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Body and Building:

The Perspective of Experience in Architecture

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1. Abstract

Questa tesi si occupa della relazione dinamica di interdipendenza tra il corpo umano e l'edificio architettonico nella creazione di spazi dell'esperienza fondati sulla corporeità.
Siamo sottoposti quotidianamente all'attacco globale dell'industria mediatica dell'immagine, volto alla manipolazione delle nostre percezioni etiche ed emotive, fondate su profonde basi storiche, umane e culturali. L'"espressionismo elettronico" ha favorito una visione del corpo come mera appendice del cervello. L'architettura contemporanea, orientata principalmente verso soluzioni formali accattivanti e l'abuso del computer, produce incessantemente immagini per la seduzione dell'occhio, appiattisce la nostra capacità d'immaginazione, nega la relazione aptica con l'oggetto o lo spazio progettati e causa la perdita del senso di luogo e di appartenenza.
Supportata dal contributo di continui riferimenti a scelte architetture operate nel concreto, la ricerca ha come obiettivo l'approfondimento di temi essenziali della progettazione di spazi architettonici incentrati nella connessione sensoriale tra corpo, immaginazione e contesto ambientale. Vengono trattati i modelli sensoriali e mimetici alla base della conoscenza esistenziale nell'esperienza della percezione, dell'orientamento spaziale e dell'interazione con oggetti, eventi e persone. Vengono introdotti i concetti di "genius loci", quale combinazione di caratteri ambientali per la materializzazione della forma architettonica, e di "topologie", quali strumenti di analisi per la definizione del futuro oggetto architettonico. Il linguaggio tettonico definisce l'essenza autentica dell'architettura, esprimendo la logica interna della costruzione e la transizione sintattica dalla fase stereotomica alla forma costruttiva. Il giunto, che costituisce un punto di condensazione ontologica piuttosto che di mera connessione tra parti, rappresenta il cardine fenomenologico per la comprensione delle componenti visuali ed aptiche dell'esperienza architettonica.

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This thesis concerns the analysis of the dynamic relationship of interdependence between human body and and building in the design of experiential spaces founded on corporeity.

In our everyday lives we are subject to the manipulation of our deepest emotive and ethic perceptions, grounded on our historical, human and cultural background.

The “electronic expressionism” has caused the body to become a mere appendage of the brain. Today’s architecture, mainly oriented towards captivating shapes and computer abuse, tends to project purely retinal images for the seduction of the eye, decreasing our capacity of imagination, denying the haptic relation with the designed object and space, and causing the loss of the sense of place and belonging.

Supported by continuous references to concrete architectural solutions, this research aims at analysing the essential topics in the design of spaces focused on the sensory connection between body, imagination and environment. The embodied and mimetic models act as structural basic patterns for the existential knowledge, fundamental for the experience of perception, spatial orientation and interaction with objects, events and persons. The two concepts of “genius loci”, as a combination of a-priori environmental characters which allow for the materialisation of the architectural form, and of “topologies”, as tools for revealing the original structure that will define the future architectural object, are examined in depth. The tectonic language defines the authentic essence of architecture, by expressing the inner logic of construction and the syntactic transition from stereotomic phase to structural form. Construction joint represents ”a point of ontological condensation rather than mere connection”. It aims at the phenomenal apprehending of the haptic and visual experience of architecture.

2. Introduction

They begin sensing that something is amiss, and start looking for answers. Inner knowledge and anomalous outer experiences show them a side of reality others are oblivious to, and so begins their journey of awakening. Each step of the journey is made by following the heart instead of following the crowd and by choosing knowledge over the veils of ignorance.

Henri Bergson

Questa tesi mira all'approfondimento della relazione dinamica di interdipendenza tra il corpo umano e l'edificio architettonico nella creazione di spazi dell'esperienza fondati sulla corporeità.

Nonostante la mia formazione accademica di ingegnere edile, fin dai primi anni nell'Università degli Studi di Padova, in cui sono stato Assistente alla Didattica nel Corso di Composizione Architettonica del Prof. Edoardo Narne, mi sono sempre dedicato in larga misura alla componente architettonica degli edifici.

Il motivo principale che mi ha spinto alla scelta di questo tema di ricerca deriva dalle considerazioni maturate nel corso di dieci anni di esperienza professionale nel campo delle costruzioni. In particolare, il periodo trascorso a Genova nella "bottega" di Renzo Piano, tra il 2013 e il 2014, ha contribuito fortemente alla mia formazione. Piano ritiene che un architetto debba essere anche un artigiano, indipendente dagli strumenti che utilizza: computer, modelli fisici, nozioni matematiche o altro. L'attività della mente non è mai separata da quella della mano. La fluidità con cui si passa continuamente dalla matita al computer, dal computer al modello fisico, dal modello fisico alla matita, consente un controllo altissimo delle scelte progettuali. È un modus operandi che s'imprime nella tua memoria non solo perché è efficace, ma perché vuoi farlo tuo.

L'esperienza lavorativa che sto portando avanti dal 2015 nello studio londinese di Michael e Patty Hopkins, il cui approccio filosofico costruttivo è piuttosto vicino a quello di Piano, mi ha dato gli strumenti e le responsabilità per la comprensione dettagliata sia degli aspetti contrattuali, sia dei meccanismi delle gare d'appalto e di cantiere. Ha inoltre influenzato in larga misura la mia visione sulla condizione dell'architettura nel Regno Unito, sicuramente accomunabile, per molti versi, a quella del nostro Paese.

