

Space Behind Abstraction: the Metamorphosis of Shape

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Este trabalho é financiado por fundos nacionais através da FCT - Fundação para a Ciência e a Tecnologia, I.P., no âmbito do Projeto Estratégico com as referências UIDB/04008/2020 e UIDP/04008/2020.

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MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR

Abstract

Purpose: to demonstrate the relation among various architectural contents, whose synthesis is materialized in the design of the architectural space.

Method: to develop, in the context of the curricular unity of Drawing, of the Architecture Program, the conception of an architectural space, through an exploratory exercise, using the abstraction of a spot as a starting point, in order to achieve, by its metamorphosis, different kind of spaces, which reflect its main characteristics. The process is experimental, from the analysis and interpretation of the intrinsic qualities of the spot, to the conception of a three-dimensional spatial model.

Results and conclusion: the perception that the formulation of space, in architecture, is a synthesis of several knowledges. This exercise shows, taking as a starting point something so abstract as a spot, one can, through an experimental process of interpretation, obtain architectural space.

Keywords: Abstraction; Architectural Space; Drawing.

1. Introduction

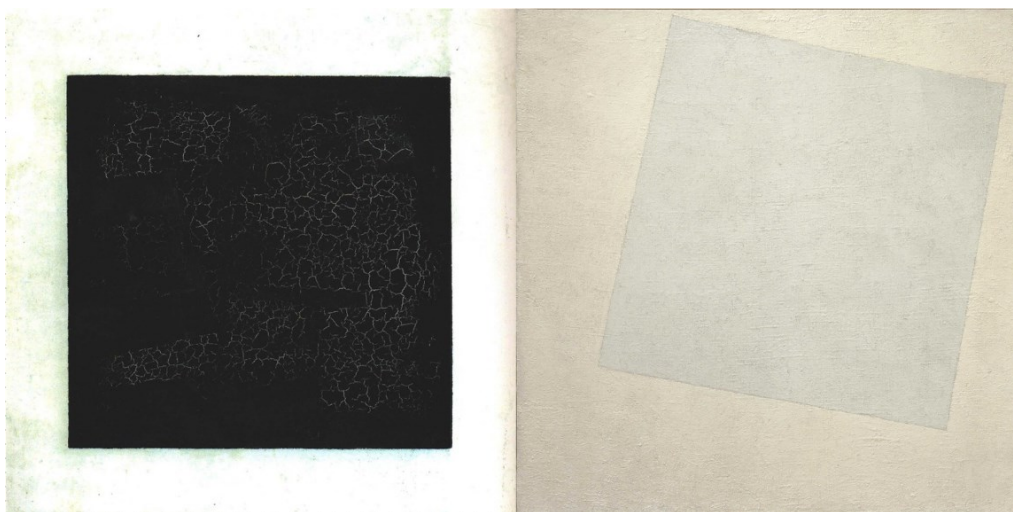


Figure 1

Kazimir Malevich, Black Square on a White Background (also known as Black Square), oil on canvas, 79,5 × 79,5 cm, 1915. Tretyakov Gallery, Moscow, Russia; and Kazimir Malevich, White on White (also known as White Square), oil on canvas, 79,4 × 79,4 cm, 1918. Museum of Modern Art, New York, USA.

The most interesting thing about the suprematist composition in Vladimir Malevich' masterpieces is the supreme pureness of abstraction, within all the beauty and eloquence of minimalism. They give the audience the fantastic freedom and capacity for imagination.

In a certain way they contain in themselves the success of communication, where to listen (to observe) is sometimes the more important action. Today, where everything is supposed to have an objective towards a rationalist attitude, abstraction appears like a non-boundary space, where all references are possible.

One of the most problematic things we, teachers, must deal, in the first year of the Architecture Program, and in this concrete case, in the Drawing curricular unity, is the different cultural background of the students. This happens, because they often come, from high school, from several different scientific areas, some of them without any experience of drawing, but yet with a will of learning and study Architecture. And, yes, drawing is, in the first year of studies, perhaps where they fell more fears.

That is why the contents of the Curricular Unity begin with abstract exercises, since the line to the stein, the spot, the mark. The idea is also to explore the basic materials, like charcoal, graffiti, china ink, and mainly the acquaintance and the knowledge of the potential that those materials can express and along with that, the results they can achieve.

With abstraction something magic happens, fear gives place to imagination, and creativity. Trough abstraction a new world emerges, a world where everything is possible.

With this experience, we may say that all the students are in the same departure level, just like a feeling of a "democratic" condition. To know how to draw is not still important at this stage. To explore, to dare, to lose the fear and get confidence is what really matters now.

It is a very important step, because from now on, abstraction will be metamorphosed into something more concrete or, in other words, it will be metamorphosed in space, where, along with creativity, it is necessary to acquire the capacity of express a concept, an idea, and translate it into a draw, in an architectural draw.

