


chromatic remains present in its ruins nowadays (essentially sand and reddish ochre), buildings are protected from the relentless "visual aging" produced by the omnipresent desert dust on their walls. Inside, the warm colours disappear, making room for the freshness and calm provided by the white colour.

CONCLUSION

In these projects, developed in very different circumstances, the landscape and its history have triggered an approach similar to its relationship with spatiality, matter and its image. These processes have neither been premeditated nor planned, but a sensitive approach to the relationship among architecture, matter and landscape has generated the common project strategies that are useful to us today as a project baggage when we need to face similar projects. In these projects, the landscape image constitutes the matter with which the image is generated in architecture. 

NOTES

(1) Only one of these projects is being built, "Museo Paracas"; the other two remain, for the time being, in the graphic imagery and in some good models.

(2) Note from the editor: James Turrell (Pasadena, 1943) was an aerial cartographer and bachelor in psychology of perception before becoming an artist. From 1966 he has worked with light and space. In 1979 he bought a volcano in Arizona, the Roden, and currently he is transforming its crater into an observatory.

(3) Note from the editor: The blue and red series are numerical sequences derived from the measurements determined by Le Corbusier for a man with a raised hand.

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See page xx

What does rain smell like?

Claudio Magrini

ABSENCE

This article does not explore the predominance of the architectural image as a replacement of professional performance but, rather, what is sometimes automatically excluded: the direct contact with matter, understood in its physical and phenomenological terms and the way to approach it. In this dialectic game, the image, far from looking for the precision of visual reality, becomes an instrument of visualization (often blurred) of the approach to matter. The image is not interesting as a noun, as a representation of the finite product, but as a verb, as a continuous (momentary) manifestation of the project process in progress.

MATTER

"Architecture is always concrete matter. Architecture is not abstract, but concrete. A sketch, a project drawn on paper, is not architecture, but only an insufficient representation of architecture, comparable to music notes. Music needs performance, architecture needs construction. That is how its body is formed. And this is always sensual."

Peter Zumthor (2006a)

The following anecdote is going around: a newly graduated Chilean architect was sent to work at the Zumthor atelier with the purpose of acting as a contact

link for a hotel where the Swiss architect was developing projects in the North of Chile. Zumthor asked her to develop certain space and gave her three weeks to do it. Loyal to the prevailing academic teaching methods, the architect applied herself enthusiastically and expediently to the complete development of the project. The procedure caused Zumthor's irritation, as he had a diametrically opposed way of projecting, consistent in a process that he calls "slow architecture".

Contrary to what is superficial and obvious (products of the immediacy so highly praised by our society), the Swiss master advocates for a slow and patient search that comes out of matter itself. Of the same thing. "Das Ding an sich" (the thing in itself⁽¹⁾). The noumenon, that according to Kant, consists in the basic realities beyond the sensorial experience. In the case of Zumthor, it is the attributes that are intrinsic to matter. The physical, phenomenological and psychic matter.

In one of his texts, "The hard core of beauty", Zumthor (2006b) states the wish to «develop an architecture that comes out of things and goes back to things» («...die von den Dingen ausgeht und zu den Dingen zurückkehrt»).

Undoubtedly, this project method is on the antipodes of preconceived forms and photo-realistic representations, practices so much in fashion today. At the beginning of the project process, the project reality does not exist yet, it has to be discovered, it has to be structured, it has to be woven gradually in time and with time. Then, How to give account of reality in nuce⁽²⁾? How to represent it?

When assuming how insufficient

any form of representation is to give an account of full reality, Zumthor establishes three different ways of relating with it: approximation, education and materialization. He gives each one a particular category of representation: Ideation drawings (Entwurfszeichnungen) for approximation, project drawings (Projektzeichnungen) for reduction and constructive technical drawings (Werkzeichnungen) for correct materialization (Altés, s. f.).

We have a symptomatic case of this procedure in the "Therme Vals", illustrated by one of its Entwurfszeichnungen (ideation drawings). The construction materials for this project were the mountain, stone and water. The intention was to «capture some of the original nature [...] of these elements» (Zumthor, 2006b). At the beginning of the project process, Zumthor committed himself to working with questions which could not be translated into images.