Siamo sottoposti globalmente all'attacco quotidiano condotto dall'industria mediatica dell'immagine, volto alla manipolazione delle nostre percezioni etiche ed emotive fondate su basi storiche, umane e culturali (Pallasmaa, 2009). I sottoprodotti della ricerca economica assegnano all'uniformità e alla mediocrità il primato nella nostra epoca. Nel sistema dell'architettura, il progressivo irrigidimento tecnico ha favorito la moltiplicazione delle specializzazioni e la reciproca incomprensione delle esperienze (Rogers, 2006), ha promosso il perseguimento di obiettivi tecnici personali e specializzati e impoverito la reale dimensione sociale delle emozioni e delle aspirazioni (Bloomer and Moore, 1977). L'omogeneizzazione della realtà conduce al rifiuto della sensibilità del singolo. L'uso, e abuso, del computer, oltre ad appiattire la capacità di immaginazione riducendo l'attività progettuale ad un viaggio passivo della vista, ci allontana dalla relazione aptica con l'oggetto o lo spazio progettati.
Molti architetti contemporanei rifiutano l'idea che il tempo agisca sulle loro opere; vorrebbero che fossero lette a colpo d'occhio, come cartelloni pubblicitari (Tschumi, 2005).

Le dinamiche contrattuali si scontrano quasi sempre con la buona esecuzione dell'opera architettonica. La pressione continua dell'impresa appaltatrice per la scelta della soluzione costruttiva standardizzata, "meno faticosa" e non sempre più economica, da un lato, e per il completamento dei lavori nei termini previsti da contratto, anche da parte del cliente, dall'altro, pone gli architetti in prima linea nella continua "battaglia per il giunto".
"È lontano, non si vede, nessuno lo nota, non è importante", e ancora "nessuno scatterà mai una foto qui, concentrati sulle parti più importanti" sono frasi ripetute di continuo durante questi ultimi mesi di cantiere.
Condivido pienamente l'opinione di Peter Zumthor, secondo cui il dettaglio, quale "unità tettonica minima di significazione" (Chau, 2009), esprime appieno il fine progettuale e la qualità fondamentale del lavoro architettonico. Come nell'opera di Scarpa, dove il giunto rappresenta l'elemento generatore del tutto, la grandezza di un'architettura

deriva ~~da~~ dallo studio preciso e dalla buona esecuzione dei suoi dettagli: “the detail tells the tale” (il dettaglio racconta la storia) (Frascari, 1996).
Con la Tomba Brion a San Vito d’Altivole, Scarpa promuove la fusione del corpo senziente con la totalità del mondo culturale, vegetale, minerale ed architettonico, a dimostrazione dell’indissolubile unicità del corpo e della mente.
Come afferma Tadao Ando (2000), l’architettura non deve perseguire le forme interessanti, ma la “spazialità delle forme**”.**

Il primo capitolo di questa tesi, “Towards the Dissolution of the Human Body”, si sofferma sull’odierna colonizzazione del mondo sensibile, della scena urbana e dei meccanismi mentali condotta dall’”industria dell’immagine”. La decentralizzazione della società e la separazione tra arte e linguaggio hanno favorito una visione del corpo come mera appendice del cervello, riducendone la capacità d’immaginazione. L’”espressionismo elettronico” e la mancanza di modestia di molti architetti ha condotto alla progressiva perdita del senso di luogo e di appartenenza. La nostra quotidianità è continuamente soggetta alla manipolazione visuale dei prodotti del design. Non diversamente, l’architettura contemporanea, orientata principalmente verso soluzioni formali accattivanti, produce incessantemente immagini per la seduzione dell’occhio.

Nel secondo capitolo, “Back to the Things Themselves”, viene inquadrato l’approccio fenomenologico all’architettura, fondato sul contatto immediato dell’uomo con l’esistenza e sull’esperienza dei sensi. La relazione osmotica tra la coscienza e il mondo favorisce i processi mnemonici, inizialmente sempre sotto forma di “memoria del corpo”. La continuità ontologica tra materia e percezione permette alle “immagini poetiche” di Heidegger, o “sogni ad occhi aperti” di Bachelard, o “linee di volo” di Deleuze, di cogliere l’essenza creativa della realtà. Le dimensioni dell’esperienza sensoriale fondano le basi per la comprensione emotiva della spazialità negli edifici.

Il terzo capitolo, “The Creative Eye”, descrive la potente connessione ontologica tra immagine, coscienza e oggetto, sotto forma di transizione tra il corpo, l’immaginazione e il contesto ambientale. Le immagini poetiche agiscono come “visioni profonde”, in cui la coscienza interna e il mondo esterno convergono, a servizio del cuore e dell’anima. Esse non imitano la realtà né rispecchiano la coscienza, al contrario, la loro totale spontaneità è alla base della creatività umana. Tutte le forme d’arte, come l’architettura, la musica, la scultura, la pittura, sono possibili manifestazioni dell’incarnazione sensoriale. Lo scopo di ogni forma creativa non è solamente la

comprensione del mondo, ma anche le produzione di estensioni autonome della realtà con regole e qualità proprie.

Il quarto capitolo, “Polyphony of Senses”, introduce il termine “senso” quale unità strutturale alla base della conoscenza esistenziale e fondamentale nell’esperienza della percezione, dell’orientamento spaziale e dell’interazione con oggetti, eventi e persone. I modelli sensoriali non fanno riferimento al solo individuo coinvolto nell’esperienza, ma diventano dei veri e propri modelli culturali collettivi che contribuiscono alla comprensione della natura del mondo sensibile. Le capacità percettive dell’uomo non possono più essere raggruppate nei cinque sensi Aristotelici. Un nuovo sistema sensoriale di connessioni organiche integra i meccanismi percettivi che fondono gli uni negli altri e si diffondono a loro volta. Tutti i sensi, inclusa la vista, sono estensioni del tatto. Esso fornisce alla vista le sensazioni di solidità, resistenza e tridimensionalità, al fine di sviluppare la coscienza corporale di distanza, margine e profondità. Il tatto è associato alla vicinanza, fondamentale nell’esperienza sensoriale. La sensazione di vicinanza è prodotta dalla familiarità tattile, cognitiva e sociologica delle cose del mondo.