Although this space is still at a very conceptual level and is still a non-programmatical space, it requires now more skills to represent it.

The mark is not a mark anymore. It became a horizontal projection, a plan, a projection of an "imaginary world", a space where its abstract condition gives place to all possible forms.

It is necessary to go further, and begin to thing form behind abstraction, form behind imagination and begin to decode all the information contained in the mark, to get ready to next step.

"The expression placed in the drawings, or the final work will be captured by the observer, who will feel this expression based on previously gathered information, that is, according to their cultural background. The perception of expression in the drawing is given by the set of lines and patches. Drawings have a certain formal organization in which presences and voids, similarities and oppositions concur. In the graphic space of the drawing, qualities of balance, tension, movement, and rhythm are also generated." (Pinto, 2012, p.25)

2. Materials and Methods

Drawing should be understood as a universal tool that translates ideas and concepts, but also represents the perception of how we see the real world. In this sense, it is intended to stimulate and develop in the students: the critical observation and analysis, as well as the creative imagination; the exploration of graphic and expressive potentialities of the different materials and specific instruments of drawing; the understanding of the "line" as a graphic expression of drawing and for drawing; the discovery in the "spot" of the expressive potentialities of graphic spaces, rhythms, tensions, movements, textures, etc.; the critical reading of one or more objects through the identification of a mental and gestural pathway; the understanding of the concept of hand-scale and surrounding space, including here the introduction of the human figure.

The main objective is to develop the role of drawing for the Project practice, understanding it as essential to represent the entire universe inherent in the practice of architecture, as well as to provide the students with the capacity of observation and representation skills, not only of the real word surrounded them, but also as a conceptual thinking, towards an architectural attitude.

The exercises begin as an exploratory field, first with the "Line" as an essential and basic primary element, by the using of various conventional and nonconventional materials and then with the "Spot", where its anatomy and its abstract condition should be recognized and, consequently, its intrinsic intentionality and its expressive role in the message of the narrative.

Once the "Line" and "Spot" are explored, this knowledge will be applied to reading and representing objects at different levels, at different scales, in different relationships.

The last phase will be the confrontation of these objects with the concepts of dimension, proportion, position and spaces, creating several levels of hierarchy, using the spot as a starting point to, and through its metamorphosis, begin thinking in architectural space, even in an abstract way.

“When I draw, when I say the real through lines in a drawing (or through words in a poem), the world of visible things wakes up.” (Janeiro, 2011).

The exercise: “Spatiality: the three dimensionality of the spot.”

Objective: create/imagine a succession of abstract spaces through the analysis of one of the spots of the first and previous exercises.

Methodology and process:

1st phase: select one of the spots, interpret it as a horizontal projection (plan) and analyse it in terms of light/dark, textures, depth, density, contour, concentration, expansion, analysing its geometrical or organic organization, and all the properties adjacent to the mark.

2nd phase: create a concept and design an abstract three-dimensional space, through sketches, graphic notes, which reflect the process of interpretation of the stain/plan made in the previous phase, conceiving several kinds of space, more at a sensorial level, exploring what kind of sensations those spaces can evoke.

3rd phase: to build a model that reflects the most significant aspects of the designed space(s), using balsa, cardboard, plaster, paper and whatever materials students think appropriate to express the characteristics of the spaces. For a sense of scale, they should introduce the human figure into the drawings and model. There is no colour. All drawings should be in a gray scale tone, from black to white.

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3. Results

All the exercises have as a starting point a mark, a stain in all the shades from black to white. The absence of color underlines the “absence of noise” and the “pureness” of abstraction.

The intrinsic characteristics of the mark/stain must be identified, in order to be processed and metamorphosed into space: dark and light, concentration, diffuse, presence or not of contour, density, texture, organic or geometric, heavy, soft, hard, and all the properties which can be found when analyzing and decodifying the stain.

Examples

Example 1: drawings from Bruna Silva, ISMAT.



Figure 2

A constant, separate brushstrokes lead to high-low, large and small planes, with no definition of entry or exit. Plans, oppression, a sense of smallness...

Example 2: drawings from Júlia Menezes, UBI.



Figure 3

The light-dark game... associated with the interior and depth of a pyramid.

Example 3: drawings from Cassia França, ISMAT.



Figure 4

Stimulating sensations, shadow and light, led to spaces of transition... the geometrization... the perplexity of a pathway that attracts towards the unexpected...

This space is a combination of passable stimulating sensations. A sphere transmits perplexity towards an unexpected and attractive direction.

Example 4: drawings from Helena Santos, UBI.

