my idea was to create a skyscraper with holes carved out of it. This would allow for more light, air, and views in the building.

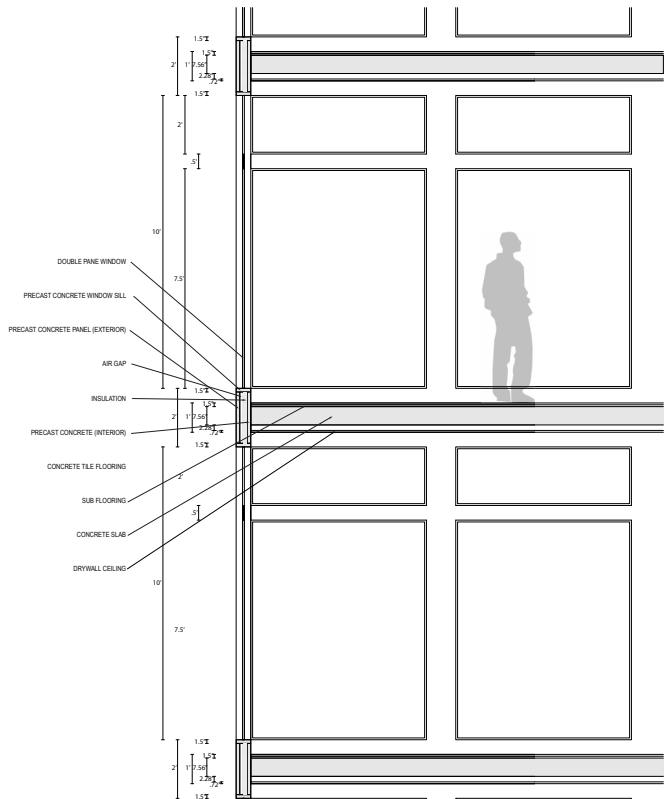
As well, these carved spaces created outdoor terraces for the residents to gather and experience the outdoors from 80 floors up. I wanted to bring a lighter and more open quality to this skyscraper by carving out pieces from the tower.



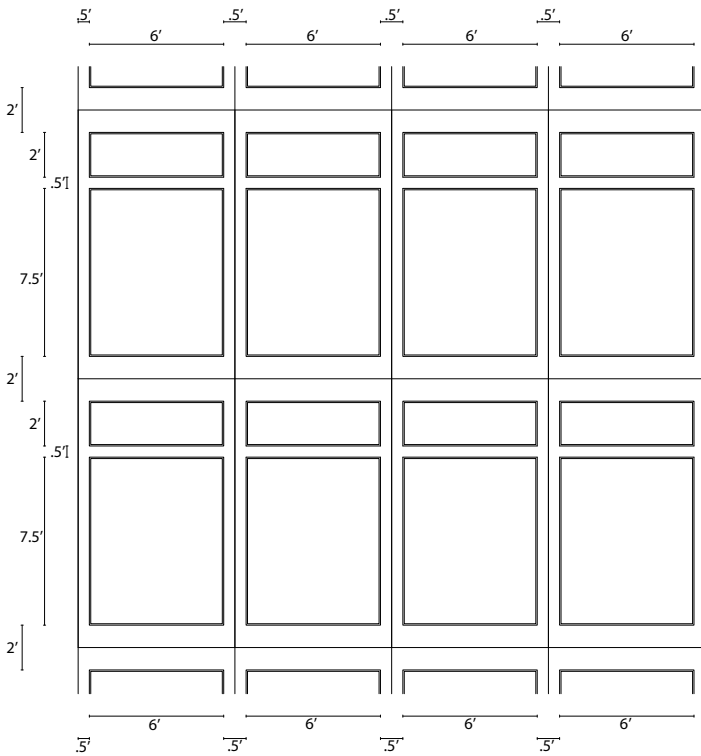
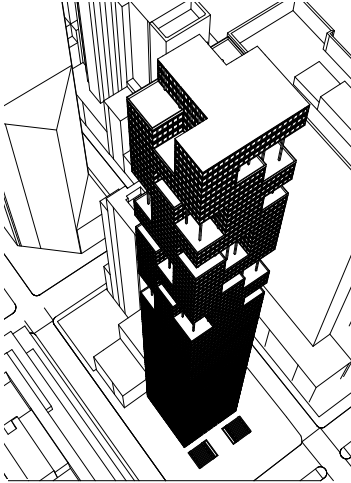
Section



Perspective

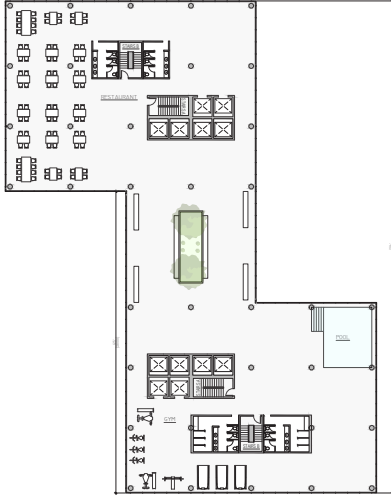


Detailed section

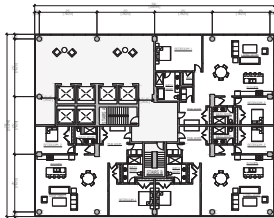
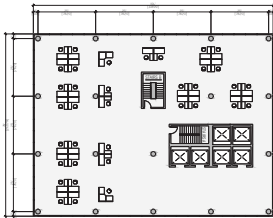