Nel quinto capitolo, “Human Body and “Body” of Building”, viene analizzato l’impulso mimetico legato alle qualità sinestetiche delle proporzione armoniche in architettura. I processi di mimesi diventano una componente essenziale nell’identificazione simbolica con l’edificio e il suo contesto. L’idea di “forme pre-esistenti” era già nota agli antichi Greci e Romani, ai grandi maestri del Rinascimento, ad Alberti, Palladio, Piero della Francesca. Anche Cezanne utilizza determinate forme prototipiche della natura, quali il cono, la sfera e il cubo, per stimolare la componente visuale del discernimento mentale. La percezione dello spazio è legata all’impatto emotivo e alla tensione muscolare. Gli edifici rappresentano estensioni di corpo, memoria, identità, mente, ed esprimono la componente esistenziale dei nostri incontri, esperienze, ricordi, aspirazioni. La casa è il luogo privilegiato dell’esistenza, il luogo dove il bambino inizia a comprendere il suo “essere nel mondo”, da dove l’uomo parte e dove fa sempre ritorno.

L’ultimo capitolo, “Tectonics at Multiple Scales”, affronta la differenza ontologica tra le componenti “luogo” e “spazio” in relazione all’abitare. Vengono introdotti i concetti di “genius loci”, quale combinazione di caratteri ambientali a priori che consentono la materializzazione della forma architettonica, e di “topologie”, quali strumenti per

operare analisi ambientali e rivelarne la struttura originaria per la definizione del futuro oggetto architettonico. Cosmico, classico e romantico sono le tre componenti topologico-spaziali adottate nell'analisi dei luoghi naturali, delle architetture e degli oggetti artistici. La componente "atmosfera" contribuisce in maniera decisiva alla definizione del concetto di "luogo": in una frazione di secondo, l'uomo percepisce la potenza del suono, della luce, del calore, dell'odore, dell'umidità di un ambiente, attribuendone un emozione, spesso di origine inconscia, che attinge alla sua memoria più profonda. In questo senso, il linguaggio tettonico definisce l'essenza autentica dell'architettura, esprimendo la logica interna della costruzione e la transizione sintattica dalla fase stereotomica alla forma costruttiva. Il giunto, che costituisce un punto di condensazione ontologica piuttosto che di mera connessione tra parti, rappresenta il cardine fenomenologico per la comprensione delle componenti visuali ed aptiche dell'esperienza architettonica.

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This thesis aims at analysing the dynamic relationship of interdependence between human body and and building in the design of experiential spaces founded on corporeity.

Despite of my academic formation as a Building Engineer, since I was teaching assistant at the University of Padua in the Architectural and Urban Composition course held by Professor Edoardo Narne, I have been mainly focusing on the architectural qualities of buildings.

The main reason behind the this research topic originates from considerations accrued over the past ten years of personal professional experience in the field of the constructions. In particular, working at Renzo Piano Building Workshop between 2013 and 2014, has strongly contributed to my formation. Piano claims that architects shall be artisans as well, no matter what instruments they utilise: computer, physical models, mathematical notions etc. Hand activity is never separated from that one of the brain. At RPBW, the fluidity between pencil and computer, computer and models, model and pencil, allows for a highly precise control of the design choices. It is a working method

that engraves on your memory, not only due to its effectiveness, but also because you want to make it yours.

My working experience commenced in 2015 in the London based practice Hopkins Architects, whose philosophical and executive approach is rather similar to that one of Piano, has provided me with the skills and the responsibilities to deeply understand contractual dynamics and tender, procurement, construction site stages. Furthermore, it has largely conditioned my personal view on the situation of Architecture in the United Kingdom, definitely comparable, in many respects, to the Italian one.

The fascinating image bombing of today's industry frees the consumer from an emotional and ethical perceiving, as images are no longer attached to their historical, cultural and human context (Pallasmaa, 2009). By-products of today's economic research favour uniformity and mediocrity. Technical rigidity has also led to specialisation by multiplying and isolating human categories and loosing the possibility to understand the dynamics of experience and to promote consciousness of responsibilities (Rogers, 2006). Architecture system has become more and more involved in highly specialised technical achievements rather then "sensual social real human desires and feelings" (Bloomer and Moore, 1977).
Use and abuse of computer tends to flatten our capacities of imagination by turning the design process into a pure passive retinal journey. Furthermore, it prevents from establishing a haptic contact with the object or space.
Many contemporary architects refuse the idea that time has an effect on their works; they wish them to be read "at first sight", like billboards (Tschumi, 2005).

Contractual aspects quite always clash against the good execution of the architecture work. The continuous pressure from the contractor towards the standardised (easier and often not cheaper) technical solution, on the one side, and to building completion within the contractual terms, also from the employer, on the other side, place the architect in the front line on the "battle for the joint".
"It is too far, one cannot see it, nobody would notice that, it is not important", more over, "nobody would take a picture here, do focus on more important areas", have been common expression over the past few months on site.
I share Peter Zumthor's view on the detail regarded as the "minimal units of the significations" in the architectural production of meanings (Chau, 2009). As in the oeuvre by Carlo Scarpa, where the joint acts as generator element, the quality of these

connections determines the ultimate quality of the finished work. Architectural greatness comes from the precise study and good execution of details: “the detail tells the tale” (Frascari, 1996).

With his Brion sanctuary, Scarpa promotes the full engagement of the sentient being with the cultural specific constructs, vegetal and mineral, landscape and building, proving the indissoluble unicity of body and mind.
According to Tadao Ando (2000), architecture shall not pursue interesting forms, but rather the “spatiality of forms”.