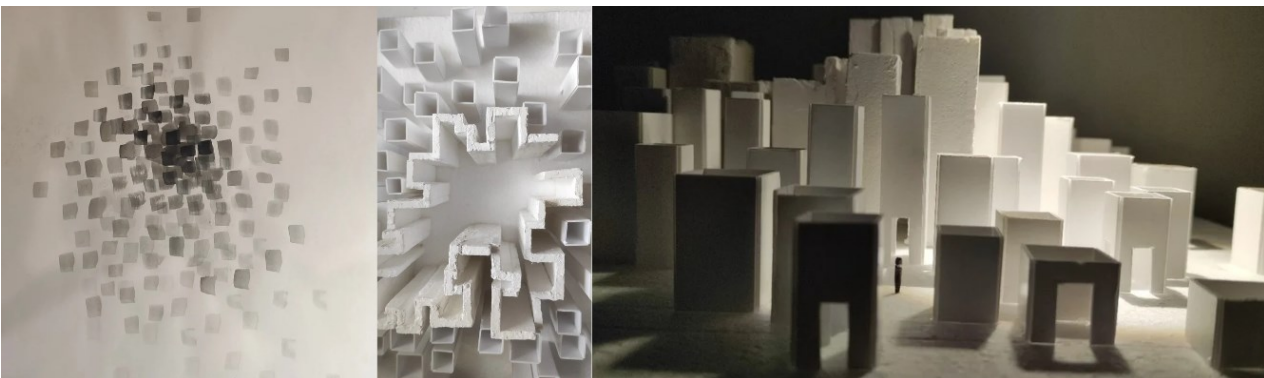


Figure 5

The labyrinth... grandeur... the labyrinth creates a dynamic, behind the geometric rigour... creates magic. The mystery of light and shadows plays with the mind...

Example 5: drawings from Joana Paul, ISMAT.

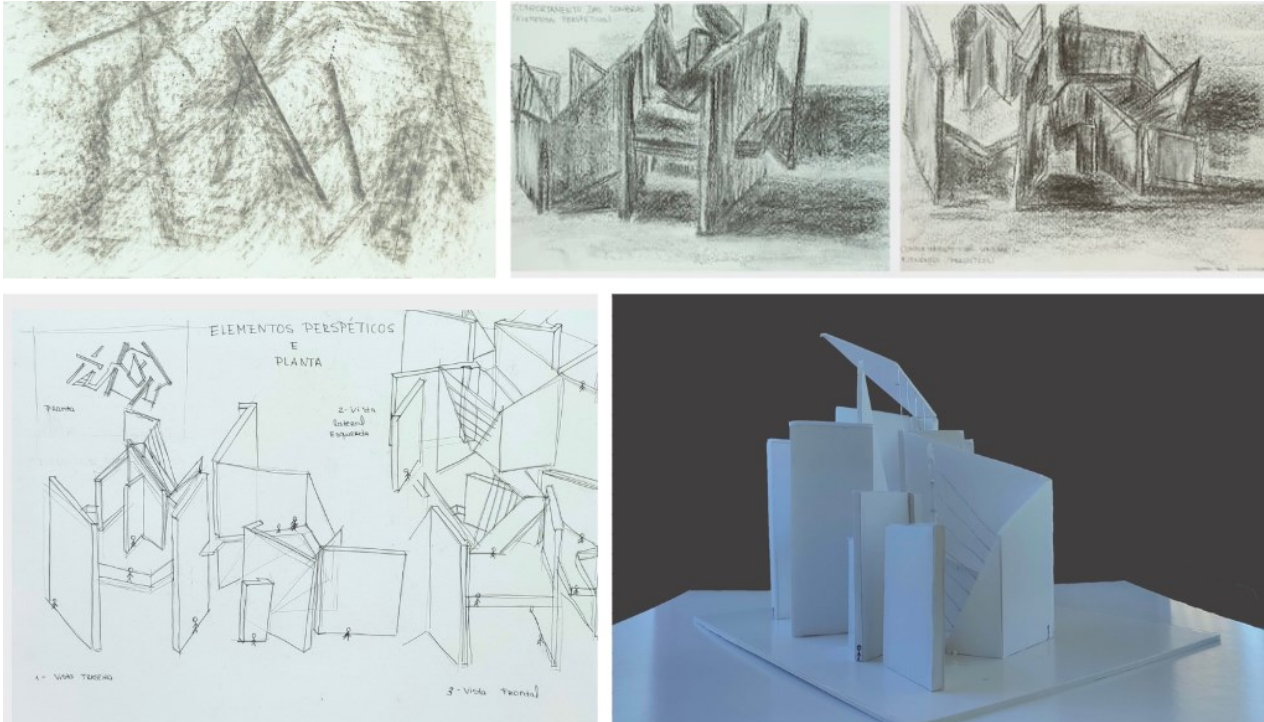


Figure 6

The game of transparencies creates a place, spaces of passage. The process, perspective elements... about the behavior of light and shadow that creates tall, strong planes... the model.

