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Architecture and Art: La Ronchamp's symbiosis as a 'total work of art'

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Abstract: *Le Corbusier developed his own unique poetics of architecture, perceived and understood as an art. In La Ronchamp, due to his complete creative freedom, he found a space to express his most poetic and artistic views. The research paper thus analysis the Chapel as a case study, in order to clarify Corbusier's artistic and architectural vision, ideals and driving principles: drawing firstly from the architectural characteristics that define the space, secondly defining an integrated set of principles that conceptualize the architecture as an art, and lastly, an analysis of the particularities that compose the chapel as a 'total work of art', analyzing the union of the arts, both in concept, form and meaning, and in the overall context of Corbusier's unique theory. Thus, the research paper aims to understand and uncover how the poetics and emotional condition lives through Ronchamp: the meaning it encases, the artistic values it sustains and the timeless ways it recreates. The overall study has both practical and theoretical applications and implications for architects and artists with an interest in the integration of art and architecture, as well as the conceptual connections between the arts; a vital issue in the contemporary world for the definition of a more meaningful and sustainable environment.*

Keywords: *Art, Architecture, Le Corbusier, Principles, Poetry, Emotion.*

1. Introduction

The paper is an explores La Ronchamp as a 'total work of art', (a manifestation of a unique poetics and an art), as the architectural project where Corbusier most represented his artistic visions and architectural ideals in a unified and free way, a result of his complete creative freedom and desire to create a unique sacred place. Thus, in order to do so, the methodology used for the research includes both textual analysis, and formal analysis of the design; the textual analysis comprises an in depth literature review, cross analyzing various references that clarified Corbusier's purpose, vision, ideal and creative process to achieve it, as well as the experience of the space described and perceived by the various authors, in order to arrive at common grounds and thus further identify a series of articulating principles. The Ronchamp Chapel has been the focus of research through multiple perspectives of various authors, however, in this case study and brief research paper, the approach is to clarify the artistic and architectural aspects, the connections between the arts, the creative, emotional and poetic principles and the work process and ideal that led Le Corbusier's to create this unique sacred and timeless space, in order to clarify the underlying driving principles that sustain it's artistic and architectural characteristics and the connections between the arts that sustain it. The particular study of Corbusier's study synthesis and symbiotic relationship of the arts and architecture, from the Ronchamp case study and as analysed throughout the work, has both practical and theoretical applications and implications for architects and artists with an interest in the integration of art and architecture, as well as the conceptual connections between the arts; a matter of the essence, in the various fields of artistic creation in the contemporary world for the understanding, comprehension and definition of a more meaningful and sustainable environment.

1.1 Le Corbusier: Context, Aims and the Ideal of Architecture – A brief introduction

Leonardo Benevolo, in 'History of Modern Architecture: Volume 2', (1977) explains the context within which Le Corbusier's work emerges. The economic and cultural situation in France during the years of the First World War, was mainly a concern for qualitative problems, such as improvements of lifestyle and general overall circumstances. While the rest of Europe was being swept by Art Nouveau, France tried to create a new academic reformulation in order to refit the needs of modern society and life. In this scenario, Le Corbusier emerges, managing to create a link between both, maintaining the traditional aspects of France aesthetics (and traditional architecture values) and combining them in a new way to better define modernity (both ordinary life and overall existence). In Benevolo (1977) words: " Thus he would act as a mediator between the modern movement and French traditions, and introduce into international culture some of the values inherent in this tradition. " ¹

Padovan (2002), in the same way, explains that " Le Corbusier conceives the new spirit, not as a complete break with the past, but as a recovery of architecture's authentic principles, (...). " ². This new spirit, continues the author, aimed to bring new life, and a new aspect to human 'constants' that in their essence, remain unchanged. His aim, through his writings and his architecture was to reclaim architecture's strengths and power, and in doing so, to " (...) redirect architecture to its unchanging fundamentals. " ³ (Padovan, 2002, p. 23).

For Le Corbusier, the architecture of his time, had lost sight and understanding of architecture's role and its fundamental principles. In regards to this non-satisfaction and non-signification of the architecture of his time, Le Corbusier, claims: " We are unhappy living in unworthy houses because they ruin our health and our morale. (...) Our houses disgust us; we flee from them (...). We become demoralized. " ⁴. As such, he sustained a deeper and better Architecture could and should be created: one that was artistic in essence and created an emotional connection with its inhabitants. On this issue, it is of vital importance his statement where he distinguished architecture from mere construction: " ARCHITECTURE is an artistic fact, an emotional phenomenon that is outside questions of construction, beyond them. Construction: THAT'S FOR MAKING THINGS HOLD TOGETHER; Architecture: THAT'S FOR STIRRING EMOTION. " ⁵

To conclude this brief introduction about the place of Architecture and the role of the Architect that sustained all of Le Corbusier's Architectural creations, one last thought and statement is in order, that summarizes both Le Corbusier's views and the underlying research aims, in using La Ronchamp as the case study. The sentence is derived from Le Corbusier's book 'Towards a New Architecture', where he claims: " The architect, through the ordinance of forms, realizes an order that is a pure creation of the mind; through forms, he affects our senses intensely, provoking plastic emotions; through the relationships that he creates, he stirs in us deep resonances, he gives us the measure of an order that we sense to be in accord with that of the world, he determines the diverse movements of our minds and our hearts: it is then that we experience beauty. " ⁶.

¹ Leonardo Benevolo, *History of Modern Architecture*. (Cambridge, Massachusetts: MIT Press , 1977), 436

² Richard Padovan, *Towards Universality: Le Corbusier, Mies, and De Stijl*. (Hove, United Kingdom: Psychology Press, 2002), 23

³ Richard Padovan, *Towards Universality: Le Corbusier, Mies, and De Stijl*. (Hove, United Kingdom: Psychology Press, 2002), 23

⁴ Le Corbusier and Jean-Louis Cohen, *Toward an Architecture*. (Los Angeles: Getty Publications, 2007), 94

⁵ Le Corbusier and Jean-Louis Cohen, *Toward an Architecture*. (Los Angeles: Getty Publications, 2007), 97

⁶ Le Corbusier and Jean-Louis Cohen, *Toward an Architecture*. (Los Angeles: Getty Publications, 2007), 92

1.2 La Ronchamp in the architectural world

La Ronchamp was initially received by a series of mixed reviews and opinions. According to Gans (1987), once the project was complete, the ‘architectural world’ was in shock: those that knew Corbusier and associated him to the ‘machine age’ and to ‘reason’ perceived the chapel as an ‘expressionist aberration’; where as others, Gans claims ‘‘ (...) saw its organic form as a humanistic enrichment of modern architecture and its Modulor proportions as evidence of its underlying rationality.’’⁷. However it was perceived and received at the time, today, it is unquestionable that La Ronchamp most represents ‘the total work of art’ that so well describes and defines Le Corbusier. Considered a true masterpiece by many, La Ronchamp has grown to be an architectural icon of the contemporary architectural and artistic world. Muller (2004) clarifies that there is an innate inability to categorize La Ronchamp: ‘‘ Examining critiques about Ronchamp places the project within the context of experiments in New Brutalism and the rejection of modernism. Some have suggested the project is expressionist or that it is the precursor to post- modernism.’’⁸. However, according to Muller (2004) none of these critiques are acceptable or satisfactory, for none describe the real character of Ronchamp. On this same issue, the nature of La Ronchamp, Pauly (1997) claims it is its *poesis* that defines it, claiming it to be ‘‘ (...) a poetic masterpiece that explores various forms of expression.’’⁹, that just as the ancient cathedrals, it seeks to be a union of the arts and of life. Muller (2004) on Ronchamp’s unique *poesis* also claims: ‘‘ It is the appreciation of the *poesis* particular to Le Corbusier that is responsible for the chapel's success as an architectural set piece.’’¹⁰. The Art of Ronchamp does in fact escape labels and categories; as such, that the chapel is a *poesis* is unquestionable and is generally understood as an architectural and artistic masterpiece: how that poetics and emotional condition lives through Ronchamp (the meaning it encases, the artistic values it sustains and the timeless ways it recreates) is what the case study (and the present research paper) aims to uncover and understand.