The first chapter of this thesis, “Towards the Dissolution of the Human Body”, concerns the colonisation of our physical world, urban scene and natural landscapes, as well as our inner mental sceneries, carried out by the image industry. The decentralisation of our society and the separation between artworks and language have promoted the body to become just a mere appendage of the brain, decreasing our capacity of imagination. Today’s “electronic expressionism” and the lack of professional modesty has caused people distancing from the sense of place and belonging. In our everyday lives we are subjected to visual manipulations and optical illusions operated by the elements of design; furthermore, today’s architecture tends to project purely retinal images for the seduction of the eye.

The second chapter, “Back to the Things Themselves”, introduces the architectural phenomenology approach, founded on human immediate contact with existence and sensory experience. The osmotic relation between the self and the world enhance memory processes, which always start as “body memory”. Ontological continuity of perception and matter allows for the “poetic images” by Heidegger, the “reverie” by Bachelard, the “lines of flight” by Deleuze, to grasp the creative essence of reality. The body experience provides the deepest and most substantial sense of three dimensionality and sets up a basis for understanding “spatial feeling” when experiencing buildings.

The third chapter, “The Creative Eye”, describes the powerful ontological connection between image, consciousness and object, in the form of transactions between body, imagination, and environment. Poetic images act as "inner visions", in which inner consciousness and outer world come together, directly from heart and soul. They do not emulate the outer world nor mirror our pure inner consciousness, right the opposite,

they behave like a burst of pure spontaneity within consciousness as open ended and primary sources of human creativity. All art forms, such as architecture, music, sculpture, painting, represent ways of sensory and embodiment. The aim of art is not only understanding the world, but also producing autonomous extensions of the reality with their own laws and qualities.

The fourth chapter, “Polyphony of Senses”, regards the concept of “sense” as structural basic pattern for the existential knowledge, fundamental for the experience of perception, spatial orientation and interaction with objects, events and persons. These embodied patterns of the senses are not only referred to the person who experiences them, rather, they become “shared cultural modes of experience” and help to understand the nature of the world. It is no longer possible to limit the perceptual capacities of the individual to the Aristotele’s five senses, as a new kind of sensory perception, whose receptors are embedded, tends to spread and fuse. All the senses, including vision, are extensions of the tactile sense. Touch helps vision to provide sensations of "solidity, resistance, and protrusion”, which promotes the awareness of bodily “distance, outness, or profundity” (Pallasmaa, 2009). In Heidegger’s view, touch is associated to nearness, which is a fundamental for human experience Experience of nearness can be provided through the tactile, cognitive and a “sociological familiarity of things” (Sharr, 2007).

In the fifth chapter, “Human Body and “Body” of Building”, the analysis is oriented towards the mimetic impulse connected to synestheic quality of harmonic ratios.
Mimetic processes become an essential component to allow symbolic identification with a particular building or surrounding. The idea of “pre-existing forms” or harmonic ratios was already known to Alberti, Palladio, Piero della Francesca and among most architects up to the middle of the 18th century. Cezanne carried out a visual revolution promoted by the use of certain prototypical forms that resemble nature, such as cones, spheres, and cubes, which are crucial for the “visual discrimination of the brain” (Zeki, 1999). Our perception of space is bound to the emotive impact and the muscular tension in relation to the very nature of the perceived space (De Angelis, 1996). As true extensions and shelters of our “bodies, memories, identities and minds”, buildings express “confrontations, experiences, recollections and aspirations” (Pallasmaa, 2009). The house plays a key role in human existence: it is the place where one learns as a child to understand his being in the world, and the place to continuously depart from and return to.

The last chapter, “Tectonics at Multiple Scales”, focuses on the ontological difference between “space” and “place” in relationship to dwelling. The two concepts of “genius loci”, as a combination of a-priori environmental characters which allow for the materialisation of the architectural form, and of “topologies”, as tools for revealing the original structure that will define the future architectural object, are examined in depth. Cosmic, classic and romantic are the three topological-spatial components adopted for the investigations on the character of natural places, buildings and artistic works (Norberg-Schulz, 1980). Atmosphere plays a key role in the definition of a place: in a fraction of a second, man perceives the power of sound, light, heat, smell, and moisture (Zumthor, 2006), and lets the emotion, often unconscious, to grasp his deepest memory. In that sense, the tectonic language defines the authentic essence of architecture, by expressing the inner logic of construction and the syntactic transition from stereotomic phase to its structural form (Otero-Pailos, 2010).

Construction joint represents ”a point of ontological condensation rather than mere connection”. It aims at phenomenal apprehending of the haptic and visual experience of the architectural work (Frampton, 2002).

3. Towards the Dissolution of the Human Body

Everywhere we remain unfree and chained to technology, whether we passionately affirm or deny it. But we are delivered over to it in the worst possible way when we regard it as something neutral; for this conception of it, to which today we particularly pay homage, makes us utterly blind to the essence of technology.

Martin Heidegger

3.1. Digital Homogenising of Reality

The current prevalence of discontinuous phenomena has contributed to build a reality where image integrity and definition have became rather difficult to achieve (Eco, 2013).

Image industry has entirely colonised our physical world, urban scene and natural landscapes, as well as our inner mental sceneries (Pallasmaa, 2011). The decline of language skills and literary knowledge is a common cultural plague even in the economically most advanced nations, and is the direct consequence of a progressive replacement of book culture with digital information technologies (Pallasmaa, 2011).

Modernity will be reduced down to its most simple elements until reaching the ultimate "algebra of invisibile" (Baudrillard and Nouvel, 2003), which is composed by elements no longer sensible, perceivable and representable (Baudrillard and Nouvel, 2003).