Detailed facade

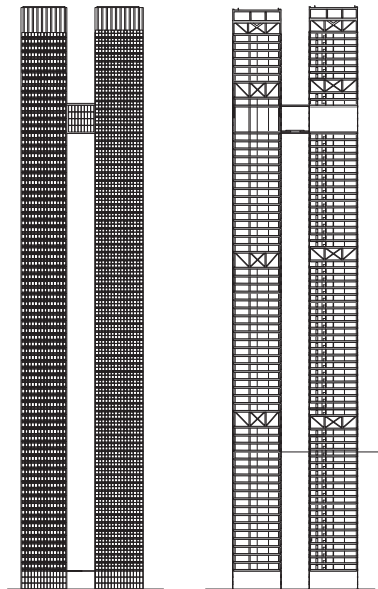




Floor plan connection



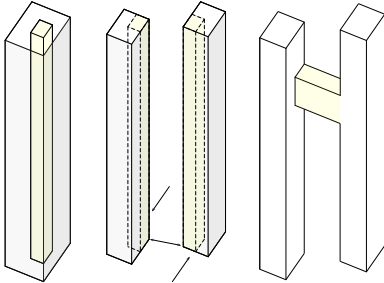
Floor plan



Elevation

# TWO TOWERS

Santiago Hernández



Diagram

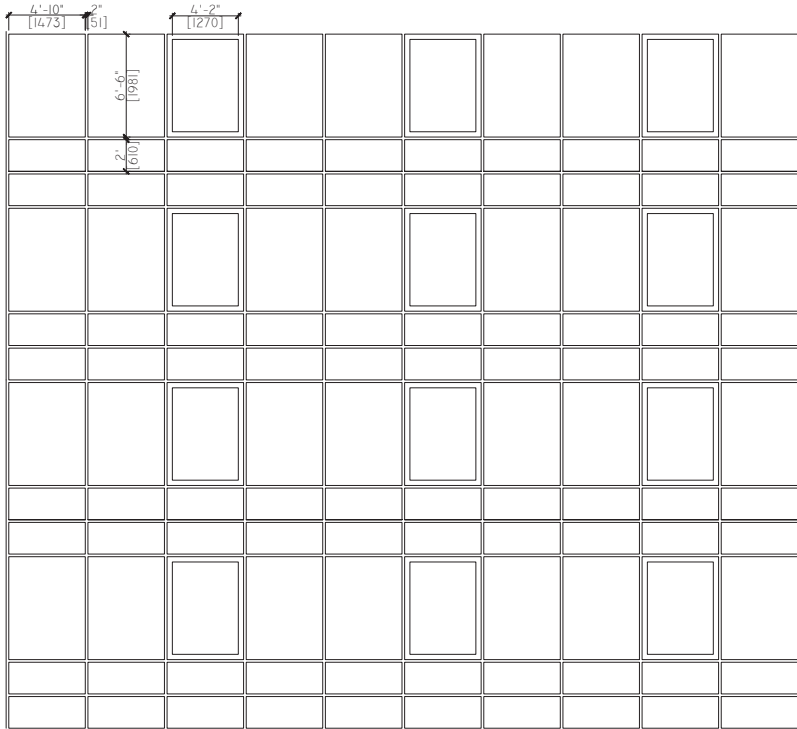


Axonometric

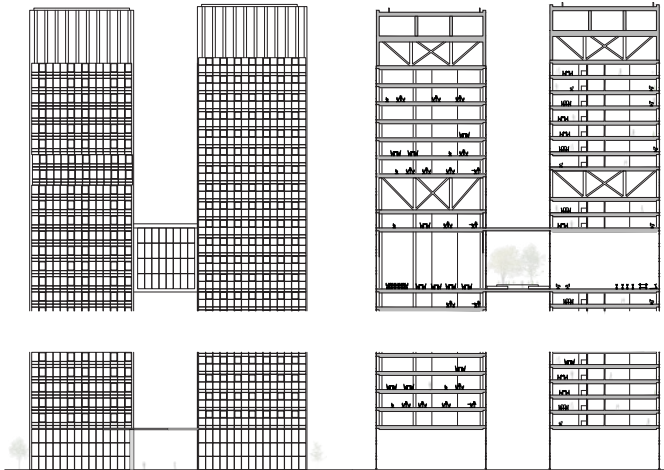
My two projects consist of a Dream House and a Skyscraper project, two different projects that impact a small or large scale, a family (dream home) and a community or city (skyscraper). My design intention was to divide the program (workspace and living space) into two towers, where they will have a raised connection that works as a recreational space, eating area, and relaxing space.



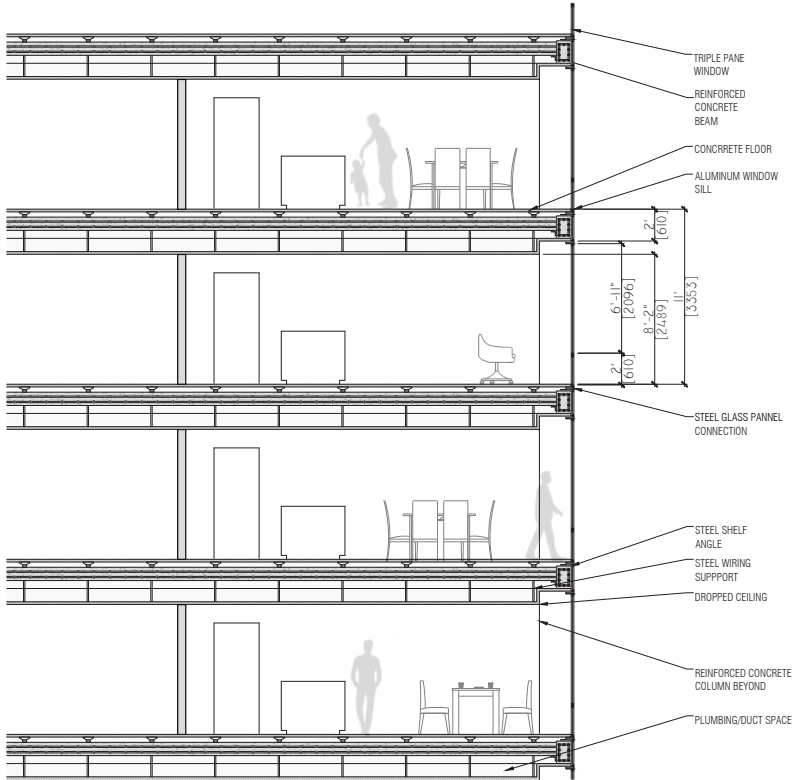
Site plan



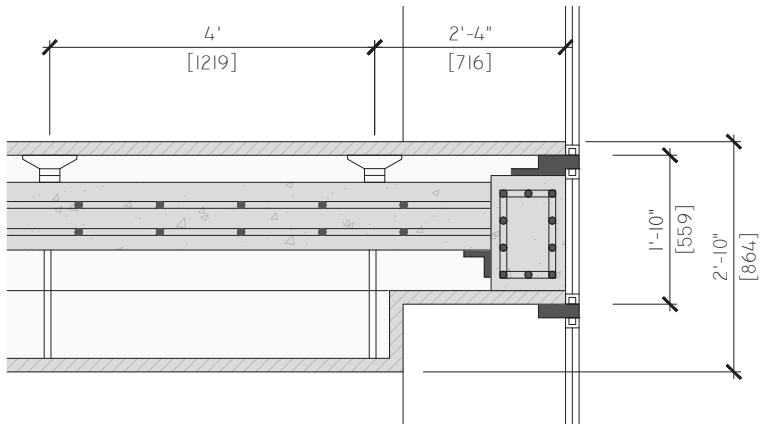
Detailed elevation



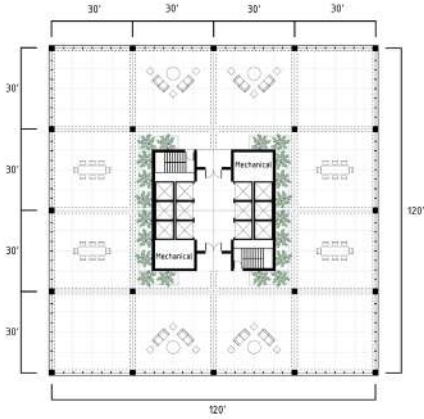
The head



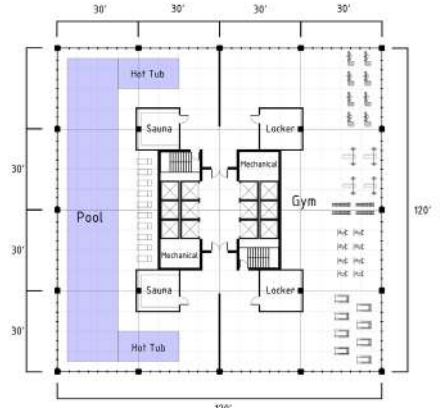
Wall section



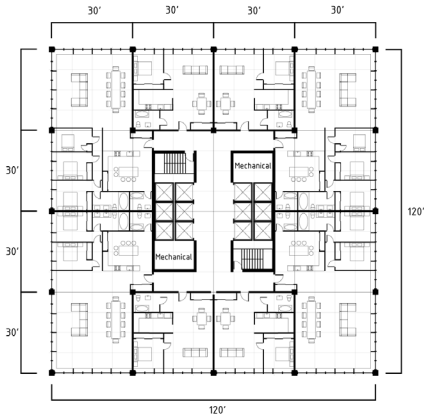
Detail



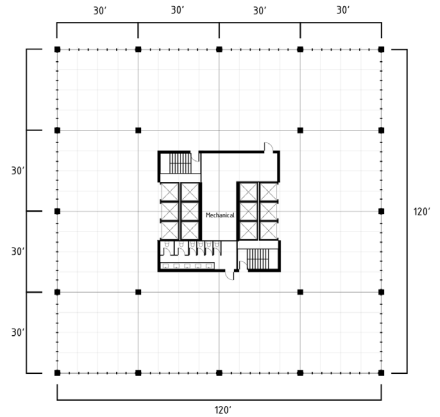
Terrace floor plan



Top floor plan



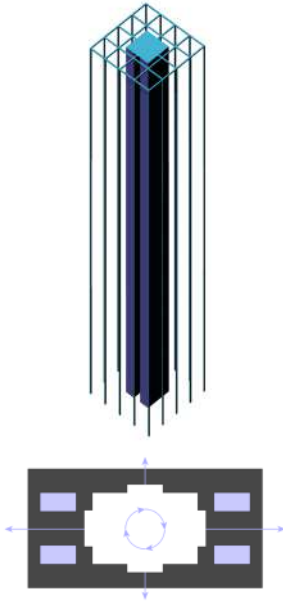
Apartment floor plan



Office floor plan

# THE WATCHTOWER

Lizzard Kishinevsky



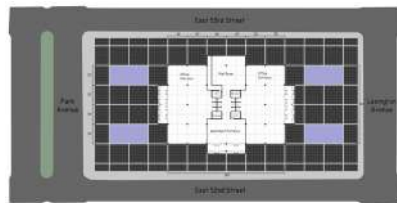
Diagrams



Axonometric

Located on the site of The Seagram building, The Watchtower serves as a point to observe from. In order to facilitate the human's full observation capacity, this building is designed to be omni-directional, and it is centered on the city block. Observation on elevated planes depends on structure, therefore The Watchtower must exist in terms of its structure. As you move through the building, its functions change. What ties each floor together is The Watchtower's outward facing structure.