2. Ronchamp’s Background and Context

2.1 History and Context of the Site

The site faces north to the Voges hills, east of the town of Belfort, west to the Langres and South to the Jura mountains, forming a unique condition that encloses what has come to be known as ‘the four horizons’; the mountain/hill free standing, in the midst of such a landscape thus possesses ‘‘ (...) an aspect not unlike his much-admired Acropolis.’’¹¹, accentuates Muller (2004). Besides these natural special conditions of the landscape, the unique hill of Le Ronchamp is a sacred site of pilgrimage and has a long historical tradition. Gans (1987) explains that the history of this hilltop can be traced back in time through multiple generations all the way back to the Romans. Muller (2004) adds more historical context to the site, such as a connection with military defense a result of the positioning of the site in invasion routes of the Romans, a site of shared landscape between Swiss and German’s, as well as being the site of pagan worship, and lastly, the historical context that

⁷ Deborah Gans, *Chapelle Notre-Dame-du-Haut 1954*, in: *The Le Corbusier Guide*. (New York: Princeton University Press, 1987), 74.

⁸ Linda Muller, *The symbiosis between art and architecture as evidenced in Le Corbusier's Ronchamp*. (Vancouver, Canada: University of British Columbia, 2004), 82.

⁹ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 123.

¹⁰ Linda Muller, *The symbiosis between art and architecture as evidenced in Le Corbusier's Ronchamp*. (Vancouver, Canada: University of British Columbia, 2004), 82.

¹¹ Linda Muller, *The symbiosis between art and architecture as evidenced in Le Corbusier's Ronchamp*. (Vancouver, Canada: University of British Columbia, 2004), 71.

finds most evidence in today, the site of miracles that functions as a religious gathering for pilgrims. All these historical events have made the site be celebrated throughout the ages as a spiritual place (a sacred site) and, as such, it has possessed religious buildings that honor its unique values since the XIX century. The original chapel, a small space in scale, was renovated and transformed to fit the requirements of the pilgrims, and by the 1930's it was transformed into a larger cathedral, that was completely destroyed by the bombings of the World War II.



1. Panorama of Ronchamp; Source: https://commons.wikimedia.org/wiki/File:Panorama_Ronchamp-Champagney.JPG

2.2 The Commission and the Program

After the bombings and the complete devastation of the existing Church, with their unique sacred space devoid of a religious place for worship, the Notre-Dame-du-Haut property development company, decided to launch a commission for the project of a new chapel; they had initially intended to restore the former chapel, but due to cost, decided on a complete reconstruction instead. Muller (2004) clarifies that after France's difficult post WWII period, there was a climate of redevelopment and a 'stimulus for innovation'; as such, '*Ronchamp embraced the spirit of renaissance, as well as the renewal of spirit and faith (...)*'¹². When Le Corbusier was contacted for the commission, he initially refused the offer (a consequence of the Saint-Baume project, where the ecclesiastical entities had rejected his design), however he agreed to further listen to the proposal: a chapel for a pilgrimage site, that was still very much alive in its tradition, and to which Le Corbusier would have complete creative freedom. Corbusier became interested in the project and the program, but it was the site and the landscape that was the determining factor, an interest that grew from the very first visit to the site.

The program for the new chapel was simple: it was to be composed of the main nave, three small chapels (for independent services), an outdoor sanctuary for open-air ceremonies for pilgrims, dedicated to Virgin Mary should house a 'seventeenth century sculpture' of the Virgin and Child in wood, a sacristy and a small office in the upper floor, and lastly, the ability to collect rain water (due to water being rare on the hill). Muller (2004) accentuates that besides the programmatic references, '*(...) the architectural program at Ronchamp embraces premises of sanctuary, pilgrimage and humility.*'¹³; and that these specific emotions were integral part of the programmatic requirements. Simultaneously, other restraints conditioned the project: such as the lack of road access to transport building materials to the site, and the clients desire to re-use the old materials in a manner of 'economy' of means but also a way to convey humility and sustainability through the chapel.

¹² Linda Muller, *The symbiosis between art and architecture as evidenced in Le Corbusier's Ronchamp*. (Vancouver, Canada: University of British Columbia, 2004), 71.

¹³ Linda Muller, *The symbiosis between art and architecture as evidenced in Le Corbusier's Ronchamp*. (Vancouver, Canada: University of British Columbia, 2004), 71.

2.3 Project Development and Design Process

Corbusier begins the project by visiting the site, in 1950, where he drew inspiration specifically from the hill and the ruins of the old chapel. After this visit, in the very first sketches of the chapel, Corbusier created two strong and curved lines (the south and east walls) ; these responded to what has become known as ‘the four horizons’, where the concept for the chapel seem to already be clearly outlined. In the series of drawings that followed Corbusier defined the elevations (featuring the outdoor altar and choir gallery), and also the curved sweep of the roof structure. Corbusier’s vision kept developing in a kind of ‘form search’ through drawings and sketches, mostly in his notebooks. After this ‘form finding’ stage, another visit to the site and a series of perspective studies, Corbusier focuses on the plan, aiming to clarify form, content, site, program and concept simultaneously, within one single gesture or form, creating what he defines as an ‘organism’; for the architect, the plan had to be a graphic manifestation of the ‘initial idea’ and the ‘dialogue with the landscape’¹⁴. However, according to Cohen (2004) another major influence on the plan development was the position of the altars¹⁵. The plan thus results in an asymmetrical, irregular shape: a synthesis of that initial ‘impression’. This whole process was not an abstract or logical development, but instead, it responded to a ‘visual and sensory experience’, an impression and an ideal drawn from the site. After the generation of the form in the sketchbooks, Corbusier proceeded to design in the Atelier the detailed drawings for the project, during which he defined the organic roof structure. After this stage, models were created (of wire and wood), upon which the final design and plan on 1952 was based, followed by a formal presentation to the Archbishop of Besançon in November 1950.

The project was then presented to the clients on January 1951, however, some opposition delayed the construction date (the opposition was mainly from parishioners of Ronchamp, from regional authorities and from the press). The construction of the chapel begun in September 1953 and was finished on June 1955. This second stage of the project, Pauly (1997) clarifies, runs from the presentation date to September 1953 when construction begun; during this second stage is defined by a series of transformations: explorations of the North and West façade, interior perspectives and details, exploring the materials and construction details, clarifying tensions and concepts, etc.

2.4 Influences

In a later conversation with students, Corbusier claimed: ‘‘ (...) *the site is the nourishment offered by our eyes to our senses, to our intelligence, to our hearts. The site is the base of the architectural composition.*’’¹⁶. In fact, the site was the main propeller for La Ronchamp, at multiple levels. Gans (1987), on this influence, explains that Corbusier was driven by two opposing tendencies throughout all of his life: ‘‘ (...) *one toward the generation of universal types applicable to any setting and the other toward site-specific responses to landscape.*’’¹⁷. In the Ronchamp, too, both forces are found at play within the project development: at the one side the search for

¹⁴ Reference to: ‘‘ As Le Corbusier stated, the plan for the chapel was the product of a graphic transcription of the first impression, of the initial idea that came to the architect as he entered into his first ‘‘dialogue’’ with the landscape. It was a ‘‘response’’ a question of ‘‘creating the right organ’’.’’ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 70.

¹⁵ Reference to: ‘‘ The chapel’s plan, which became increasingly asymmetrical as the planning phase progressed, was governed, inside and out, by the positions of the altars.’’. Jean-Louis Cohen, *Le Corbusier, 1887-1965: The Lyricism of Architecture in the Machine Age*. (Taschen, 2004), 65.