The drawing is fascinating. It provokes a vast number of mental images and suggests multiple project possibilities. We can wander for hours on its detailed observation. Between the sketch and a spatial diagram, the drawing establishes a relationship among mountain, water and stone. The three elements have the same texture; what varies is their density and tonality. Density, to stress the mass; tonality, to indicate its matter: from light gray to dark gray, almost black, without ever losing its texture, to distinguish stone and mountain, to testify its geological detachment. A grayish blue, of an imperceptible difference in the palette of grays, indicates the mass of water.

Flux matter, raw material where water and stone are indissolubly together. A few lines separate matter and produce a spatial and material dissolution from the compact to the aerial.

The drawing is a reminder of byzantine painting. Before the introduction of the laws of renaissance perspective, figures did not yet converge towards a central vanishing point, but their pictorial elements associated freely, according to their importance and mutual attraction. Similarly, in the design of the thermal baths, we are seduced by the dance of reciprocal approximations between the insinuated volumes; the precarious and gravitating balance among the elements.

Another fascinating characteristic of byzantine painting is in the background; in that homogeneous surface, in its golden or deep and dense blue colours, the angels emerge from. Without border lines, but with faded forms, making it impossible to distinguish the limit between the background and the celestial figure. As if they emerged from the matter itself, half way between divine, unspeakable and earthly. In the thermal baths, where does the mountain finish and the stone begin? When does the change of state between these two matters, which were joined at the beginning, take place?

Three other triads could be added to the three matters. Dark gray, light gray and grayish blue. Compact, intermediate, aerial. The essential, the original, the archaic. A game with endless arbitrary associations, certainly. However, they are there. Triggering imagination. Everything is only insinuated, even though everything is already defined.

The final form of the thermal baths amazes with the lines of the first sketch. Nothing yet, actually, but everything in its potentiality.

In another of his articles, "Teaching architecture, Learning architecture", Zumthor (2006a) precisely refers to this type of images. His wish is for his students of architecture to adopt thinking of images as a project method. Not just any image, but those that always allow thinking the project as a whole ("Das Denken in Bildern beim Entwerfen ist immer ganzheitlich"). Images that make you perceive the ground, the wall and the floor as a set, as well as the faded light and the suspended humidity. Images that amplify the sound of trodden gravel and of the wind filtering in through the window.

At a summarised lecture on the book *Atmospheres*, Zumthor (2006c) reflects on architectural quality. He establishes nine points and three appendixes that constitute this condition; these go from the body of architecture to the harmonious union of materials, from the sound of temperature to architectural space. However, the attractive element is not so much the low material character of the points dealt with, but, above all, his pride for having finished his talk without speaking of "form".

The same pride and the same satisfaction that we perceive in him when, finally, his work materializes and sets in a way not previously expected and surprises him for its expressive force. A form where in the end everything fits, that becomes natural, in tune with its environment and its function. In Zumthor's words, «things have found

themselves, they are themselves» («Die Dinge sind dann zu sich gekommen, sind bei sich»).

PHENOMENA

“Architecture should no longer build spaces, but rather create temperatures and atmospheres.”

Philippe Rahm (2008)

Another Swiss architect is also defined as a constructor of atmospheres: Philippe Rahm. But unlike Zumthor, who focuses on the concrete aspect and the intrinsic sensuality of matter, Rahm explores in the processes of phenomena.

In order to overcome the homogenization of modern space, Rahm gets his inspiration from Gaston Bachelard’s The poetics of space. Paying attention to the typical spatial richness and atmospheric experience of the traditional house (with its overlapping rooms on the vertical), Rahm proposes the phenomenon of thermodynamics applied to the housing space so as to obtain a “thermal landscape” differentiated within the only continuous horizontal space.