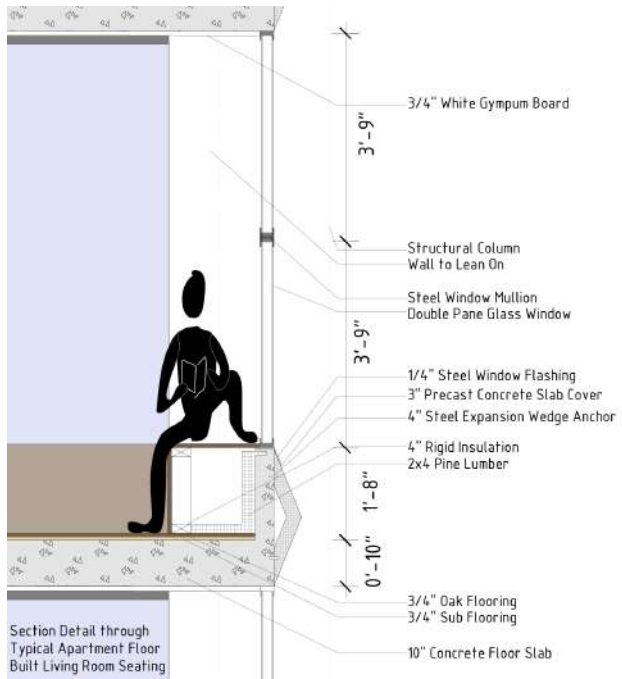
The Watchtower's outer columns and inner core are both born from the ground, and stand tall. The outward expression of structure meets the core at its pinnacle, which creates a threshold between The Watchtower's head and the sky.

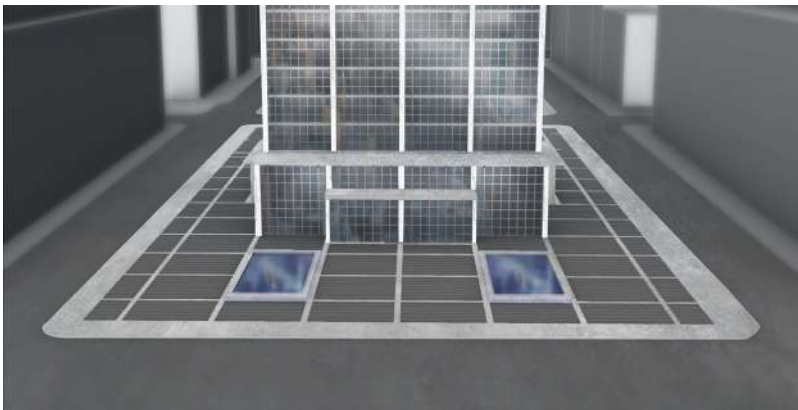
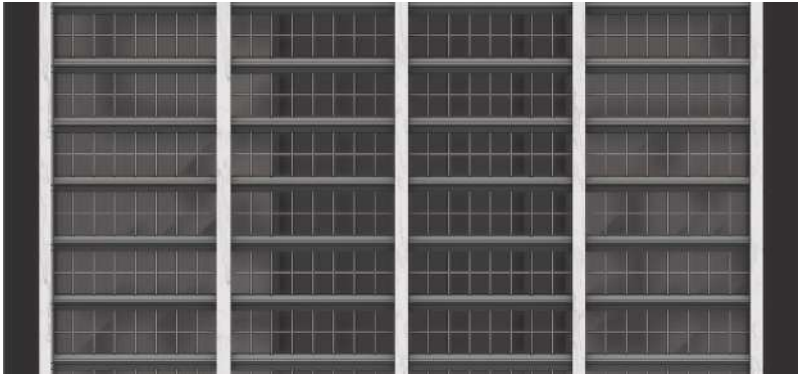


Site plan



Terrace





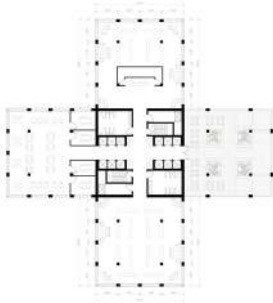




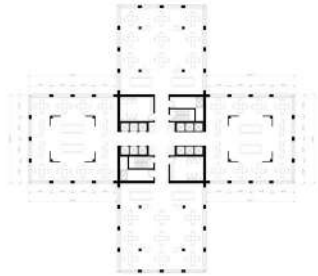
Interior view



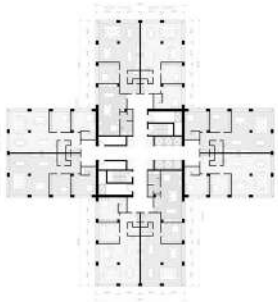
Outdoor view



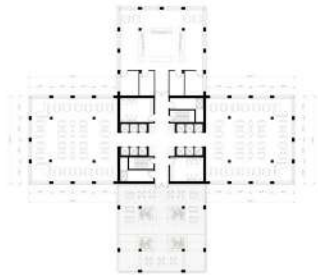
Library plan



Office plan



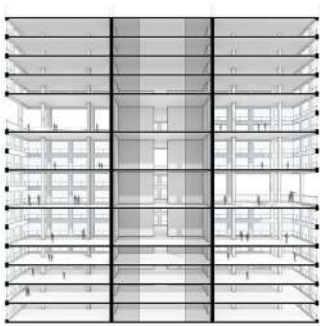
Residential plan



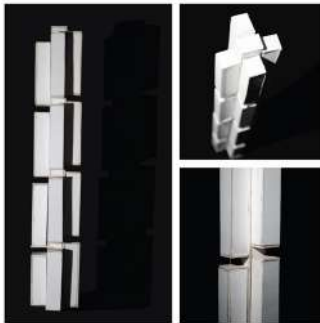
Restaurant plan

# CROSS TOWER

Emma Mangels



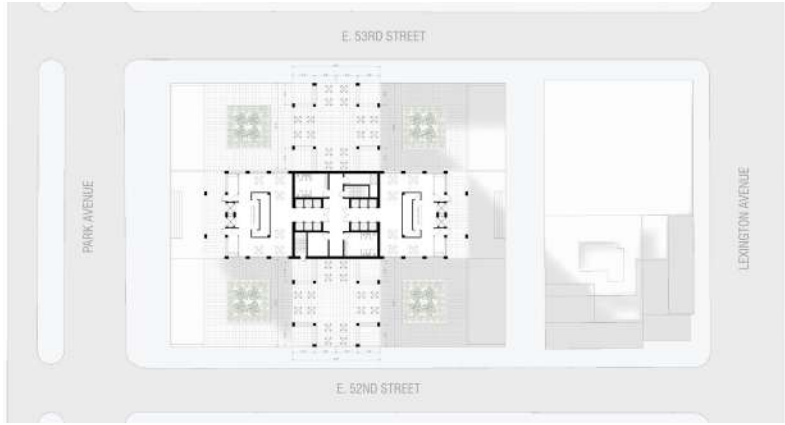
Section view



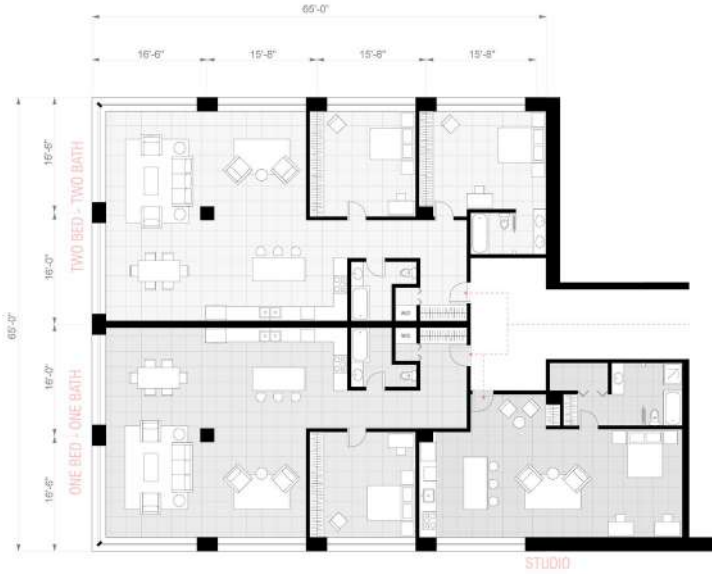
Model

I began my design by focusing on the corner conditions. I decided to remove the four corners of a square and was left with a cross- shape, which doubled the amount of corners to eight. This allowed for each apartment to have it's own corner. Removing the corner columns in my structural system also emphasized the importance of the corners.