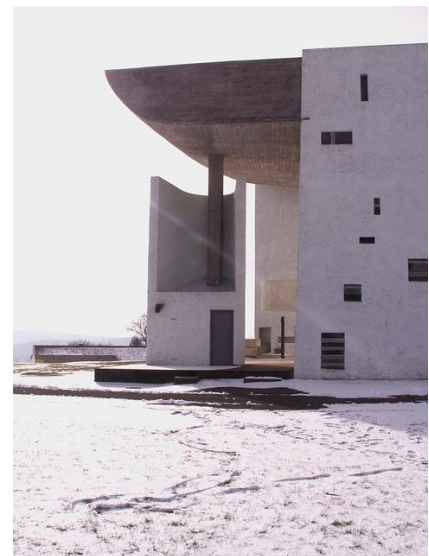
¹⁶ Le Corbusier, *Le Corbusier talks with students*. (New York: Princeton Architectural Press , 1999), 40.

¹⁷ Deborah Gans, *Chapelle Notre-Dame-du-Haut 1954, in: The Le Corbusier Guide*. (New York: Princeton University Press, 1987), 74.

universalities and archetypes that define the artistic, poetical and rational existence on the other side, the desire to the respond uniquely and specifically to the atmosphere of the landscape.

For Corbusier, in La Ronchamp, the landscape imprinted such strong emotions that it was the site and its sacredness that fuelled his creative energies. In Corbusier's words: " " *One begins with the acoustics of the landscape, taking as starting point the four horizons.... They are what gave the orders.... To them the chapel addresses itself.*" " ¹⁸. Le Corbusier, thus, possessed these two main influences for Ronchamp, the landscape and the sacredness of the site: the site's history as a 'sacred place' of pilgrimage, and the landscape's depth and amplitude converted into what he defined as 'the four horizons'. Understanding the 'genius loci' of the environment and the energies of the specific site location led to the unique conceptualization that fed all the stages of the design, acting both locally and universally, and finding a way to bridge the gap between those two apparently opposing principles.

3. Architectural Elements for a 'Union of the Arts'



2. La Ronchamp Chapel; Source: <http://pixabay.com/en/notre-dame-you-skin-de-ronchamp-372579/>; 3. Detail of the East Facade elements from the North side; Source: <http://pixabay.com/en/notre-dame-you-skin-de-ronchamp-372581/>

3.1 The Procession: The 'promenade architecturale'

Gans (1987) explains that Corbusier, influenced by the architecture and sculptural character of the 'acropolis' conceived Ronchamp as a sort of 'acropolis' in itself; the site's landscape, for Le Corbusier, carried great resemblance with the Jura Mountains of his youth and the Acropolis, two defining great influences in the project: " *As on the acropolis, the procession is orchestrated by a sequence of axial perspectives defined but not enclosed by the built forms of ziggurat, chapel, and youth hostel.*" " ¹⁹. The procession rests at the arrival at the door, next to the open air altar, the place for the pilgrims. Besides this initial conceptual 'procession' influenced

¹⁸ As cited by Deborah Gans, *Chapelle Notre-Dame-du-Haut 1954*, in: *The Le Corbusier Guide*. (New York: Princeton University Press, 1987), 74.

¹⁹ Deborah Gans, *Chapelle Notre-Dame-du-Haut 1954*, in: *The Le Corbusier Guide*. (New York: Princeton University Press, 1987), 75.

by the acropolis, La Ronchamp also is a tribute to the concept developed by Corbusier as ‘*promenade architecturale*’, that claims architecture should be lived and experienced as a succession of spaces, as a wandering through space. So too, at La Ronchamp, Corbusier applied this principle, that also echoes the ‘pilgrimages’ journey. The chapel is designed to be discovered successively, where each façade and each space echoes its own meaning. Pauly (1997) on this issue, also emphasizes that in order to fully grasp the outside forms it is necessary to embark in a journey around the volumes, observing each façade at a time, walking through the paths and gazing at each form; however, in the interior, the author explains an opposite situation occurs: the process of understanding the essence of the architecture, “ (...) occurs through the visitor experiencing a series of different sensations, generated by the ambience created through the play of light within the spatial composition.”²⁰.

3.2 The Conceptual Facades

Thus, the facades, in order to be fully apprehended and experienced need to be observed from the ‘walking’ experience around the chapel, contemplating and ‘living’ each façade at its own pace, and understanding the opposing principles, the distinct forms, elements and character that define each one of them. North and West walls are concaved and closed, the South and East bend in to admit light and receive long distant views.

The south and east walls, as a response to the site, are respectively ‘receivers’ and ‘transmitters’ : they are open to the landscape and address the people in a welcoming and embracing way; while the south wall ‘receives’ and welcomes the public and the crowds of people leading them to the indoor spaces (it possesses a beacon tower and an open wall), the east wall ‘transmits’ and ‘communicates’ through the small outdoor chapel, a ‘sanctuary’ designed to ‘communicate’ open air ceremonies on pilgrimage days . Both facades are defined by the projection of the roof structure that defines a covered area for gatherings, with the floor defined by paving stones that follows the form of the roof and the roof structure tilting down (to the north and west side) that accentuates even more the ‘openness’ of the chapel. Where as the South façade is defined by a series of openings in a ‘vast’ white wall, the East façade’s outdoor sanctuary is composed of free-standing forms that define the liturgical elements (altar, bench, pulpit and choir gallery); the altar, the primordial element is composed of a block of white stone, placed on orthogonal bases defined by the Modulor proportions. According to the author Danièle Pauly (1997), these elements create ‘a human dimension’ to the space and “ (...) highlight the thickness of the wall, emphasizing its solid appearance.”²¹. The south wall is thicker and tapered more intensely than the others, it possesses its own unique character, being the façade from which the interior is accessed.

The North and West facades, the posterior of the chapel, in opposing concepts and forms, are enclosed and confined. Although they represent the more functional aspects of the chapel , both co-operate together in creating a poetical encounter by accentuating a ‘play’ of mass, form and space; also, they accentuate the plastic elements of the chapel and create a mysterious ‘promenade architecturale’. Where these two facades meet, two towers (back to back against each other) create a vertical reference, and a gap is defined between them containing the entrance used on a day-to-day basis by the users of the chapel. Both facades are defined by ‘parabolic curves’ and complete whiteness of almost ‘solid’ walls. Where as the north façade contains only some small openings, the west façade, (the only one with no openings), possesses a second tower at the far end (the highest of the three towers) that allows for the chapel to be spotted at a far. This façade also possesses the rain collecting elements,

²⁰ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 45.

²¹ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 38.

that were transformed into a poetical and artistic ‘form’ like sculpture: concrete free forms define the gargoyle (gun like projecting form, in an oblique angle), a ‘receptacle’ raising from the ground, and ‘free forms’ such as pyramids and a cylinder within the receptacle.