As a scientist, Rahm approaches phenomena by means of the phenomenological theory of thermodynamics that studies balance states and exchange processes at microscopic level: energy in transit. Thus, Rahm establishes “meteorological architecture” and divests the architectural system of its static elements (wall, window, porch, etc.) to substitute them by dynamic and invisible elements: heat, air, vapour and light. His postulate allows him the transit from «a metric composition to a thermal composition, from structural thinking to climatic

thinking» (Rahm, 2009). Consequently, the old laws of architectural composition (asymmetry, duplication, addition, etc.) are replaced by meteorological phenomena, classified according to the following architectural typologies: conduction, convection, radiation, evaporation and atmospheric pressure.

The first three typologies correspond to the basic principles of thermodynamics. In conduction, a property of solids, the transfer of thermal energy is produced by shock, that is, by the direct interaction of the particles that constitute matter. In this case, conduction is a consequence of kinetic energy. In fluids, on the other hand, the transfer is the result of the movement of the fluid itself, in its attempt to level the thermal difference. It is convection that produces breeze and currents in the water. The third typology, radiation, occurs between two matters that do not need to be in direct contact. It is an indirect thermal transfer that fulfills the distance by means of electromagnetic waves that propagate through the space (freed from matter). This transfer is expressed, for example, in the heat we get from the radiation of the sun.

One of Rahm’s most remarkable researches is “Digestible Gulf Stream”, presented in 2008 at the Venice Biennale of Architecture in the form of an installation that works with the invisible, thermal and climatic qualities of the air. Two thermal sources, formed by two metallic planes placed at different temperatures (28 °C the lower plaque and 12 °C the upper plaque) produce, by convection, a similar current to the ocean current of the Gulf (because the cold air expands and tends to go up, and when the cold air densifies, it tends to go

down). In a closed system, it would be a continuous thermal flow impelled by its two polarities.

Undoubtedly, the model expressed in the scheme makes the notion of thermal comfort debatable, established as a homogeneous temperature of 20 or 21 °C, giving the inhabitant the possibility and the complete freedom to look for the most appropriate temperature zone for daily activities. An inhabitant whose bodily functions of breathing, perspiration and thermal radiation are in physiological tuning with the atmosphere created.

It is interesting, again, to observe the strategies that pursue the representation of an invisible reality. Philippe Rahm uses three approximations: sketches, installations and renders.

The sketch or diagram of flows is the contribution of greatest consistency in the realm of representation. The logics of the meteorological map are interesting. In functional terms, it gathers enough variables to suggest a certain atmosphere in its dynamic display; in technical terms, thanks to its supposed scientific character, it establishes a few (but efficient) representation criteria.

A palette of colours between red and blue represents the variations of temperature and humidity; the tone gradation of the same colour shows densities or intensities; the arrows indicate the wind direction and, finally, the isograms connect in continuous lines areas and points of similar value in an anisotropic field of diverse variables.

The result of the map is a thermal landscape in a determined space.

Certainly, a map that visualizes the movement of the air, pressures and atmospheric areas. But, like most of scientific observations, this map remains silent when trying to transmit bodily sensations. This probably explains why Rahm provokes subtle climatic experiences in his installations.

Rahm is the author of another installation, called "Diurnisme", shown at the Pompidou Center of Paris in 2007. The work was designed as an inverse response to the urban lighting invented in the 19th century. With artificial light, it was possible to introduce day into night permanently, with deep repercussions on man's psyche. The underlying question in the installation is: what would happen if night was introduced into day?

"Diurnisme" is a lighting installation registered in the typology of radiation. Rahm filled a whole room with a strong orangish yellow light whose spectrum was composed of a wave length of over 570 nanometers. This frequency produces a physiological response: the body issues a neurohormone called melatonin, which effectively induces us to perceive the night.

Rahm's installations are devices capable of reproducing certain phenomena. As objects displayed in space, they are the direct connection between phenomenon and experience. They are related with the body and not with the photographic representation left to us as a last record.

In these works of Rahm's, we miss the presence of an architectural form. That concrete, dense and loaded figure that we are used to see in Zumthor's work. The devices are elements previous to a future

form that will be found once the logics of the housing space coincide with the logic of thermodynamic laws. According to his webpage, Rahm is developing several projects that would, finally, give an account of the feasibility of thinking of a meteorological architecture. Until then, apart from his sketches and installations, we will only be able to refer to the few renders circulating on the web. They are the only representations that visualize a finite architecture.