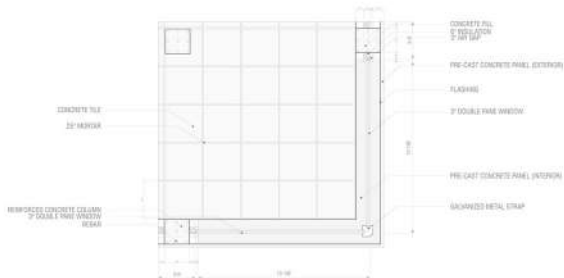
I break up the heaviness of the skyscraper by providing community indoor and outdoor spaces between the office and residential program. Placing emphasis on the corners and providing community outdoor spaces brings the occupants closer to the city and the people that inhabit it.



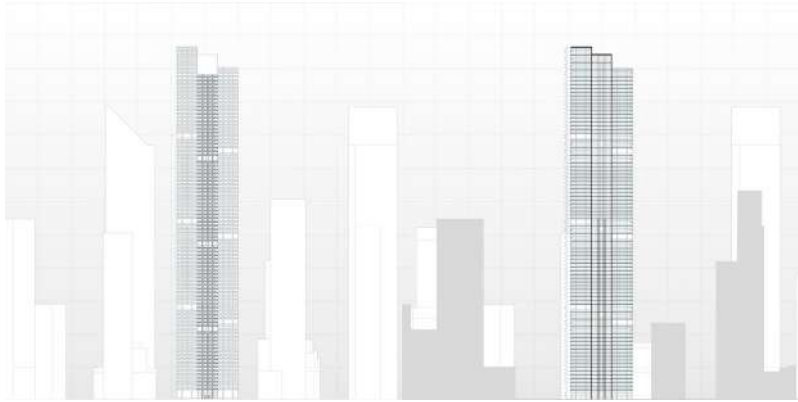
Ground floor plan



Apartment plan

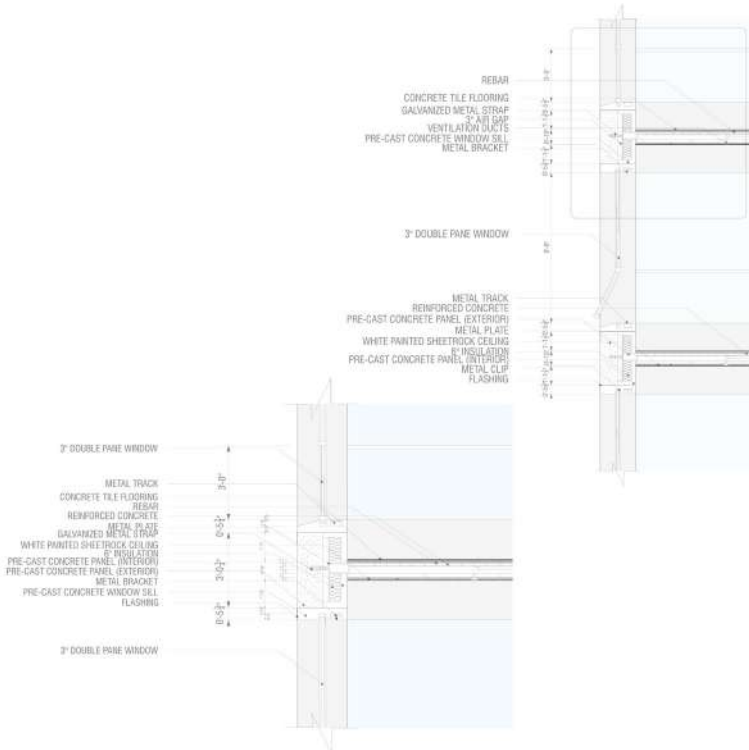


Detail

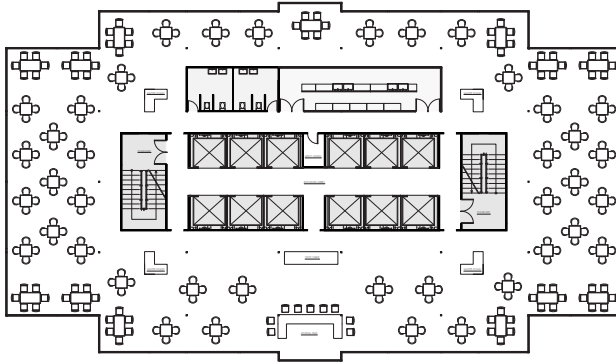


Elevation

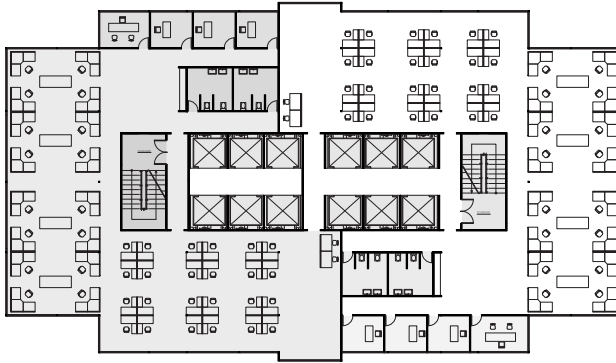
Section



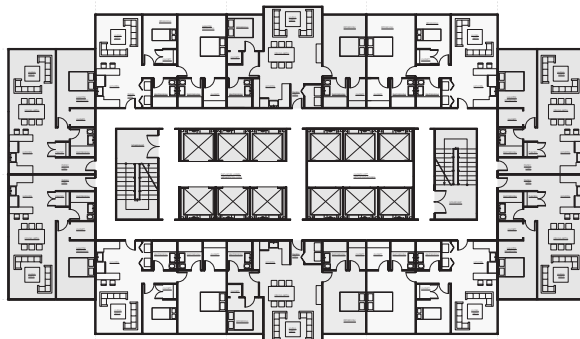
Façada detail



Restaurant floor plan



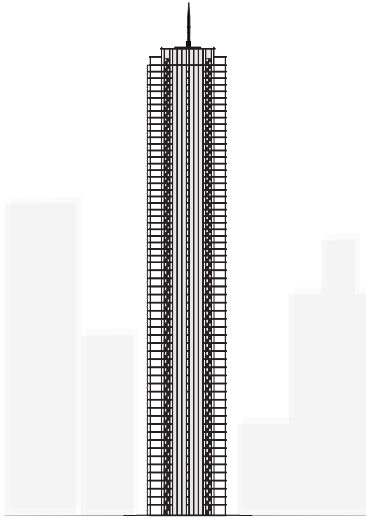
Office floor plan



Apartments floor plan

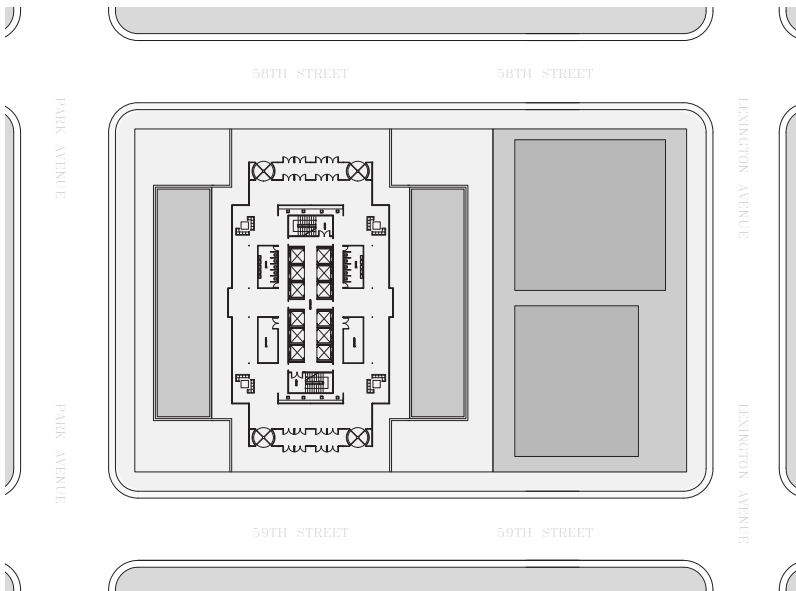
## A SKYSCRAPER TWICE AS TALL AS THE SEAGRAM'S BUILDING

Frank Mannino

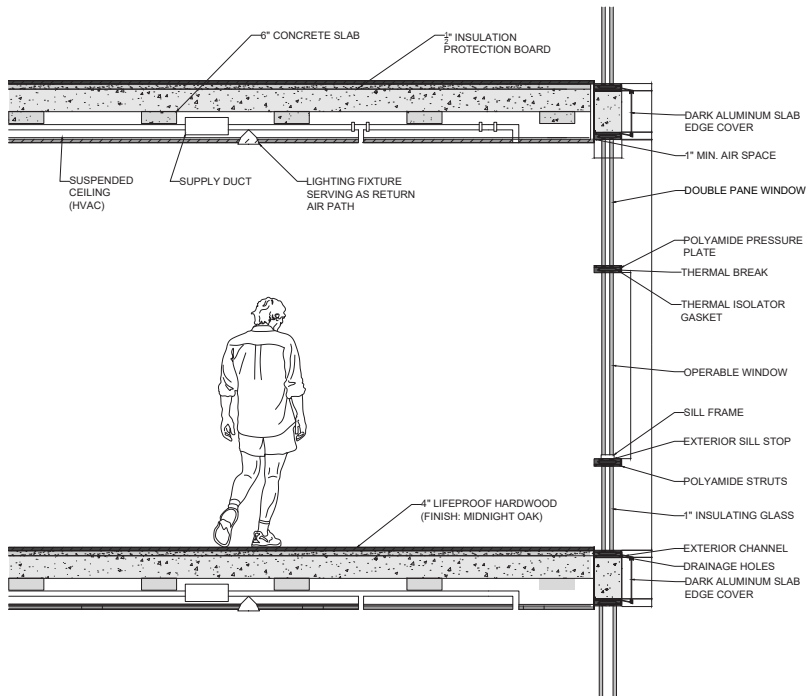


Section

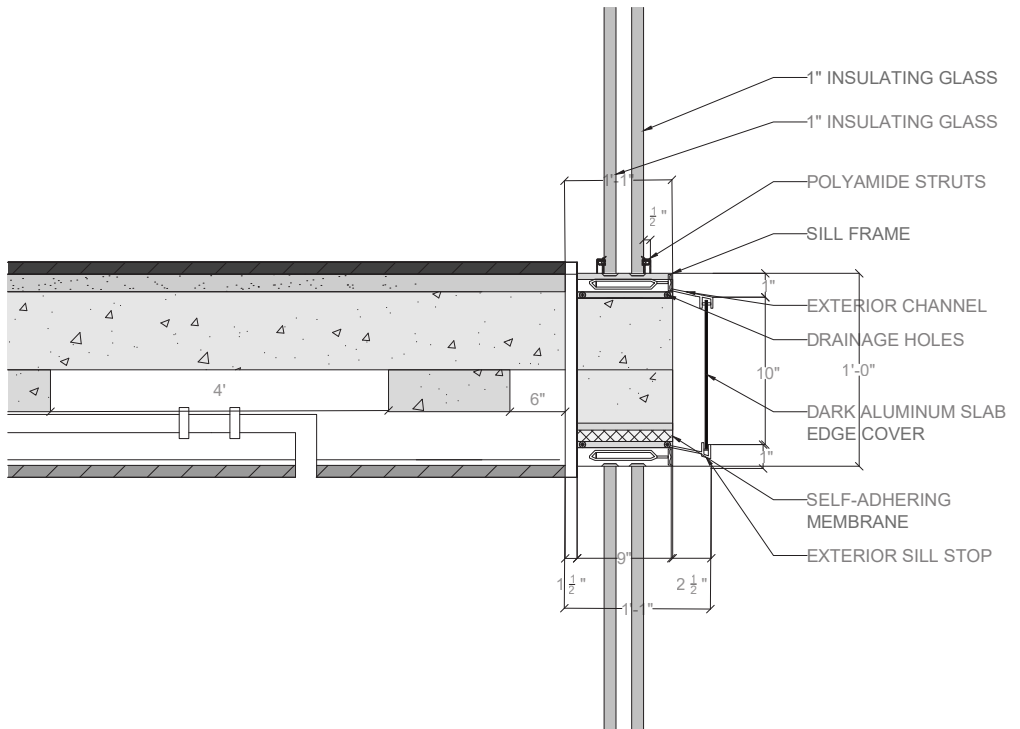
The 'Dream House' and The Skyscraper, have opened my eyes to new architectural procedure and question. Both projects were situated around different potential clients. A house designed from your dreams, and a skyscraper