Martin Heidegger fosters the immediacy of human experience against the increasing use of economic and technical statistics in the post war era (Sharr, 2007)

In his *Six Memos for the New Millennium,* Italo Calvino states "[...] in an age when other fantastically speedy, widespread media are triumphing and running the risk of flattening all communication onto a single, homogeneous surface, the function of literature is communicating between the things that are different simply because they are different, not blunting but even sharpening differences between them, following the true bent of written language" (Pallasmaa, 2009).

We are experiencing the decentralisation of our society and the separation between artworksand language (Tschumi, 2005). Furthermore, our capacity of imagination

seems to be threatened by those results of the current mass production that imagine on our behalf (Pallasmaa, 2011). Today's virtuality of perception denies direct experience of reality and confuses people through overabundance of deceptive and illusional images across different media and electronic channels (Grutter, 2012).

Our mass produced and computer-generated images are increasingly damaging human affection genuine capacity of daydreaming (Pallasmaa, 2011). In this respect, Jean Baudrillard points out that modern technologies, which are mostly digital to reduce the amount of physical effort, have pursued the elimination of human corporeity (Marchetti, 2008).

This "homogenising of the subject" (Ballantyne, 2007) by the mass media facilitates the overwhelming sense of pragmatism and lack of encouraging perspectives that are likely to be the results of an "impoverished imagination" (Pallasmaa, 2009).

By referring to Heidegger, Perez Gomez (2002) writes:

> [Heidegger] has written succinctly that the problem with modern instrumentality is that it merely "brings about" objects while traditional techne-poiesis always "brought forth" things in the world. As we engage our instruments, the challenge is to find how they may transform the maker. This may lead to an non-dualistic fine tuning of our internal disposition and our capacity to engage the shared flesh of the world. Only then many of the products of contemporary technology be truly transformative for others, revealing our humanity through rather then in opposition to our varied mortality, and thus existing in solidarity with an more than human world.

Furthermore, given the inability of scientific methods to measure nothingness, Sharr (2007) highlights the Heideggerian belief that science and technology are inadequate to help people understanding their daily experiences. In that sense, Heidegger (1968) exemplifies the insufficiency of science for describing human experience as follows:

> Science's knowledge, which is compelling within its own sphere, the sphere of objects, already had annihilated things as things long before the atom bomb exploded. The bomb's explosion is only the grossest of all gross confirmations of the long-since-accomplished annihilation of the thing: the confirmation that the thing as a thing remains nil. [...] That annihilation is so weird because it carries before it a twofold delusion: first, the notion that science is superior to all other experience in reaching the real in its realty, and second, the illusion that, notwithstanding the scientific investigation of reality, things could still be things, which would presuppose that they had once been in full possession of their thinghood.

Despite the human being possesses a psyche (or a soul), the body has become just a mere appendage of the brain, which is subject of mechanical laws (Bloomer and

Moore, 1977). Besides modern man, thanks to the contribution of science and technology, has been believing for long that direct dependance from places is no longer needed (Norberg-Schulz, 1980).

By referring to the architectural sphere, Kant and the German Romantics had spoken of a "lost body fragmented by time and space" (Hanekom, 2008) that continues in the present-day, as “body referencing has become ever more sublimated” (Hanekom, 2008).

The contrast between conceptual and mental processes and the physical modes of the body has stoked the broader conviction that our body is a separated entity submitted to the mind (Bloomer and Moore, 1977).

Since we are living in a world of connections, technology cannot be considered neutral because we are inside of it and it is inside of us (Haraway, 1991). Although Ackerman (1991) believes that digital technology can be used in several positive ways, her embraceable worry is about our “virtual blinders” (Ackerman, 1991).

Norberg-Schulz (1980) mentions Scott Gartner’s view about the lack of concrete experience in the vast majority of modern ontological theories in architecture, due to the alienation between body and mind. By conferring too much emphasis on “meaning” in the architectural theories has caused its acknowledgment as a pure conceptual phenomenon.

The fascinating image bombing of today’s industry frees the consumer from an emotional and ethical perceiving, as images are no longer attached to their historical, cultural and human context (Pallasmaa, 2009). Technical rigidity has also led to specialisation by multiplying and isolating human categories and loosing the possibility to understand the dynamics of experience and to promote consciousness of responsibilities (Rogers, 2006).

That is also true for the Architecture system, which has become more and more involved in highly specialised technical achievements rather then “sensual social real human desires and feelings” (Bloomer and Moore, 1977).

In this respect, a good example of pursuing integrity in Architecture as a professional would be the speech given by Peter Zumthor in 2009 at the Pritzker Architecture Prize Ceremony:

> So, I’m at the same place as at the time when I experienced architecture as a boy without knowing it. This is what I love. These beginnings, these moments of the beginning. And then comes the really hard task when I have to take care that nobody destroys my first image. Because, as you know, we’re doing a job as architects. We are surrounded by politics, by laws, by money, by clients

> who have weak moments, and all these things. Sometimes people want to take away or harm my image, my baby. So, this needs a little bit of persistence.

Image very often controls and substitutes reality not only in the building industry, but at every level of the human life (social, commercial, political, entertainment), to a point that reality and imagination has become almost impossible to distinguish (Pallasmaa, 2011).
By referring to Vesely, Sharr (2007) writes:

> He aimed at exploring what he considered to be tensions between instrumental and communicative, or technological and creative roles of architecture. He argued that these roles had become divided, a split which is recorded, for example, in their respective professional roles of architects and engineers. Vesely traced the historical origins of is this split to mediaeval optics and their development of perspective in the first attempts to privilege at scientific description of light over immediate experiences of the qualities of vision. [...] For him, the job of architects in our contemporary context is to reclaim the communicative potential that architecture once had, to reconnect with its power to deal in meaningful experience. [...] to an increasingly technocratic world where the abstract and visual has become dominant.