4. La Ronchamp’s main entrance doors: Corbusier’s painting; Source: <http://public-domain.pictures/view/image/id/3648223450#!Ronchamp+door>

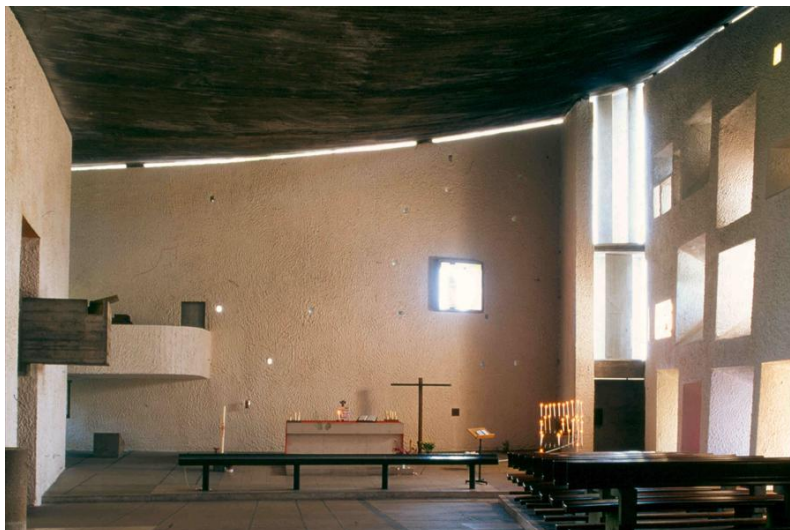
3.3 The Painted Doors: Symbols and Signs

The approach route of the chapel is from the Southeast. The south entrance door (the main access to the chapel) is comprised of two revolving doors of two square sized panels (one facing the outside and one facing the inside) painted by Le Corbusier in his studio. The enamel paintings, much like Le Corbusier’s work, are intuitive and expressive creations; they use primary colors and their derivatives, in a sort of free-form expression, and possess a visual vocabulary and language that seem to find its origin in nature (organic forms, landscapes, mountains, stars, clouds, and rivers) and in geometry (pyramids, lines, circles, shapes and triangles), echoing the conceptual and poetical references that originated La Ronchamp in the first place; this fact finds more evidence in the representation of the hands that clarify the meaning of the chapel itself: on the outside paintings two hands are represented, open one in welcoming and one offering, where as in the painting facing the inside space are represented hands in prayer and meditation²². They are a sort of archetype of Corbusier’s poetical vocabulary and artistic values that are echoed throughout the chapel: a balance between geometry and intuition, free forms and order, poetry and symbolism, etc.

²² Firstly identified and clarified by Pauly (1997). On these paintings, Pauly (1997) also claims: ‘‘The enamel-painted signs on the two surfaces of the door are inextricably linked with the symbolic nature of the chapel. As with the forms of the building, these simple signs evoke a dialogue with the landscape.’’ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 52.

3.4 The Interior Emotional Space

The interior space is a rich and visually complex atmosphere. It can be accessed in two ways, each providing its own set of emotions: the main doors of the South or the smaller entrance of the north; according to Pauly (1997), the impressions received from both the entries and the emotions generated from both occasions are ‘equally intense and sensorially rich’. Echoing these two types of entrances, the interior space is composed of two types of individual sensations, defined by two distinct types of spaces: the main central space of the chapel, corresponding to the south and east facades, and the north and west spaces, that are formed as nuclear systems, containing the individual and smaller chapels. The first, the general main space of the central chapel is perceived as open but yet confined; It is, like the outside form, a balance between reason and emotion: orthogonal lines define a kind of order (the cross and the mass of the altar), where as curved lines of the west wall and the weight of the curved roof define a more emotional kind of sensation; it creates a space for seclusion, introspection and meditation, through its somber, shadowy and mysterious atmosphere. This main space is organized around the stone center altar, located beneath the highest point of the building, placed (traditionally followed) on the East: a central focus and center of the architecture (various joining forces, lines and geometries), the spatial perception and the poetical and spiritual dimensions. Corbusier later described the importance of the altar for the monastery La Tourette, as a masking of a ‘gravity’ and an establishing of ‘hierarchies’ both psychological and physical ²³ .



5. The main interior space; Photograph by: Paul Kozlowski; Source:

http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=5147&sysLanguage=en-en&itemPos=13&itemSort=en-en_sort_string1%20&itemCount=78&sysParentName=&sysParentId=64; Copyright: ©

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The slope of the floor follows the natural slope of the hill, and slopes towards the altar; the floor is made of cement paving; the interior is modest and bare in character, with plain wooden pews down the south side. Above

²³ Reference to Corbusier's words on the matter: “ *The altar marks the center of gravity and engenders a value, a hierarchy of things. In music there is a key, a range, a chord; here it is the altar – the most sacred of places that creates this note, and whose role it is to trigger the radiance of the oeuvre. This is facilitated by proportions. Proportion is an ineffable thing.* ” As cited by Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 48.

the central altar, the east wall is perforated by several pinhole like windows and by a window with the Madonna and Child in silhouette; this window's image also serves the outside altar used during pilgrimages.

The second type that is on the other side of this interior main space is a more darkened area, corresponding the North and West facades; just like it's exterior, it is emphasized by dramatic shadows and the absence of openings; it contains the individual chapels. One of three chapels in the interior is painted red.

Both types of spaces create a visually rich and emotionally and spiritually balanced space. According to Gans (1987) what is most striking, within the interior, is the emotion of stillness and emptiness. Pauly (1997) explains that this interior environment grew out of Corbusier's desire to create both a place for 'silence and meditation' and a place that 'symbolized the dramatics of prayer'.

3.5 Sculpted Space and Free Forms: A Plastic Artistic Expression

Corbusier's approach to space was to consider it as a mass, a whole entity and then removing specific parts to create the overall whole of the architecture; in other words, he considered La Ronchamp as a sculpture would. When Corbusier asserts " (...) 'transfer lyricism to the materials, to flex and bend them to best serve the design'";²⁴ he views form as a sculptor, clarifies on this issue Pauly (1997). Pauly (1997) further explains that the plastic language developed by Ronchamp, is a synthesis of Corbusier's quest in the paintings of the twenties and the sculptures of the forties and fifties. This plasticity of form highlights the sensory aspects of the spatial elements in a kind of visual language that had been being developed by Corbusier. As such, he modeled the materials as a sculptor would, as an organic form, shaping them and carving them, to express the unique concept and the overall driving idea. The volumes of the chapel, as a result, seem to be carved out, as hollows; the overall form, thus, both considered like a sculpture and perceived as a living sculptural space. Besides this specific approach to create a kind of 'sculpted space', the forms, just like in a sculpture, are conceived of as plastically free, each carved out to its own unique shape with its own poetical and artistic statement that resonates the overall whole. As a result, and as described by Pauly (1997), the shapes communicate amongst themselves and with the landscape²⁵, thus, establishing a dialogue: the dynamics of the roof, the curvilinear forms of the volume, the free standing elements of volumes projected, the receding forms, the masses of the towers, etc.; all the elements communicate amongst themselves and echo the overall artistic vision conceived of as a 'sculpted space'. On this issue, Pauly (1997) also clarifies, Corbusier himself, described Ronchamp as an "acoustic sculpture" and aimed to create a "phenomenon of concordance" between the landscape and the space, through sculptural forms²⁶. All the free forms, from the micro to the macro, create a poetical language that engages the user visually, emotionally, poetically, metaphorically and spiritually, acting as an artistic object.

3.6 Secondary Elements

The secondary elements, the furnishing and all the details are designed by Le Corbusier, and as such, are an extension of his artistic and architectural vision; these echo the values and the emotional qualities of the overall

²⁴ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 110.

²⁵ Reference to: "These shapes complement and communicate with each other in the same way as they 'dialogue' with the surrounding landscape and the four horizons." Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 44.

²⁶ Pauly (1997) further explains that the main inspiration for this was the Acropolis, where he saw the inextricable connection between architecture and landscape, and perceived architecture as a sculptural form.

space and as such form an integral part of the whole design adding aesthetic value to the architectural space. These elements serve various functions, Pauly (1997) clarifies on this issue: they serve a functional purpose, they structure the space (such as ramps, benches, etc.) and inject a sense of equilibrium (altar, pulpit, etc.); they create rhythm of space and of mass and contribute to the ‘hollow’ like feel of the overall space. The volumes defined by the cubic pulpit in concrete, the stairs leading up to choir gallery, the orthogonal volume of the confessional are designed and perceived as solid spaces and elements; they are each designed with geometrical lines, and introduce the verticality and horizontality element in the space. In Pauly’s words: ‘‘ (...) *these elements impart a sensation of stability and, as in a score in music, form dark graphic notes that stand out sharply against the white stippled surfaces.*’’²⁷. All these forms possess an inherent sense of plasticity and aesthetic value, and are an extension of the architect’s vision contributing to the overall whole and meaning.