It is surprising how little expressive these renders are. Perhaps this is due to the architect's declared lack of interest or to the fact that they have not yet found a way to represent, on a bidimensional way, the phenomenal depth and wealth liberated when the body of a person is submerged into an atmosphere. It is probable that, at this incapacity, Rahm may have chosen to use to make the least effort on everything which is not central to the materialization of his idea.

We cannot but wait patiently for the materialization of his meteorological architecture. The following questions remain: Is it possible to extract the wealth of his thermal cartographies? Is it possible to disregard the scientific element without, because of that, losing the phenomenological one?

HUMIDITY

"No artist believes in objective truth, that is to say, real in itself, of the world that it represents. But it could be said that this objective truth, does not exist not only for the artist, but for nobody else".

Luigi Pirandello (s. f. a)

I will deal with this phenomenon from my personal experience as a teacher of a workshop that deals with landscape and territory. The difficulty that nature's dynamic variables represent to architecture students is amazing, even in the phases previous to their graduation. The difficulty lies in the visualization of these variables and their integration to the architectural equation. In a certain sense, what is not visualized does not exist.

Once we had to work in Bucalemu, a small coastal village located in the VIth region, Chile, one of the many locations affected by the 2010 tsunami. The job of the workshop was to think of an anti-tsunami coastal village. The major problem was locating the fishermen's coves. The only adequate place was at the foot of a cliff where the sea, the beach (completely modified by the tsunami) and the ejecting cone of a stream meet. Each of these geographical elements has its own dynamics: ocean tides, currents and waves; the changing bathymetry of the sand banks, and the periodical intrusions of the stream with floods and sand emissions. All of them represented dangers for the correct protection of the fishing boats.

To give an account of the landscape's dynamic character, we ordered a map with a registration and visualization of all these phenomena in only one image. The idea was that, once it was drawn, the map would act as the underlying palimpsest for any project, searching for a final form that integrated the continuous formal changes in the context.

After this experience, the exercise has become one of the methodological

landmarks of this workshop. We have named it "biodynamic map". We ask students to choose an invisible phenomenon, which in a first stage has to be understood in its dynamic and systemic character, in order to look for the correct way of representing it.

One of the results that captured my interest the most was the discovery, by a group of students, of the propagative capacity of humidity. Those students had chosen, as a research field, a river located at the foot of a slope covered by thick vegetation. A spot visually attractive, chosen precisely for its beauty. Secondly, the students focused on the sound produced by the river in one of its breaking points, where the water movement left the lineal trajectory to curve over itself. Led by curiosity, they explored the surrounding area in order to measure the point reached by this sound. With their smartphones they recorded the decibel levels, thinking that these were going to decrease linearly in inverse relation to distance. Surprisingly, they discovered that there were distant points with a higher decibel level than those recorded in areas nearer the sound source. They checked this discovery against scientific literature and they could verify that, indeed, humidity acts as a sound propeller. After verifying the truth of this phenomenon, in a last visit to the site they could individualize the presence of some damp corridors that coincided with their observation and which finally they tried to visualize.

The scope of the representation does not go far from the conventional. The quantity of decibels in the measured areas is indicated by figures; the zones with different degrees of humidity

(measured empirically) are shown in green tones. The superposition over the same topography charts a damp landscape. Similar to Rahm's cartographies (although it lacks a more scientific level), the chart visualizes the spatial impact of a phenomenon, but says very little about its repercussion on the sensory sphere.

The concept of humidity as an amplifying agent of reality is also indirectly endorsed by Luigi Pirandello, who has developed a special relationship with humor, to a point where it became a device for representing human existence, a catalyst through which we perceive more intensively the reality we live in.

The word humor derives from the Latin "humorert-em" that refers to humidity. The humid body is responsible for people's health, according to hippocratic medicine. An example of this is rheumatism which is more intense in humid environments.