twice as tall as the Seagram's building. While these two projects seem very distant from each other, I believe they share the attribute that is desired by an architect: the ability to dream.



Ground floor plan

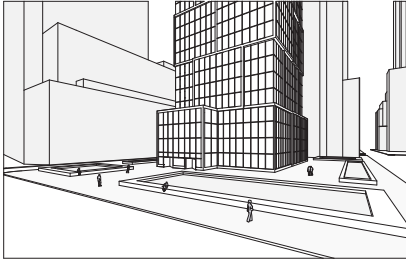


Wall section

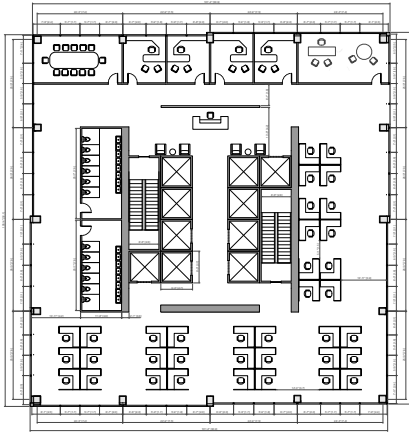


Detail

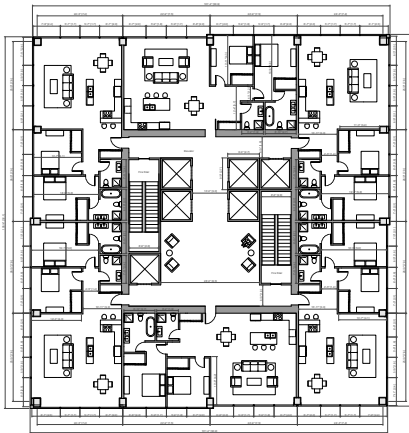




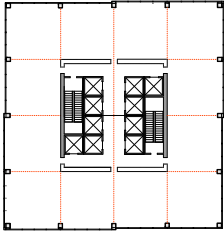
Foot detail



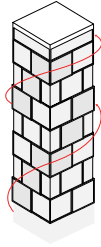
Office plan



Residential plan



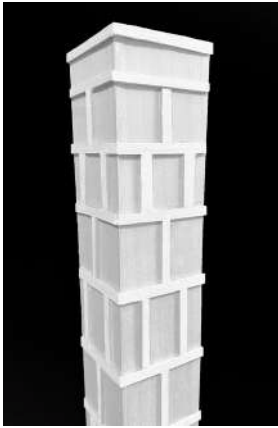
Diagram



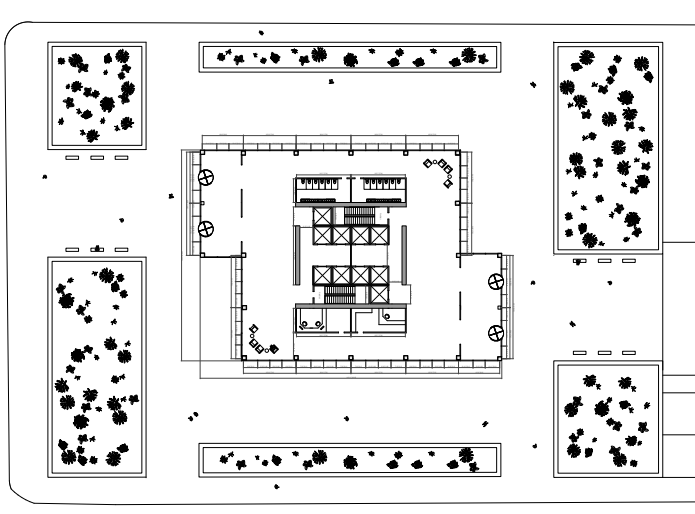
## THE MOVEMENT FACADE

Emily O'connell

My main concept for my skyscraper design was movement in the facade. The facade structure is divided into large squares which's orientation alternates as it progressed up the building. This alternation creates a rotating effect. A secondary layer of movement in the facade is found in the extrusion of squares that proceed up the building in a wrapping motion. These large squares serve as a scale illusion in that each square holds 5 floors, allowign for the detail in the movement to highlighted and viewed easier.