6. The light and the Darkness in one of the secondary chapel spaces; Photograph by: Luis Garcia Quinteiro; Source: <http://public-domain.pictures/view/image/id/8080800853#!%23ronchamp>

3.7 Volumes and Light

For Corbusier, it is light that immerses the space, grants it its unique atmosphere and transforms it into a poetical experience. In Ronchamp, light is contained and used controllably, in creating a deep mystical experience: an atmosphere of shadows and midst’s highlighted by a poetical and metaphorical contained use of light. Pauly (1997) clarifies this same principle: ‘ *Light in fact takes the lead, qualifying the space and lending a spiritual dimension to the edifice.*’²⁸. Light, in each space, is treated differently and uniquely: in the main

²⁷ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 50.

²⁸ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 113.

central chapel it floods the space from above from a little opening left in the joining of the roof with the wall systems, it also frames the altar with little openings that resemble sparkles of stars and finds its way in the shadowy space through the colored and filtered small openings, where the tiny openings on the outside open up to large and deep poetic instances on the inside. Also of reference is the way by which light falls from the 'heavens' in the side chapels: it is captured, reflected and drawn down through the rough surfaces to fall straight into the plane of the alters; each of the towers is lit differently, according to the orientation of the tower and the different times of day. The interior space is flooded with darkness and that darkness is then flooded in specific areas by streaming light; as such, the space is enclosed and mystical, and it is revealed only through light. Each specific way light is conceived creates a mystical experience within those shades of 'darkness' that define the interior spaces. Light reveals from the darkness is not only a physical manifestation within the chapel but also a metaphorical, artistic, poetical and spiritual one. Light is indeed one of the fundamental means of expression and of creation of the spatial and special poetical atmosphere defined in Ronchamp. It is this complex and unique treatment of space and light, shadows and darkness that creates an environment for meditation and contemplation.

3.8 Colour

The atmosphere of the chapel is white, both outside and inside, however colour finds its way inside the space in little details: such as the windows or the doors. According to Pauly (1997), ' (...) colour is present to accentuate the white stippled surfaces, against which the colour stands out sharply.'²⁹ This is part of Corbusier's theory and understanding, that in order to truly understand and perceive white, colour must be present in a polychrome way. The side windows in the main space and the painting that compose the doors use vibrant colors, mainly primary colors. In these 'little details of bold colour', (colored glass, enamel doors, etc.) colour vitalizes the atmosphere and adds poetical and artistic value; these small openings, the south façade, convert into the interior space as large and expressive ones; each containing a different type of glass, colour and motif (colored or painted glass, inscriptions of praise to the Holy Virgin and motifs inspired by nature such as birds, stars, sun, butterflies, etc.). The colour used in the windows (one for each window) echoes the colours used in the painting of the doors: blue, red, green, yellow and violet. Some of the windows that are left transparent allow for the viewing of the landscape outside. Colour is also applied in more intense ways: at the side chapel painted red and the violet adjacent wall; these spaces are not perceived by the main space but instead they need to be 'walked into' adding an element of surprise and mystery through colour; the dark violet, creates an effect where the wall 'dissolves in the shadows'; it is the colour of Lent, and refers to the notions of Sacrifice. Both ways of applying colour create an emphasis in the architecture and in the poetical and mystical experience of the space. Colour, as such, is an integral part of the architecture itself, rather than a decorative element; it characterizes, defines and accentuates specific points in the space adding another dimension to it: a poetical or mystical experience. The use of colour is not only functional and spatial but also symbolic, emotional and spiritual.

²⁹ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 118.



7. Detail of windows: colour, symbolism and poetry; Source: <http://pixabay.com/en/notre-dame-you-skin-de-ronchamp-372585/>; 8. The ceiling of the red chapel; Source: <http://public-domain.pictures/view/image/id/1250552392#!red+light>

3.9 Sound and Touch

The sound of Ronchamp was important to Corbusier in various levels and possesses a specific value within the poetics of the space. Firstly, as a metaphor, for Corbusier believed Ronchamp to be ‘an architectural symphony’; on the Chapel being an ‘acoustic’ form, Muller (2004) also explains: “ *Le Corbusier considered the chapel a "land of acoustic sculpture," or an "acoustic plastic work," (...).*”³⁰ For Corbusier believed the ‘acoustic forms’ were the result of a true work of architecture or sculpture in the environment. Secondly, as Pauly (1997) and Gans (1987) explain, Corbusier believed there should be music coming from the chapel at specific times, coming from the bell tower; these were intended to play modern music by Edgar Varèse, “ (...) *so that Ronchamp would have a "limitless voice coming from the most distant ages and reaching the most modern hours of today."*”³¹; the sound was to propel the form beyond the space in which it found itself. Thirdly, the sound within the space functions as a kind of echo space, where silence abides, but every sound is magnified; and lastly, the sound of the water coming from the gargoyle on the outside, a surprise element that acts as a ‘meditative’ and contemplative element for the users wandering around the chapel.

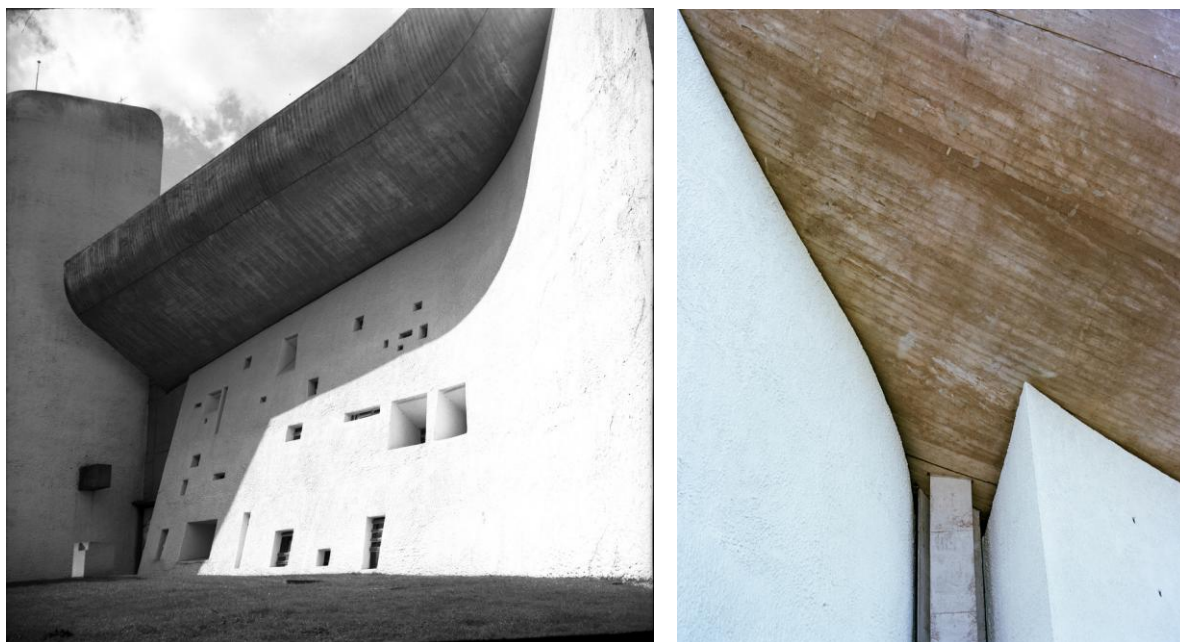
As for the ‘touch’ element, although not referred by any of the writers, the tactility of the materials also has a central role in the experience of La Ronchamp; the materials and the textures vary creating a rich experience for the user: either rough and very tactile (the overall skin of the building) or very smooth and soft from the polished alters or the wood of the benches, create an enriching experience that engage all of the senses.