I do not know if Pirandello knew or cared about the etymological origin of this term, but in his hands humor becomes the human feeling capable to unveil reality. Human existence, in Pirandello's Weltanschauung, moves constantly between two poles, in continuous contrast between appearance and reality, mask and person, form and life. A form determined by the laws and conventions of society and life itself, which seeks the liberation of destructive forces from instincts and vital impulses. Unfortunately, the dynamics of life succumbs almost always to the static structure of good behaviour demanded by society, alienating man from its own being.

The price of this imposed dissociation is not low. We frequently witness the tragic consequences triggered by this. For example, mature ladies who continue to dress like teenagers. A ridiculous behaviour that humour interprets as "being aware of the opposite" of what should be, unlike humour based on the "feeling of the opposite", resulting from a successive decanted reflection of the event and a direct identification with the tragic subject. Through reflection, we might understand (one of the logical possibilities that would give meaning to this action) that these poor ladies act in such a way because they are paired off with younger men and, afraid of losing them, they repeat ad infinitum the beauty canons imposed by our society. Through an osmosis mechanism we can feel compassion, recognizing in them a part of our own tragic destiny, and thus, shift from laughter to pity.

«The ordinary artist looks only at the body; the humorist looks at the body and the shadow, and sometimes more at the shadow than the body; he perceives all the jokes of the shadow, sometimes it gets longer and sometimes it gets short, as if wishing to mock the body that, in the meantime, does not care or concern about it. » (Pirandello, s. f. b)

FOG

«Formless, massless, colorless, weightless, odorless, scaleless, featureless, meaningless».

Diller and Scofidio

Shapeless, massless, colourless, weightless, odourless, scaleless, functionless, meaningless. These are the adjectives written on a napkin in order to set, from the beginning, the horizon followed in the ideation and materialization of the "Blur Building", a floating cloud over the Swiss lake Neuchatel during Expo 2002.

In scientific terms, we could describe the "building" as a metallic scaffolding that occupies a volume of 60 x 100 x 20 meters. This scaffolding has 31.400 stems with openings of 120 microns diameter, through which water is forced with a pressure of 80 bars and pulverized in very fine drops in a range of four to ten microns of diameter. The pulverization is so fine that drops remain suspended and saturate the air with enough humidity to create this mist effect. Humidity concentration is such, that it is visibly set, regardless of the climate conditions (DESIGNBOOM, 2002).

In conceptual terms, "Blur is not a building; Blur is pure atmosphere, water particles suspended in the air. Mist is a dynamic mass, ghostly, that changes its shape constantly" (Diller, s. f. a). Mist works thanks to a computer system that regulates the nebulization according to the changing climate conditions of temperature and humidity, in addition to the wind strength and force. Two autopoietic systems in constant formal and phenomenological interrelation.

The absence of form and physical matter undermines the architectural discipline foundations. Besides, it challenges representation codes. Most of the project images show a constructed phenomenon. If someone searches for images is

Google, he will only find a few renders, so frequent in contemporary architectonic production, obsessed with visualization.

The most representative render shows an elliptic cloud floating above a water surface with no aesthetic pretention. The image assumes the inability to represent the unrepresentable. The same term "blur" was considered by Elizabeth Diller (s. f. b) "as an alternative to the new high definition orthodoxy", as a loss.

Adolf Loos, another radical architect, was against representation because he considered it was incapable of capturing the interior space, essential in architecture and only perceptible by the body. But, if Loos renounced photography, in the "Blur Building" it constitutes the most faithful temporal testimony of this phenomenon. Although both coincide in the corporeal presence as the axis of our experience, in Loos' environments the subject focuses his perception, while the cloud is an "envolving environment in which the world is set out of focus, so our visual dependence could be set into focus" (Diller, s. f. a).

The competition of the Lima Memory Museum, Peru, offered the opportunity to problematize mist. The project we presented to the competition (together with Benavides & Watmough Architects) worked with the specific question of how to transform mist into an architecture matter or how to crystalize the phenomenon in a finite way. In this case, it was the opposite to dematerialization.