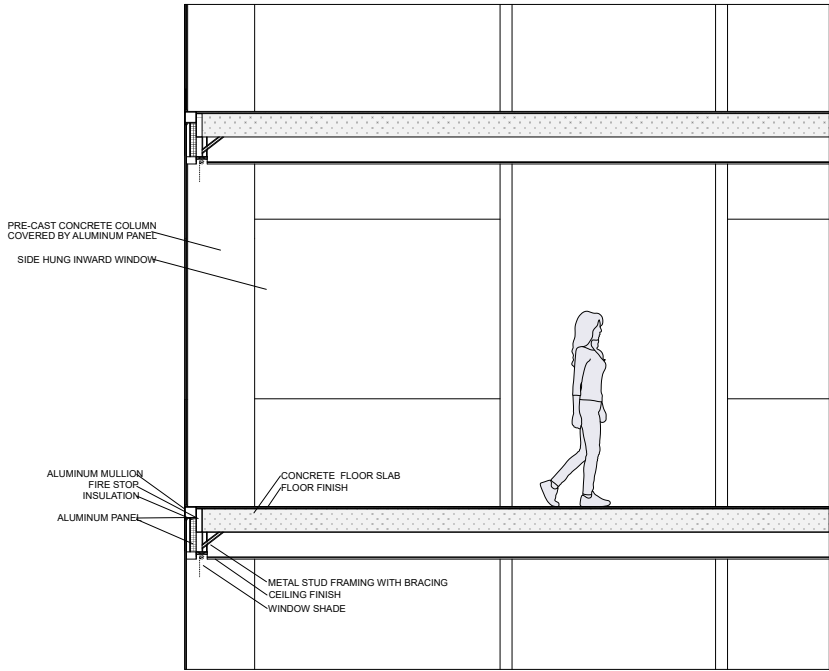


Model

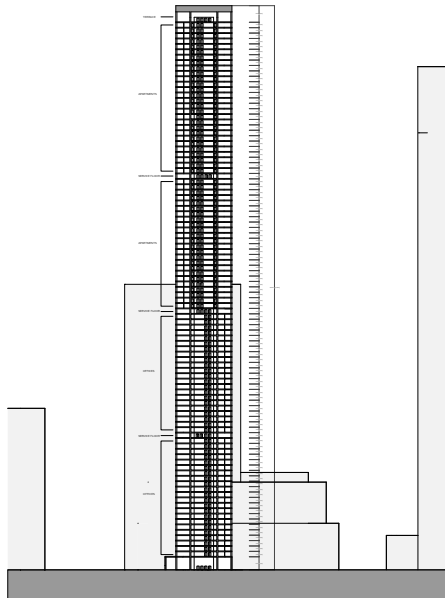


Ground floor plan

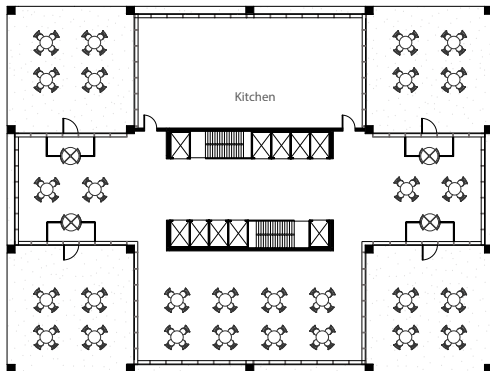
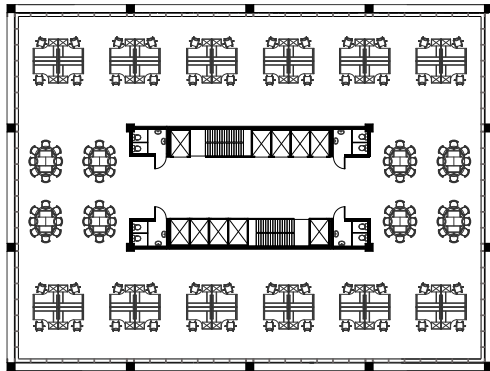
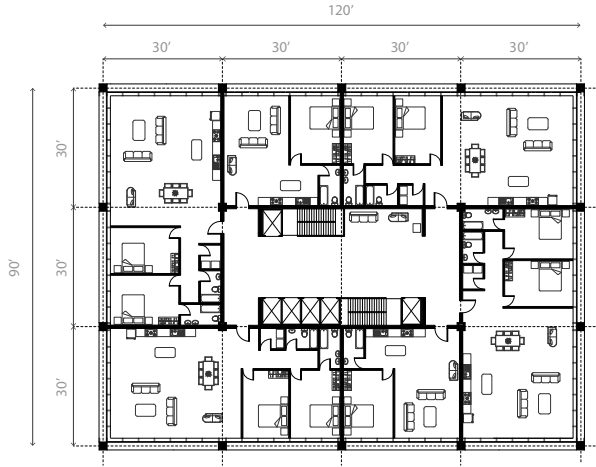




Wall section



Section



Plans

# MATRIX TOWER

Muhammad Ali Riaz



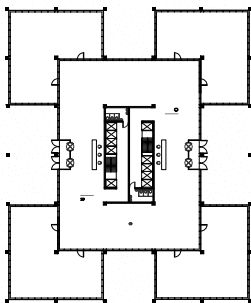
The identity of the skyscraper is derived from a rigid structural grid, which forms a prism like matrix with occupiable spaces in between .



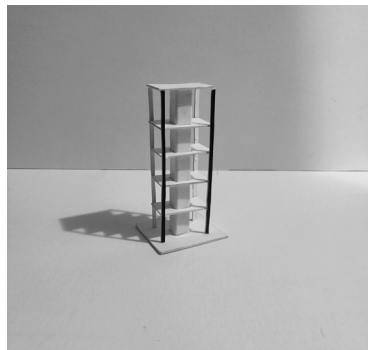
The residential floors were carefully organized, with apartment modules of 2 bedrooms and 1 bedroom fitted within the grid, in a way that maximizes the efficiency of the spaces, providing ample sunlight in every room.



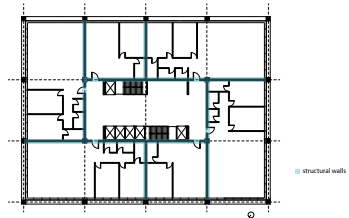
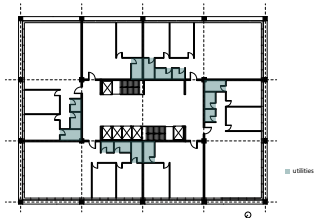
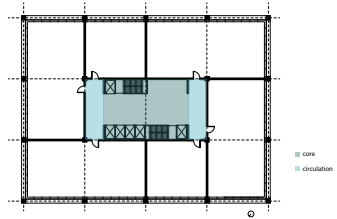
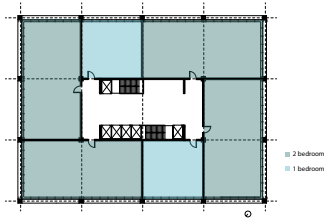
With free planned office floors in between, the building features communal areas both at its top and bottom, where open spaces are introduced within the same structural grid.



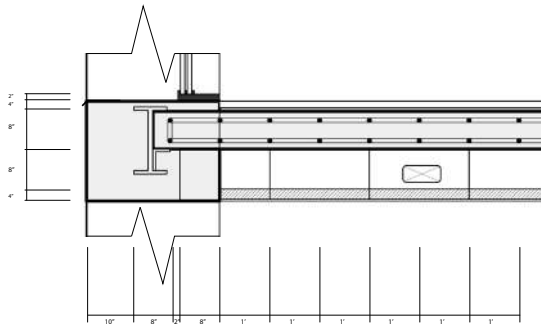
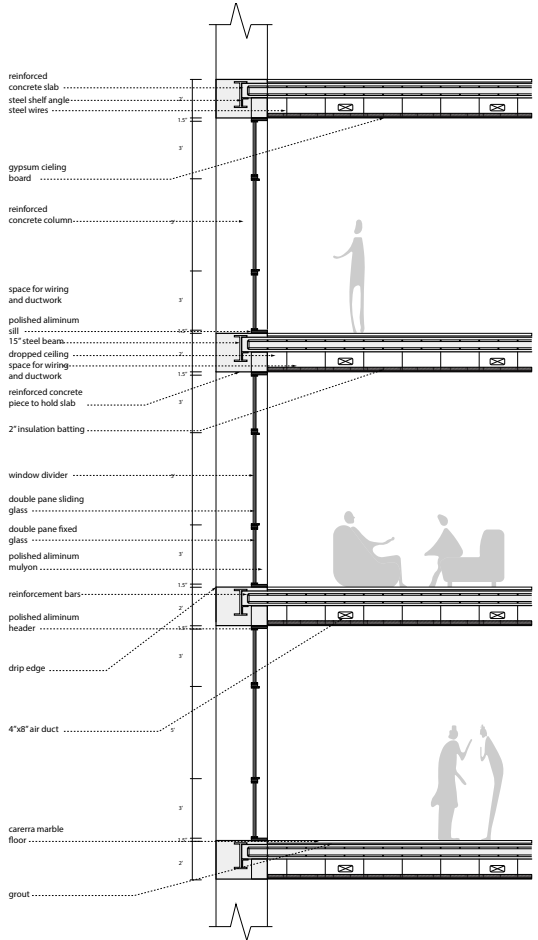
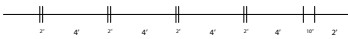
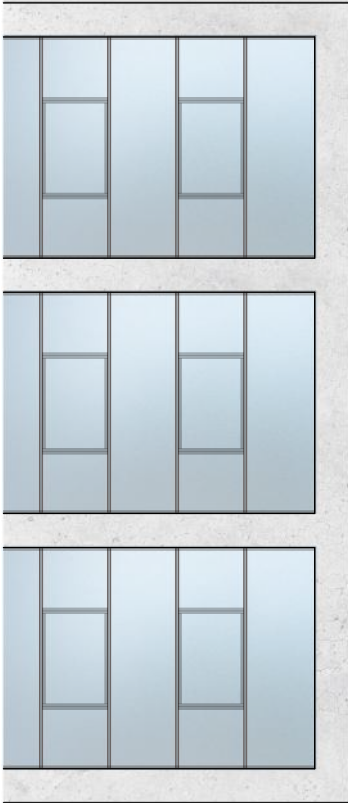
Ground floor plan