Computer modelling and “clonation“ represent one of the major issues in Architecture (Baudrillard and Nouvel, 2003) as allow buildings to be easily designed in very short time, becoming the outcome of immediate profitability and rushed decisions (Baudrillard and Nouvel, 2003). Architecture turns into mere visual aesthetics, completely unlinked from its original purpose of dwelling (Pallasmaa, 2011).
Despite of this, the use of digital design technology in contemporary architecture has also promoted a “partial and psychological continuum between the human body and built form” (Hanekom, 2008), allowing for the physical and mental state of the body to be transferred into building (Hanekom, 2008).
Digital technology is particularly crucial in the most sensitive early phases of the design process when ideas are generated (Pallasmaa, 2009). It tends to flatten our capacities of imagination by turning the design process into a pure passive “retinal journey” (Pallasmaa, 2009). Today we are experiencing a progressive erosion of long-term sustainable thinking and engagement in history (Jobst, 2013). Holding a pen (or a charcoal) or model-making establishes a haptic contact with the object or space, whilst the computer creates a distance (Pallasmaa, 1996). With respect to the lack of tactile sense, Pallasmaa also (2009) claims:

> Visual properties and proportions can be grasped through drawings and any scale, whereas a tactile imagination usually calls for our full scale drawing. And though the computer drawing factually take place in our ones to one's reality, the experiential scalessness after drawing and the lack of tactile connection through the hand with imagination tend to weaken the haptic feeling of the designed entity in the computer-generated drawing. [...] The designer himself remains an outsider in relation to his/Her only design and body. Computer drawings are devices for a bodiless observer.

The computer aid in the design process is a potential tool but Its contribute to a “multiple-perspectives" approach cannot simulate the full-scale experience, the qualities of material and light (Holl, Pallasmaa, Perez Gomez, 1994). It often appears as mere graphic exercise that affects all our senses without having a tangible correspondence with reality (Pallasmaa, 2011).

Nowadays people are increasingly loosing the capacity of dwelling because their education is mainly based on the pseudo-analytical thought (Norberg-Schulz, 1980)

In this respect, Pallasmaa (2011) recalls several notions used to describe the current “sensory strategies of scientifically informed marketing”, such as “multisensory marketing”, "branding of the senses”, "sensory persuasion”, "tapping the sensorial subconscious”, "analysing the minds space", and "hypersexuality of the contemporary marketplace”.

Architects have been seeking for inspiration from the “visual chaos“ of late modern architecture, instead on directly looking at nature (Otero-Pailos, 2010). The lack of professional modesty let architects to run into such “electronic expressionism” largely comparable to the industrial one of the first modern era (Venturi, 1977).

3.2. Spaces without Place

According to Le Corbusier, Architecture should deliver emotions, which happen when the work resonates in one’s soul in harmony with the Universe (Norberg-Schulz, 1980).

In the modern cities throughout the world the perception of architectural space has been altered and the sense of orientation is damagingly compromised (Bloomer and Moore, 1977). Furthermore, the lack of human existence and experience and the temporal fragmentation of modern life (Holl et al.,1994) reflect the repetitive “stock arrangement” of offices, apartments, and stores (Bloomer and Moore, 1977).

Among the modern architects, who have generally excluded the existential dimension, Luis Kahn ("what does the building want to be?") is surely one of its strongest sustainers (Norberg-Schulz, 1980).

Our current scenario seems to foster the discomfort linked to the fragmentation characterising this historical period (De Angelis, 1996). Architecture is only capable to became mere stylistic research, or even worst, sterile speculation (De Angelis, 1996).

This loss of place is related to the incapacity of identification with both natural and artificial things that constitutes human environment (Norberg-Schulz, 1980). The physical experience of "lived time" is manifested in the memory and the soul in contrast to dismemberment of fragmented messages of media (Holl et al.,1994).

In a world where Nature is only considered a source of resources, things have been reduced to mere consumption objects to be thrown away after being used (Norberg-Schulz, 1980).

Narcissism and nihilism have been characterising architecture projects of the past 20 years, largely celebrated by the international architectural press (Pallasmaa, 1996). In this respect, Frampton (1983) writes:

> Modern building is now so universally conditioned by optimized technology that the possibility of creating significant urban form has become extremely limited. The restrictions jointly imposed by automotive distribution and the volatile play of land speculation serve to limit the scope of urban design to such a degree that any intervention tends to be reduced either to the manipulation of elements predetermined by the imperatives of production, or to a kind of superficial masking which modern development requires for the facilitation of marketing and the maintenance of social control […].

The domination of cultural production has weakened human capacity for empathy, compassion, and participation with the world (Pallasmaa, 1996), and normalised emotions by eliminating the positively extreme ones, such as sorrow and bliss, melancholy and ecstasy (Pallasmaa, 2009).

Among the technologically dependent modernist architects, only Le Corbusier made an attempt to reestablish the idea of body references with with his modulor, linked to measurement and proportion (Hanekom, 2008).

Architecture reflects the modern ethics that aspires for a "perpetual present tense" and are idolises impressions of youth and newness (Pallasmaa, 2011). Post-modern philosophers have pointed out the progressive time implosion derived from today's obsession for accelerating time (Pallasmaa, 2011). The direction taken by humankind is towards dwelling a dematerialised, dreamlike dimension and virtual reality with the

electronic aid (De Angelis, 1996). Architecture, on the other hand, seems to have been propending for a mere lingusitic intellectual and speculative (Pallasmaa, 2009) choice by denying its own true nature of shelter, shell and “environmental bubble” (De Angelis, 1996).