The lines that form the stain become complements to the space. The most pronounced ones rise from the ground, starting from three guidelines, as if supporting the entire space to be created.

The strong lines of the stain are frightening with such size and robustness that they will change and metamorphose into beautiful clean walls.

The linear shapes and thicknesses are transformed into junctions of planes, with irregularities, producing closed spaces, but with an abundance of openings and entrances for light and people.

The capacity for indentations and recesses in corners or between raw walls is part of its purpose, of its feeling of grandeur before the human being.

The game of different transparencies ends up giving each junction of lines a place, a passage space.

Although, because it is tall, it has plenty of light, the large and robust walls that surround the space also convey the idea of shadow, which lies between the corners or junctions of planes. This resembled the differences in transparency created in the stain itself.

Example 6: drawings from Maria Cavaleiro, UBI.



Figure 7

The organicity of the stain... looking for space through the organicity of form... the final three-dimensional images. The process reflects the organicity of the initial stain.

Partial Conclusion

The essence of the work begins here, with the knowledge of the mark. To transform without knowledge seems to be perverse. The mark is something full of information: the dark or light points, the emptiness or the fulfilled space, the vibrant tones of gray, the branches or the heavy density. Once we begin with something interesting, the discovery of more and more information happens. The organization of the mark and the process of its transformation (metamorphosis) were the principal aims of these examples.

“Perception as part of visual communication can generally be translated as everything the eyes see: everyday objects, elements of nature, posters, technical drawings, sketches, paintings, etc. All these images have different perceptual values depending on the context in which they are analyzed. Vision is interpreted as a perceptual function that is educated; that is, we are not born seeing, but we learn to see.” (Pinto, 2012, p.21).

“The expression placed in the drawings, or the final work will be captured by the Observer, who will feel this expression based on previously gathered information, that is, according to their cultural background. The perception of expression in the drawing is given by the set of lines and patches. Drawings have a certain formal organization in which presences and voids, similarities and oppositions concur. In the graphic space of the drawing, qualities of balance, tension, movement, and rhythm are also generated.” (Pinto, 2012, p.25).

Like Siza Vieira, the first Portuguese architect to receive the Pritzker Prize, said “It is necessary to find the right balance between the control in the spatial experience and the freedom to allow things to happen”.

4. Discussions

This theme can proportionate a pretext for further reflections about the way we deal today with teaching and learning Architecture.

“With the facilities of the virtual world, people, mainly students, lost the habit of to observe the reality! So, what was supposed to be a common behavior, assumes itself nowadays as a challenge: searching to observe! Observing reality leads to imagination, to innovation and consequently to new paths in research. Being aware of this reality it is an important step for new tools in research: (re)learning to search first! In consequence it will be easier to know what to research, for what and how! If not, theory and conclusions have the risk to be based on wrong premises.” (Rainha, 2021).

5. Conclusions

“At this stage, there is no longer a place for the conscious exploration of the sources of chance that this hand capture, since the drawn marks stabilize a first approach of arbitrary filling of the support, implanting itself, or better, unconsciously stabilizing the places that may refer to primitive areas of action, based on a kind of graphic “automatism”, arising from an erroneous practice (because it is not consciously explicable).

To that end, it is necessary that the “zoning” carry certain static downstream to consolidate itself in a matrix plan for what is to come.

However, this is a false static; it only serves as a pretext to start the representation at the zero points of the drawing. The inscription of a first mark or marks excites a network of more or less spectacular marks and, in the pictorial sense, provoking the attention in a particular area of the paper, more or less equivalent to the place that it occupies in the ‘mesh’ of imagination”. (Neto, 2019).

The exercises of abstraction revealed to be fundamental for the creation of a “confident” state of spirit, which, at the same time, improves the will for research and exploration, at several levels, as intellectual, cultural and artistic.

It is through this confidence that the evolution to something more concrete, as the creation of space, occurs.

This dichotomy abstraction/ metamorphosis contains the essence for future approaches to architectural affairs, indispensable, for instance, in studio works, not only in the first year of studies, but through all the architecture program, as well as in life. It translates the eternal bridge between the imagination and the white sheet of paper, between the concept and the “answer”, between the first sketch and the final project.

To begin with this experience means to build a consistent pathway to form an architectural way of thinking and being, as well as the importance of knowledge integration. How should the different knowledges be integrated? Which new ones must be included, or which must be excluded? Being aware of this integration is a fundamental step for the formation of the students, as future architects. It is up to us, teachers, to know how to manage and transmit this interdisciplinarity.

This work is just one of the multiples aspects of teaching and learning architecture! The complexity and exponential speed with which changes occurs obliges us to a permanent need of reflection. In this context, to revisit “the classics” exercises, can reveals like something stimulating and “refreshing”.

Acknowledgements

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of Interests

The Authors declare that there is no conflict of interest.

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