What is specific to a Memory Museum, its essential element, is the mural with photographs of the deceased. What is specific to the coastal Lima landscape is

a thick mist that envelops everything in an impenetrable gray during half of the year. Our proposal consisted of unifying the architectural element and the meteorological phenomenon in a unique architectural experience. By means of a vacuum system, the compact volume was drilled so as to guarantee the suction of the mist into it; its nucleus consisted of a big windowed patio covered entirely by the photographs, thus inverting the codes of good reading. On a sunny day, the images against the light lose their borders and get dark in the center. The memory becomes blurred, undefined. However, when the mist arrives, the shapeless mass, the represented faces emerge from the inside vividly. Is our memory not a continuum trying to focus on what is forgotten?

We did not win the competition; we were not even shortlisted. We continue to think that it was due to our incapacity to represent what we wished for.

VAPOUR

"Mist impregnates clothes,

The skin, hair, hands and shoes"

Teresa Margolles

The most fascinating aspect of energy does not lie on its application to our daily life, but on the invisible processes underlying its generation. Like the alchemical moment when the kinetic energy of vapour is transformed into electrical energy. Or the provisory terminal moment of the process, when hot water is cooled down in refrigeration towers, liberating thick vapour clouds. This is the visible manifestation of the vapor phenomenon. Contrary to what people usually think, those who identify it

as a pollution agent, vapour is innocuous.

We had the opportunity to work with vapour in a project for Termoeléctrica de Renca. The thermoelectrical office wanted to put a big sign saying "Vapour does not pollute", to calm down the unjustified fear of the nearby population, but we counter proposed the idea of transforming the idea of transforming vapour into a ludicrous and sensorial element to bring people closer to the energy process. Not by means of an abstract communication text, but through a direct phenomenological interaction of body and vapour: we imagined children enveloped in vapour, trying to escape from the high summer temperatures.

To the intention of hiding what was supposedly ugly in an industrial installation, we opposed the idea of making it transparent and, above all, making the idiosyncratic shine. In the specific case of this project, called "Boque de Vapor" (Vapour Forest), we proposed the recovery of an abandoned metal structure (a freight elevator) to elaborate a game set for children, with lighting and nebulization systems. Placed in a park donated to the population, the games would amplify the damp environment typical of refrigeration towers.

Frequently, the representation of an idea is more important than the idea itself, especially in pragmatic professional life, based on the art of enchanting the client and persuading him of the "need" to do something very expensive. Then, how can we present an atmosphere? How can we present the invisible and vague?

Zumthor suggests a possible clue. We find it in one of Italo Calvino's "American Lessons", dedicated to accuracy.

According to Calvino (2002), accuracy means three things: first, a blueprint well defined and calculated; second, the evocation of clear, sharp, memorable visual images; and third, a language as precise as possible as a lexicon, in order to express the nuances of thought and imagination. Calvino takes this lesson from the reading of Giacomo Leopardi's work, who uses vagueness in a conscious and active way:

«Then, this is what Leopardi asks us, in order to enjoy the beauty of the undetermined and vague. He demands an extremely precise and meticulous attention in the composition of every image, in the minute definition of details, in the selection of objects, atmosphere, to achieve the desired vagueness».

It is impossible to show the invisible directly. On the other hand, scientific language lacks expressive eloquence (as a precise and minute descriptive exercise). Assuming these two premises, as a hypothesis, we search accuracy through the simultaneous superposition of indirect indicators of the phenomenon and the atmosphere that we set as the horizon for "Bosque de Vapor" (Vapour Forest). Specifically, we turned to the vibrant atmosphere of a forest: moss in tree trunks to insinuate dampness, raised leaves to indicate wind, a stained shadow on the ground and branches to indicate foliage density, a change of lights to show the clearings and, finally, a blurred representation of children as an indicator of the continuous movement in search of vapour which is displaced from game to game.

In the end, it is only a nostalgic attempt to return the specific weight to matter. **m**

NOTES

(1) The English, German and Italian translations are the author's.

(2) Note from the editor: In nuce or in embryonic state.

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