Model

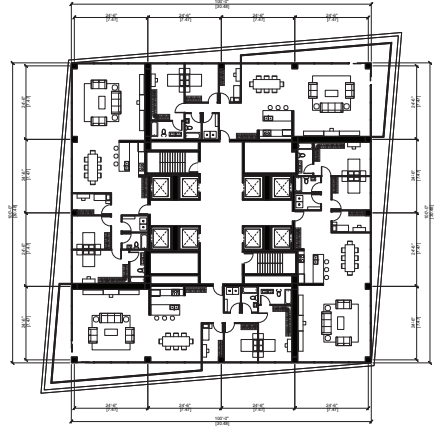
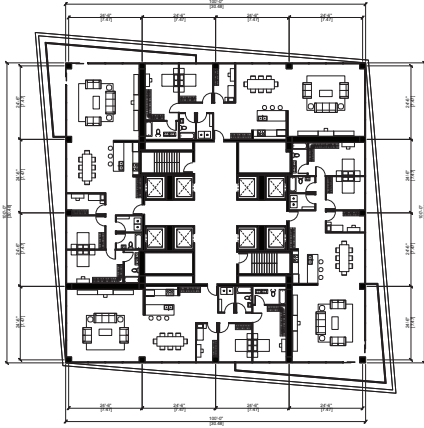


Diagrams



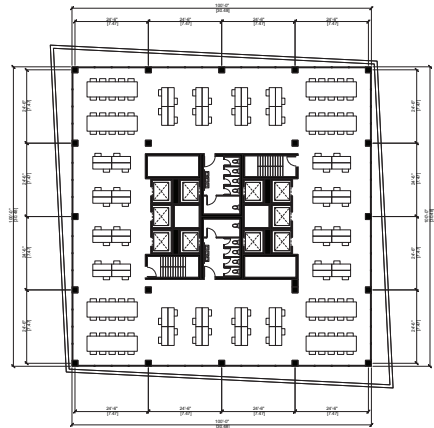
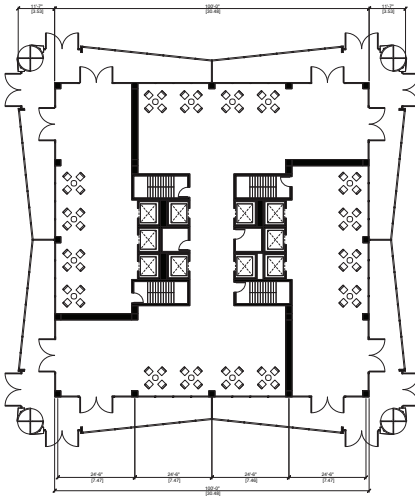
Details





Apartment floor plan A

Apartment floor plan B

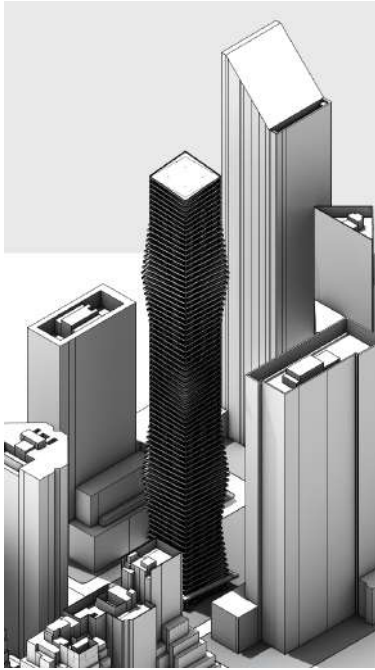


Ground floor plan

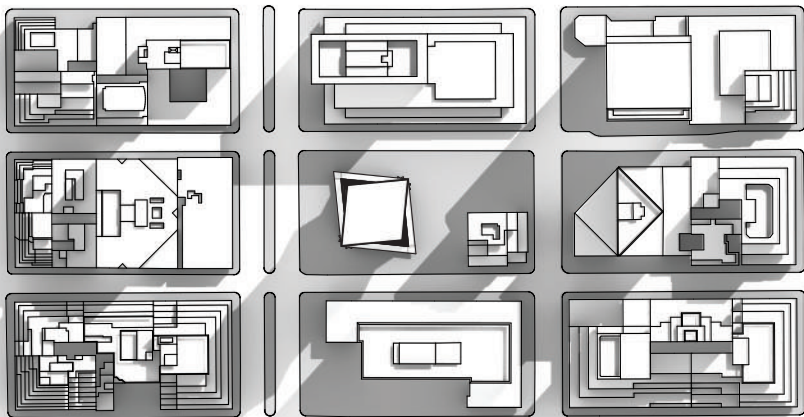
Office floor plan

## TURNING TOWER

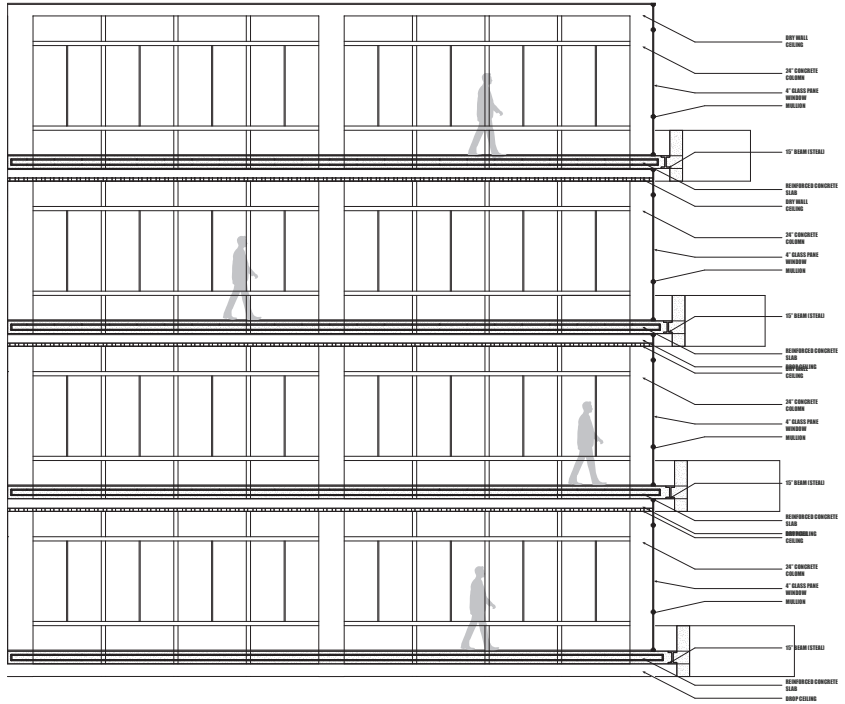
Sarah Shamalov



Design a skyscraper. My goal was to implement the knowledge from the Dream House and create a skyscraper that would accommodate both those living in apartments, those working in offices, and even those that walk by outside. Giving the building a sculptural look and working with different angles provided different focal points making each floor unique through the layout and terrace. The skyscraper is meant to serve the purposes of not just living accommodations but lifestyle, such as gallery, terraces and lobby.