³⁰ Linda Muller, *The symbiosis between art and architecture as evidenced in Le Corbusier's Ronchamp*. (Vancouver, Canada: University of British Columbia, 2004), 79.

³¹ Deborah Gans, *Chapelle Notre-Dame-du-Haut 1954*, in: *The Le Corbusier Guide*. (New York: Princeton University Press, 1987), 75.

4. Properties and Principles of Ronchamp's Poetry

In regards to Architecture itself, its qualities and properties, in one brief sentence Corbusier summarizes: *'Architecture is a thing of art, a phenomenon of the emotions, lying outside questions of construction and beyond them. The purpose of construction is to make things hold together; of architecture to move us.'*³². From the above statement, as well as the analysis outlined previously, the following principles still deserve further attention: Emotional Values, Poetical Values, Principle of Intensity and the Principle of Harmony.



9. The Poetics of the overall Forms; Source: <http://public-domain.pictures/view/image/id/7960727692#!Ronchamp>;

10. Detail of façade materials, forms and juxtaposition of contrasting elements; Source: <http://public-domain.pictures/view/image/id/10426275855#!Chapelle+de+Ronchamp+-+Le+Corbusier>

4.1 The Property of Emotion: Emotional Values

Corbusier was interested in provoking emotions, in creating sensations; he did so in a very unique and complex way in Ronchamp. Throughout the whole chapel there exists a multiple range of emotions that come forth: group gathering and the emotion of union (outside) contrasting with solitude and meditation in the interior; enclosed and protected element (viewed from the outside) yet disturbing, embracing and mystical experience (when on the inside); where as light, welcoming and intriguing emotions flood from the outside, within the inside, the viewer must sit in darkness and 'find' the light. Emotions range from stillness, solitude, happiness, contentment, contemplative, intrigued, unknown, discovery, mystery, mysticism, awe, and resignation. These complex emotions do not occur on one single instance, but occur as the 'promenade architecturale' unfolds: as the user travels through the space, each space echoes back its own range of emotions.

Besides this complex range of emotions, there is also another type of emotion that characterizes La Ronchamp: and that is the underlying aesthetic emotion that is echoed forth through the space as a union, as a whole, as an artistic unity its own accord. The aesthetic emotion is complex in nature, and therefore, should also be understood and perceived as a unity. Nothing else about it can be said or added. As such, it is also this

³² Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 128.

underlying aesthetic emotion that so well defines La Ronchamp. On this issue, Pauly (1997) claims, citing Le Corbusier: ‘‘ After all, was this building not intended to be a machine à émouvoir? As Le Corbusier wrote: ‘ The Chapel? A vessel of silence, of sweetness. A wish: Yes! To achieve, through the language of architecture the feelings evoked here.’ ’³³.

4.2 The Principle of Intensity (of Emotion and Poetry): Joining Opposites

On the intensity of the poetic value at La Ronchamp, Pauly (1997) explains: ‘‘ Although the poetic phenomenon, generator of emotion, is always present in Corbusier’s work, it would seem to be most intense in this building.’ ’³⁴. Throughout Ronchamp, there is an inherent balance of opposites and a desire to represent both aspects of intensities throughout the whole design of the Chapel; in emotions (with emotions of expansion on the outside and contraction in the inside), in light (creating intense dark shadow areas inside contrasting only by small hints of controlled light), in forms (where the geometrical forms act as a kind of geometrical counterpart to the curved forms of the roof and the main structure), in colour (opposing the blaring whiteness of the chapel with elements of controlled color accents) and in (...). As such Corbusier doesn’t exclusively represents one side of the polar contrast, but instead represents both sides, contrasting one against the other; like two sides of the same coin, each potentiates and amplifies the depth of emotions and the intensity of the poetical experience. This ideal of ‘depth’ and of ‘intensity’ through polar contrasts is found both at a micro scale and at a macro scale: from the very little detail to the overall form. An example of this is the East and the South façade concept that contrasts with the north and west facades, both types represent two opposing polarities: where as the East and South facades are open, inviting and respond to the human scale; the west and north facades are enclosed, concave, and dramatic in scale. Both poetically and emotionally, these opposing concepts amplify and intensify the experience of the space.

4.3 The Principle of Harmony: Proportions and Wholeness

The play of proportions is a crucial element that unites the whole of the space, both outside and inside, in the various scales of the building. The dimensions of all of the chapel as well as the secondary elements and details were calculated by the use of Modulor, thus, each element (including furniture) is in harmonic consonance with the proportions of the whole chapel. Le Corbusier himself claimed: ‘‘ Harmony can only be attained by that which is infinitely precise, exact and consonant; by that which delights the depths of sensation without anybody’s knowing; by that which sharpens the cutting edge of emotions.’ ’³⁵. As such, in order to achieve this type of harmony, all elements must be in accordance in a mysterious and subdued hidden way.

For Corbusier, there was an inextricable link between the emotions a form conveyed and the proportions that guided its inherent existence; as such, the proportions that defined Ronchamp, aimed to create an innate sensation; on this issue, Muller (2004) claims: ‘‘ Ronchamp’s design presumed that proportion would transport architecture beyond the physical form to a state of innate sensation: Le Corbusier compared proportion to a key

³³ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 45.

³⁴ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 127.

³⁵ As cited in Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 52.

that comprises the unifying force in architectural design.³⁶ As such, Muller (2004) continues, ‘architectural sensations’ are indeed the result of specific geometric forms. But harmony is also present in yet another way, one that depends on the harmonies of the proportions but also lives beyond it: it is the sense of harmony of poetry that allows for the spirit to be moved. On this issue, Corbusier claimed: ‘*Everything is harmony, relationships and presences. (...) There are presences: the eternal aspect of that which is permanent.*’³⁷ It is this sense of harmony as a ‘poetic’ value and as ‘presence’ that also finds echo in Ronchamp.

4.4 The Principle of Perception: Open fields of Meaning and the Phenomenological Experience

Another principle emerges through the analysis of La Ronchamp, and that in the principle of the Perception. It is through perception that open fields of meaning can emerge.

Maria João Durão (2003) explains that the term perception derives from the latin ‘*perceptio*’ (meaning ‘harvest’ or ‘correct knowledge’) from ‘*percipio*’ (meaning ‘understand’, ‘experiment/feel’, and ‘capture with intelligence’) and from de ‘*capio*’ (that means ‘capture’ or ‘apprehend’). She clarifies that the semantics of the word have their roots in touch and movement, thus, ‘*(...) the senses need to be touched (by light, form, sound, odour or taste).*’³⁸ Perceptual processes, she clarifies, are no longer exclusively associated with the traditional way ‘sensation-perception-cognition’ but, by the contrary, they merge sensations with cognition. Also, the sense of perception is beyond the mere registration of an image in the brain, but rather involves a process of filtering where ‘*(...) the perceptions are inferred in ways that make sense to us.*’³⁹ Lastly, perception, thus, is primarily associated with vision; but it also entails all the other senses.

Roger Scruton (1979) claims that ‘*In all architectural experience the active participation of the observer is required for its completion.*’⁴⁰ It is through the observer’s perception that the understanding of the space emerges. Thus, the experience of the architecture space is always multiple and open for interpretation. Scruton further explains, that the user perceives with a kind of ‘imaginative ordering of experience’, beyond ‘literal significances’ of common ‘perceptions’. This ‘imaginative experience’, as he points out, is derived from all the senses that together contribute to the full experience of architecture.

Also of reference is the words of Pallasmaa (1996), where he explains that a memorable experience of art and architecture, is when ‘space’, matter and time, fuse into ‘one single dimension’, thus permeating, through our perceptions, our consciousness. In the process, he explains: ‘*We identify ourselves with this space, this place, this moment, and these dimensions become ingredients of our very own existence.*’⁴¹

Another point worth clarifying, in the understanding and the importance of perception in the experience of the meaningful architectural space is Steven Holl’s theory. According to Steven Holl, emotions and sensations are

³⁶ Linda Muller, *The symbiosis between art and architecture as evidenced in Le Corbusier's Ronchamp*. (Vancouver, Canada: University of British Columbia, 2004), 79.