This emphasis on the intellectual and conceptual aspects of architecture further promotes the loss of the physical sensual and embodied basis of architecture (Holl et al.,1994).

In the past two last decades one of the consequences of such this approach occurred in the metropolitan centers has been the transformation of 19th-century city fabrics, progressively overlaid by “symbiotic instruments of megapolitan development rise and the serpentine freeway” (Frampton, 1983). Continuing on this line, Brusatin (2008) writes:

> The anxiety of constructioning extraneously on a grand scale (Bigness), in any place without place (Photo shop City), what “the place does not want to be” turns that architecture into a deficient omnipotence that relies on the cancellation and absolute lack of any desire to stay, Especially in what is a house, renouncing any thought of how one might think of staying there.

New developments show lack of closure, density, places, traditional streets and generally they show randomly distributed assemblements (Norberg-Schulz, 1980). "What is missing from our dwellings today are the potential transactions between the body, imagination and environment” Pallasmaa (1996).

The vast majority of modern buildings does not show any coherent relationships with urban landscape and internal spaces one feels the sensation of “nothing” (Norberg-Schulz, 1980). All meaningful and architectural images set up the not just between technology and aesthetic preferences but most importantly the proximity between the human culture and life (Pallasmaa, 2011).

Boundaries between the near and the far, the inside and the outside, the public and the private are getting harder each day to define and have lost most of their meaning (Buchanan, 2005). The invasion of the mass media trespasses all the old boundary lines (Buchanan, 2005).

Amoung the anthropized world the abolition of distances has dramatically impacted time and space conception. In this respect, Heidegger (1968) points out:

> All distances in time and space are shrinking. Man now reaches overnight, by plane, places which formerly took weeks and months of travel. He now receives instant information, by radio, of events which he formerly learned about only years later, if at all.The germination and growth of plants,

> which remained hidden throughout the seasons, is now exhibited publicly in a minute, on film. (…) The failure of nearness to materialize in consequence of the abolition of all distances has brought the distanceless to dominance.

Frampton believes this loss has caused people distancing from the sense of place and belonging. He also argues that architects should be responsible for creating places, both at a small and big scale, promoting a deeply rooted sense of meaning (Sharr, 2007). Robinson (1989) argues that the increased distancing of the architectural profession from generally held values intensified by the loss of traditional construction techniques calls for a more broader understanding from the designers of other perspectives, especially the laypersons' ones.

Continuing on this line, Framton (1983) introduced the strategy of Critical Regionalism to mediate the impact of universal civilization with elements taken from the peculiarities of a particular place:

> Critical Regionalism seeks to complement our normative visual experience by readdressing the tactile range of human perceptions. In so doing, it endeavors to balance the priority accorded to the image and to counter the Western tendency to interpret the environment in exclusively perspectival terms.

Critical Regionalism is characterised by a high level of critic self-consciousness (Frampton, 1983), which may include elements such as the range and quality of the local light, the tectonic deduced from a particular structural process and the topography of a certain site (Frampton, 1983). Our modern common alienation is mostly caused by scarse possibility of orientation and identification with the surroundings (Norberg-Schulz, 1980). Further to the techniques for cultural analyses based on the anthropological approach, our consciousness of the cultural dimension of architecture can help architectural theory finding a new direction and solutions (Robinson, 1989)

The term "weak urbanism" defines a design approach directly connected to Critical Regionalism. The dominant tendency of planning are founded on strong urban form, usually based on geometry and axial composition, whilst the traditional community townscapes have grown on the basis of the "weak" and localised urban principles (Pallasmaa, 2011): vision enforces strong strategies, whereas "weak urbanism" promotes a haptic townscape of empathy and participation (Pallasmaa, 2011).

3.3. The Loneliness of Vision

Since the Greek times knowledge has been associated to clear vision and light to the metaphor for truth (Pallasmaa, 1996). In today's society physical beauty, strength, youth and virility are diffusely valued (Pallasmaa, 2009). In light of this, Pallasmaa (1996) recalls the words by Michael de Certeau "from television to newspapers, from advertising to all sorts of mercantile epiphanies, our society is characterised by a cancerous growth of vision, measuring everything by its ability to show more be shown, and transmuting communication into the visual journey".

Hidden persuasions and subliminal excitements of all kind leverage passive acquirement of redundant "good forms" (Eco, 2013). Cultural prevalence of vision affects contemporary Architecture by means of underestimating the importance of tectonic logic and sense of materiality and embodiment (Pallasmaa, 1996).

In our market-based society the value of things can always be identified on the outside, where it is presented to view and for usage (Marchetti, 2008). Adding to that, Haraway (1991) states:

> The eyes have been used to signify a perverse capacity - honed to perfection in the history of science tied to militarism, capitalism, colonialism, and male supremacy - to distance the knowing subject from everybody and everything in the interests of unfettered power. [...] The visualizing technologies are without apparent limit; the eye of any ordinary primate like us can be endlessly enhanced by sonography systems, magnetic resonance imaging, artificial intelligence-linked graphic manipulation systems, scanning electron microscopes, computer-aided tomography scanners, colour enhancement techniques, satellite surveillance systems, home and office VDTs, cameras for every purpose from filming the mucous membrane lining the gut cavity of a marine worm living in the vent gases on a fault between continental plates to mapping a planetary hemisphere elsewhere in the solar system. Vision in this technological feast becomes unregulated gluttony; all perspective gives way to infinitely mobile vision, which no longer seems just mythically about the god-trick of seeing everything from nowhere, but to have put the myth into ordinary practice […].