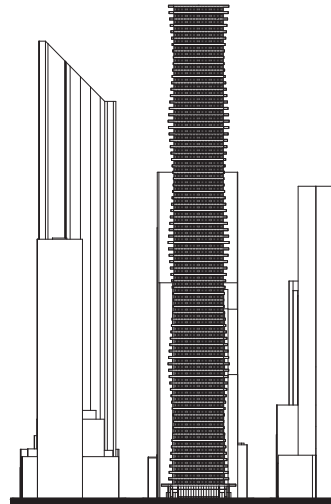
Site plan



Detailed section



Exterior view



Elevation



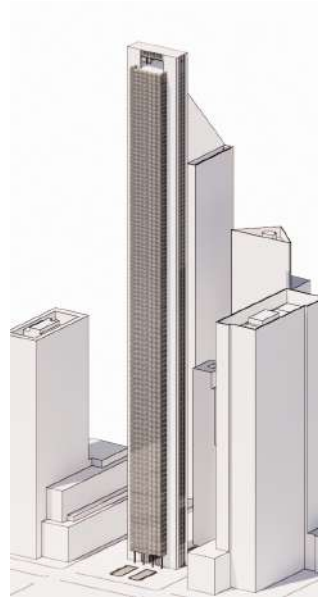
Detailed elevation



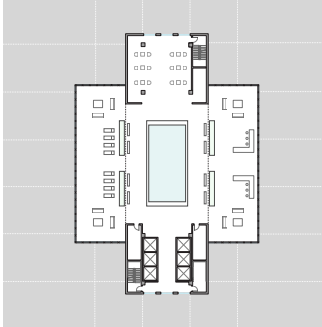
Interior view



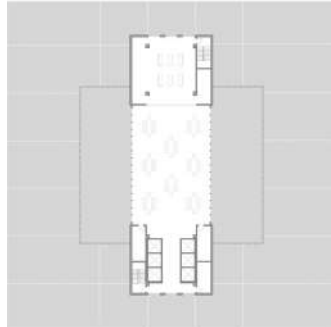
Views



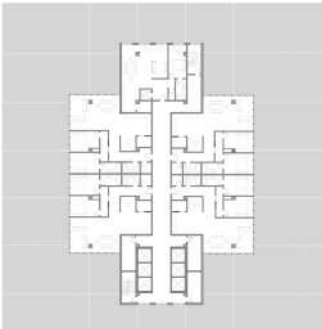
Axonometric



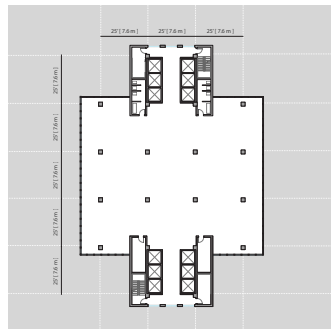
Rooftop floor plan



Top floor plan



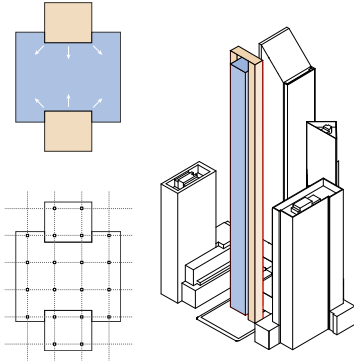
Apartment floor plan



Office floor plan

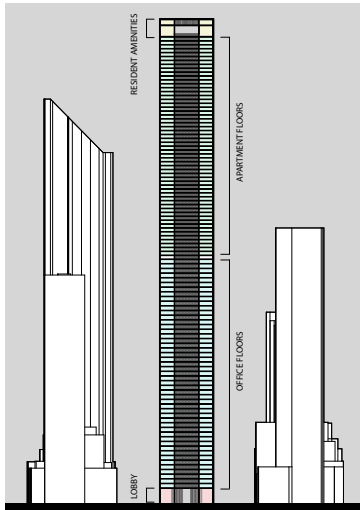
## TWO CORES TOWER

Amanda Stachnik

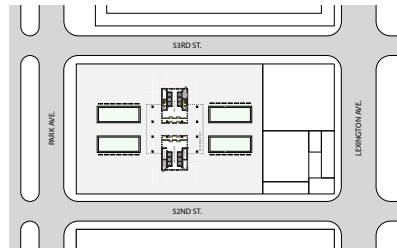


Diagram

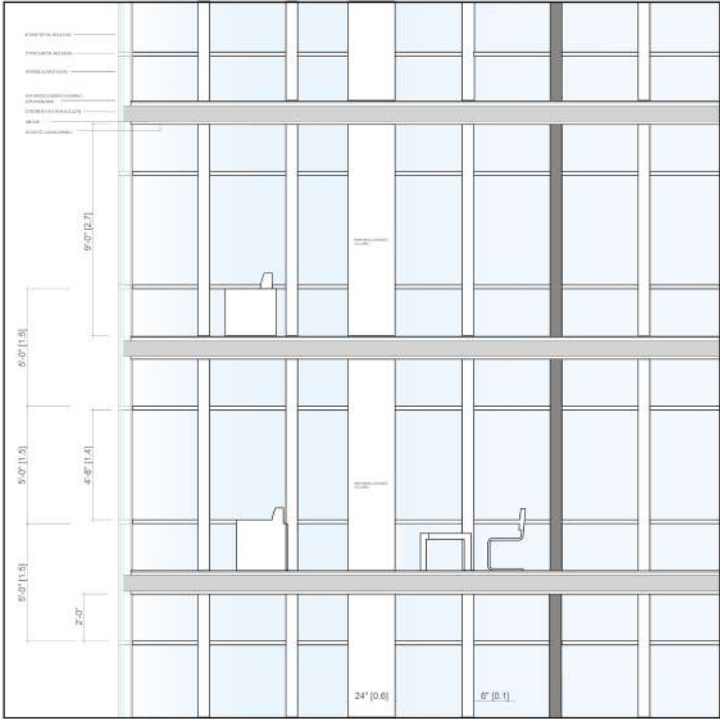
We switched gears with the second project, designing a skyscraper located in New York City right upon the site of the Seagram Building. This was a completely different experience from designing the dream house. There was a specific site this time, several constraints to follow, and structural issues to consider. By starting out with the skeleton I formed the concept of having two separate cores that are visible on the outside of the building and would split the office and residential dwellers. The programmatic elements of the building are then “spilling” or extending out from the middle with a gridded system of columns for support. The building soars up reaching for the sky with its thin form and emphasized verticality.



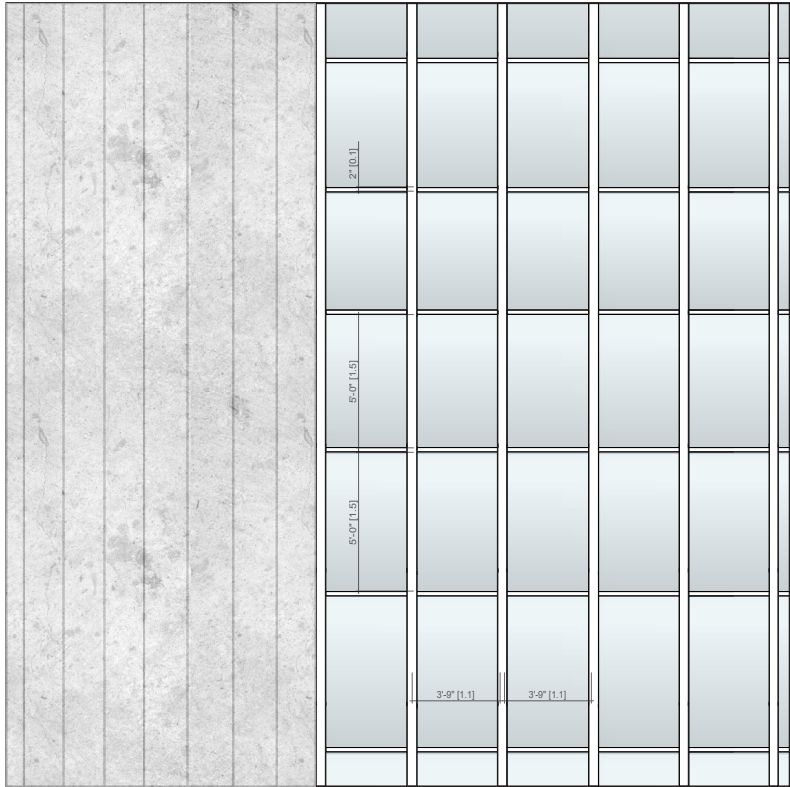
Section



Ground floor plan



Detailed section



Detailed elevation





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