³⁷ Le Corbusier and Ivan Zaknic, *The Final Testament of Perè Corbu: a Translation and Interpretation of Mise au point by Ivan Zaknic*. (New Haven and London: Yale University Press, 1997), 83.

³⁸ Maria João Durão, *Funções Peceptuais para o Design de Espaço*. (Lisbon: Caleidoscópico - Revista de Comunicação e Cultura, 6, pp. 155-167, 2006), 155.

³⁹ Maria João Durão, *Funções Peceptuais para o Design de Espaço*. (Lisbon: Caleidoscópico - Revista de Comunicação e Cultura, 6, pp. 155-167, 2006), 159.

⁴⁰ Roger Scruton, *The Aesthetics of Architecture*. Princeton, (New Jersey: Princeton University Press, 1979), 94

⁴¹ Juhanni Pallasmaa, *The embodied image: imagination and imagery in architecture*. (Chichester: John Wiley & Sons, 1997), 50.

triggered by ‘exhilarating perceptions’, and these are evoked by complex use of materials, light, shadows, textures, colours, details, etc.

All the elements at La Ronchamp act in unison to our human perceptions. It is through their complex play of forms, textures, and all other elements, that the Chapel demands an ‘active participation’ and allows for an open interpretation to emerge. At La Ronchamp, all the senses act together, communicating to our perceptions in different, unique and deep ways. Through our perceptions, the space becomes a ‘memorable and complete experience’.

4.5 The Principle of Unity:

Corbusier claimed: “ ‘ ‘ *Painting, architecture and sculpture are unique phenomena of plastic nature in the service of poetic research in that they are capable of releasing the poetic moment.* ’ ’ ”⁴². So too, with Ronchamp, through the **union of the different arts**, Corbusier aimed to create this poetic moment: so intense and so vibrant that it allowed for a flow of ‘sacred’ life to find a space to occur. Thus, there is an inherent union at multiple levels; firstly the union between the architecture elements: the union between the architectural piece and the landscape (nature), the union between the organic forms of Ronchamp at the environment it is set upon, the union between the various artistic fields, the union between the multiple scales of the design (ranging from the overall design to the smallest detail of individual elements). Secondly, the union in the harmonies of the overall space; and lastly, the union between the distinct emotions, poetry and meaning that act conceptually, metaphorically and spiritually. Without this unifying principle of union, La Ronchamp wouldn’t be La Ronchamp.

5. The Principle of Art and Architecture: Symbiosis and Interdependence

5.1 The ‘Total Work of Art’

Corbusier has a unique vision in regards to the union of architecture and of art; he elevated architecture to its most noble aspirations, that of being an art (communicating to man’s inner worlds), being a ‘mother’ of the other arts and housing them within architecture as a unique ‘poetic and artistic’ vision. In La Ronchamp, he found the freedom and the ‘sacredness’ he needed to create these ideas and make them manifest in a ‘total work of art’.

On this issue, Pauly (1997) explains that the complete freedom given to Corbusier allowed him to explore and ‘make manifest’ an idea that he was exploring since the thirties and that he had made manifest in writings and conferences until the fifties: “ ‘ (...) *the notion of architecture as a forum which allows for a synthesis of various art forms.* ”⁴³.

As such, Pauly continues, a work of art may be integrated into a building in which it must enter into a ‘genuine dialogue’ with its architectural context; the many arts are incorporated into the major art, the architectural environment, which Le Corbusier defined as a ‘collaboration of the arts’. In Ronchamp, he clarified and explored this purpose of uniting the arts within architecture and that of architecture being also an art, with a unique

⁴² As cited by Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 123.

⁴³ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 108.

purpose in mind: ‘‘ (...) to draw forth from a constructed work (architecture) presences engendering emotion, which are essential to the poetic phenomenon.’’⁴⁴.

According to the author, volumes, light, colors and materials, turn Ronchamp into a total work of art (aspects analyzed in part 3 of the present research paper), but also, the inherent poetics of space and the ability to awaken emotion (aspects analyzed in part 4 of the present research paper). As such, La Ronchamp is a ‘total work of art’ for multiple reasons that co-exist in unison: firstly because architecture is perceived and created as an art, created as a sculptural form following an artistic process, secondly because it incorporates within itself multiple art forms that contribute to the overall artistic vision, and lastly because as a work of art, it communicated poetics and provokes specific emotions in the viewer.

5.2 The ‘Relationship’ between Architecture and Art

Another aspect that still needs further clarification is the specific and unique relationship Corbusier developed between Architecture and Art, that found space through Ronchamp and grew from his notion of a ‘synthesis between the arts’. This relationship was described by Muller (2004) in her thesis, where she sustains that the connections between architecture and art extend beyond the mere synthesis between the arts, into a degree of symbiosis – an issue of the utmost validity and pertinence. In regards to the function of art in Le Corbusier's La Ronchamp, Muller (2004) explains that although critics have diverse opinions, they agree that the chapel ‘represents a synthesis of art and architecture’ on various levels. However, what is of the essence, continues Muller, is that the ‘art is an integral part of the architecture’ ‘‘ (...) and that the piece functions as a consequence of the interdependence of the art and architecture, rather than the art functioning as a constituent of the whole.’’⁴⁵.

The difference between a synthesis and a symbiosis, explains Muller (2004), as is evident in Ronchamp, is that the art is not merely a ‘decorative’ element, nor is there an effort in joining art with architecture; instead, it is Ronchamp as a whole, as a union of all the arts it comprehends that allows for an achievement of its Architectural and Artistic character; each element supports the architecture in creating a unique and meditative space and transforming the mere space in a ‘presence’. Muller’s synthesises, ‘‘ In the achievement of symbiosis, Le Corbusier contributes to XX century design syntax the appreciation that architecture is a function of emotion. This distinguishes symbiosis from the concept of synthesis, wherein the art is a constituent of the architecture, but not primary to it.’’⁴⁶. With Ronchamp, Muller (2004) continues, not only is it Le Corbusier's premiere integrative work of art, but also ‘‘ (...) the art is integral to the architecture to the extent that the architecture is art and the architecture could not respond to the demands of the form without the art.’’⁴⁷. This interconnectivity and connection functions at multiple levels: conceptually, symbolically, metaphorically, and in meaning, supporting the overall whole.

⁴⁴ Danièle Pauly, *Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp*. (Springer Science & Business Media, 1997), 109.

⁴⁵ Linda Muller, *The symbiosis between art and architecture as evidenced in Le Corbusier's Ronchamp*. (Vancouver, Canada: University of British Columbia, 2004), 26.

⁴⁶ Linda Muller, *The symbiosis between art and architecture as evidenced in Le Corbusier's Ronchamp*. (Vancouver, Canada: University of British Columbia, 2004), 89.

⁴⁷ Linda Muller, *The symbiosis between art and architecture as evidenced in Le Corbusier's Ronchamp*. (Vancouver, Canada: University of British Columbia, 2004), 63.

6. Results/Conclusions



11. Le Corbusier's drawing, "La Main Ouverte", 1954, Watercolour and paper mounted on paper, Dimensions : H : 0,21 m x L : 0,27 m ; Source:

http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=7068&sysLanguage=en-en&itemPos=1&itemSort=en-en_sort_string1%20&itemCount=107&sysParentName=&sysParentId=71; Copyright: © FLC/ADAGP

Corbusier claimed: ‘ *Nothing is transmissible but thought. (...) Thought alone, the fruit of labor is transmissible. Days pass, in the stream of days, in the course of a life....* ’⁴⁸. So too, the work aimed to clarify Corbusier's vision and thought, through the analysis of La Ronchamp, arriving at the point that originated the work in the first place: the unique approach of the ‘union of the arts’.

As a first conclusion, it is of reference to clarify the unique way in which the art and architecture are interdependent, functioning in a mutually subordinate relationship. As previously seen, not only as a synthesis but as a symbiosis, that establishes Ronchamp as a unique architectural element and summarizes Corbusier's ideals in regards to the union of the arts, it's interdependence and its symbiosis in content, form and meaning. At La Ronchamp, it is created and established new paradigms and ideas about the symbiosis of art and architecture: where not only do they act to support each other, but, in a specific space they enhance each other's meaning and work collaboratively and sustainably towards one ‘whole’.

As a second conclusion, in regards to architecture, La Ronchamp emerged through the present research work, as a perfect example that summarizes Le Corbusier's views on what architecture should really be (clarified in point 1.1.). The principles that underly La Ronchamp (the principle of harmony through form and colour, the principle of the intensity of light and contrast, and others referred above) work together as a whole, creating an architectural masterpiece that embodies it's creator's ideal: a work that transcends mere construction and communicates to the human capacities through emotion, awakening in through its experience deeper connections. Architecture, in this sense, as it was shown, has little regard to the aspects of function, considering

⁴⁸ Le Corbusier and Ivan Zaknic, *The Final Testament of Perè Corbu: a Translation and Interpretation of Mise au point by Ivan Zaknic*. (New Haven and London: Yale University Press, 1997), 83.

them only on a first level or approach. Instead, once function is established, it takes a into consideration all of the other aspects that sustain it as a art, (as analysed in points 4.and 5.).

As a third note, it is important to emphasize the poetics of the space and the principle of poetry. Poetry, as an aspect of vital importance for Le Corbusier, emerges through the combination of multiple elements. It was found, that poetry doesn't result from one single instance, one concept or one overall form, but instead results as a combination of all aspects of the chapel: cooperating as a whole, driven by harmony and intensity, to promote a poetical experience sustained by vision and emotion.

On a fourth note, the richness and meaning of La Ronchamp also exists in its open interpretation (as all works of art) and different possibilities of apprehension and perception. It is through our perceptions that the work becomes alive in content, form and meaning, gaining multiple levels of sensitivity and understanding, as each detail as well as the whole, permits multiple significations to emerge.

As a fifth conclusion, it was understood that through La Ronchamp's architectural emotions, Le Corbusier creates a space that is in tune both with the self and with the universal laws. In Corbusier's words: " *Architectural emotion: that's when the work resounds inside us in tune with the universe whose laws we are subject to, recognize, and admire.* " ⁴⁹. These laws have become clear throughout the research, but, what has become even clearer is that it is through them, in a space like La Ronchamp, that the self grows and finds its place within the self and within the world.

Lastly, the research concludes, as a summary, that not only is Ronchamp's uniqueness and meaning sustained by a series of properties and architectural elements that create a rich and complex environment, but also (and mainly), by an interaction and cooperation between all fields of artistic and architectural expression that work together in creating one single vision: Corbusier's vision for a space that belonged to the landscape, a union between metaphorical opposing principles such as light and darkness, a place for worship and contemplation that unified people, and lastly, a space that is and acts, as an Art in its most noble sense (communicating through multiple artistic expressions). This vision, within this space thus allows for multiple emotions, meanings and significances to emerge and resonate in the consciousness and in the spirit of man.

7. Images Sources and References

Image 1: Panorama of Ronchamp; Source: https://commons.wikimedia.org/wiki/File:Panorama_Ronchamp-Champagney.JPG

Image 2: La Ronchamp Chapel; Source: <http://pixabay.com/en/notre-dame-you-skin-de-ronchamp-372579/>;

Image 3: Detail of the East Facade elements from the North side; Source: <http://pixabay.com/en/notre-dame-you-skin-de-ronchamp-372581/>

Image 4: La Ronchamp's main entrance doors: Corbusier's painting; Source: <http://public-domain.pictures/view/image/id/3648223450#!Ronchamp+door>

Image 5: The main interior space; Photograph by: Paul Kozlowski; Source: [http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=5147&sysLanguage=en-en&itemPos=13&itemSort=en-en_sort_string1%20&itemCount=78&sysParentName=&sysParentId=64](http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=5147&sysLanguage=en-en&itemPos=13&itemSort=en-en_sort_string1%20&itemCount=78&sysParentName=&sysParentId=64;);
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Image 6: The light and the Darkness in one of the secondary chapel spaces; Photograph by: Luis Garcia Quinteiro; Source: <http://public-domain.pictures/view/image/id/8080800853#!%23ronchamp>

⁴⁹ Le Corbusier and Jean-Louis Cohen, *Toward an Architecture*. (Los Angeles: Getty Publications, 2007), 97

Image 7: Detail of windows: colour, symbolism and poetry; Source: <http://pixabay.com/en/notre-dame-you-skin-de-ronchamp-372585/>;

Image 8: The ceiling of the red chapel; Source: <http://public-domain.pictures/view/image/id/1250552392#!red+light>

Image 9: The Poetics of the overall Forms; Source: <http://public-domain.pictures/view/image/id/7960727692#!Ronchamp>

Image 10: Detail of façade materials, forms and juxtaposition of contrasting elements; Source: <http://public-domain.pictures/view/image/id/10426275855#!Chapelle+de+Ronchamp+-+Le+Corbusier>

Image 11: Le Corbusier's drawing, "La Main Ouverte", 1954, Watercolour and paper mounted on paper, Dimensions : H : 0,21 m x L : 0,27 m ; Source: http://www.fondationlecorbusier.fr/corbuweb/morpheus.aspx?sysId=13&IrisObjectId=7068&sysLanguage=en-en&itemPos=1&itemSort=en-en_sort_string1%20&itemCount=107&sysParentName=&sysParentId=71;
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8. Bibliography/references

Benevolo, L., 1977. History of Modern Architecture. MIT Press.

Cohen, J.-L., 2004. Le Corbusier, 1887-1965: The Lyricism of Architecture in the Machine Age. Taschen.

Corbusier, L., 1999. Le Corbusier Talks with Students. Princeton Architectural Press.

Corbusier, L., 2000. The Modulor: A Harmonious Measure to the Human Scale, Universally Applicable to Architecture and Mechanics. Springer Science & Business Media.

Corbusier, L., Žaknić, I., 1997. The Final Testament of Perè Corbu: a Translation and Interpretation of Mise au point by Ivan Zaknic., First. ed. Yale University Press, New Haven and London.

Corbusier, L., Cohen, J.-L., 2007. Toward an Architecture. Getty Publications.

Durão, M. J. (2006) Funções Peceptuais para o Design de Espaço. Caleidoscópio - Revista de Comunicação e Cultura, 6, pp. 155-167 . [online]. Available from: <http://revistas.ulusofona.pt/index.php/caleidoscopio/article/view/2291> (Accessed 10 October 2013).

Gans, D., 1987. Chapelle Notre-Dame-du-Haut 1954, in: The Le Corbusier Guide. Princeton Architectural Press, New York.

Holl, S. et al. (1994) Questions of perception: phenomenology of architecture. a+ u Publishing Company.

Muller, L., 2004. The symbiosis between art and architecture as evidenced in Le Corbusier's Ronchamp. University of British Columbia, Vancouver, Canada.

Scruton, R. (1979) The Aesthetics of Architecture. Princeton, New Jersey: Princeton University Press.

Padovan, R., 2002. Towards Universality: Le Corbusier, Mies, and De Stijl. Psychology Press.

Pallasmaa, J. (2011) The embodied image: imagination and imagery in architecture. Chichester: John Wiley & Sons.

Pauly, D., 1997. Le Corbusier: La Chapelle de Ronchamp, The Chapel at Ronchamp, 1st edition. ed. Springer Science & Business Media.