The contemporary city promotes the sense of vision detached from the body and enhances by rapid motorised movement through vehicles and aeroplanes (Pallasmaa, 1996). In our everyday lives we are subjected to visual manipulations and optical illusions operated by the elements of design (Grutter, 2012), furthermore, today's architecture tends to project purely retinal images for the seduction of the eye (Pallasmaa, 2011).

Other than being extensions of human bodily functions and providing physical shelter, buildings are also externalisation of our intellectual imagination and memory by stimulating sensory pleasure. Continuing on this line, Pallasmaa (1986) also claims:

> The inhumanity of contemporary architecture and cities can be understood as the consequence of the negligence of the body and the senses, and an imbalance in our sensory system. The growing experiences of alienation, detachment and solitude in the technological world today, for instance, may be related with a certain pathology of the senses. […] The dominance of the eye and the suppression of the other senses tends to push us into detachment, isolation and exteriority. The part of the eye has certainly produced imposing and thought provoking structures, that it has not facilitated human rootedness in the world.

Vision makes us solitary whereas hearing produces a sense of connection and empathy (Holl et al.,1994). In addition to that, vision has one direction, whereas sound is omni directional (Pallasmaa, 1996). Today's buildings are usually unable to touch our soul because their ontological lack of existential and primordial dimension (Pallasmaa, 2011). They are turned into mere stage sets for the eye where human experience is not promoted (Holl et al.,1994).

The above reasons have contributed to the increased value and appreciation of craftsmanship to the detriment of technology and mass production (Pallasmaa, 2009).

The dematerialisation of human body is also explained through the changed relationship with the object and the gesture needed to operate it (Marchetti, 2008). If the object no longer needs a bodily mass to operate it, then the body can disappear (Marchetti, 2008).

Although modernity has oriented towards the suppression of the sense of touch, many visual artists have been standing for it. By concealing in a cloth bag his “Sculpture for the Blind” in 1916, Constantin Brancusi highlighted the importance of experiencing art through the sense of touch (Pallasmaa, 2009).

As the ancient Greek Architecture proves, the privileging of vision does not necessarily imply the loss of the other senses; quite the opposite, it may incorporate, and even strengthen, other sense processes (Pallasmaa, 1996).

Today "products" by the architecture industry tend toward the synthetic: wood is coated with waterproof plastic vinyl coverings, metals are anodised or coated with a synthetic protective finish, tiles are glazed with coloured synthetic coatings etc. (Holl et al.,1994). These industrial methods eliminate the texture and essence of material and the sense of touch is nearly forgotten (Holl et al.,1994).

Buildings of this technological age aim to ageless perfection by refusing to incorporate their dimension of time and processes of ageing because of our broader intimate fear of death (Pallasmaa, 1996). Considering this, computers play a crucial role as they tend to make every building look as if it is made of “translucent, coloured, weightless plastic” (Campbell, 2007).
It appears that what Walter Benjamin calls “aura”, the authority of presence, as a necessary requirement for an authentic work of art, has now indefinitely been lost (Pallasmaa, 1996).

3.4. Intoxication of Formalism

Architecture images are broadly exploited by the mass media tendency (Tschumi, 2005) and nowadays architectural forms are made to sell something (Zumthor, 2009). One of the consequences of being mainly focused on the object (and subject) “surface” has been the shifting of the architectural theory towards the printed images and texts, rather than the construction itself (Tschumi, 2005).
By creating forms disconnected from the true essence of architecture, that is creating formal advertising, shapes have being reduced to mere rhetoric suggestions (Tessenow and Grassi, 1976). In light of this, Perez Gomez (2002) states:

> Computers are no longer merely utilitarian instruments to make architectural production more efficient; they are now being promoted by their incredible capacity to generate "new forms" that are totally "other" from our orthogonal building practices. [...] These exciting new instrumentality, however, is based on mathematical models and often becomes as self-referential exercise in structural determinism. These encourages fashionable architectural projects that are oblivious to their cultural context, their intended programs, their historical rules, their ethical imperatives, and the experiencing body.

Architecture can stand up to the gratuitous exploitation of forms and meanings that pervades our society based on the “unnecessary” (Zumthor, 2003). Zumthor’s expression “Architecture can speak its own language” should not be confused with ””speaking architecture” or ingenuous symbolism, that belongs to Ledoux and to the current avant gardes, which are mainly expression of a broader crisis derived from the split between construction and representation (Tessenow and Grassi, 1976). Valéry

(2011) highlights the need for Architecture to take inspiration from the nature processes of generation, rather than from its formal manifestations.

Tschumi (2005) claims that architecture can survive only when it preserves its nature by denying the form expected from the society. He also states:

> Exceeding functionalist dogmas, semiotic systems, historical precedents, or formalised products of our economic constraints it is not necessarily a version but a matter of preserving the architecture by disrupting the form that most societies expect from it […]. No metaphorical paradise here, but discomfort and the unbalancing of expectations. Such architecture questions academic (and popular) assumptions, disturbs acquired tastes and fond architectural memories. Typologies, morphologies, spatial compressions, logical constructions - all dissolve. Such architecture is perverse because its real significance lies outside utility or purpose and ultimately is not even necessarily aimed at giving pleasure. The architecture of pleasure depends on a particular feature, which is to keep architecture obsessed with itself in such an ambiguous fashion that it never surrenders to good conscience or parody, to debility or delirious neurosis.

Buildings design based on fragmentation, dissonance and breaking points would imply a certain level of communication, but one's curiosity would stop just after having understood the rules of composition as they reveal no practical consistence (Zumthor, 2003).

The "New York Five" have continued the line of formalism traced by the rationalists few daces earlier, by unconsciously struggling to obtain respect through their white and ageless skeletons (Tschumi, 2005).

All the effort spent in delivering original forms is pointless (Zumthor, 2003). Form is not something that derives from keeping one's eye on place and on use: the body of architecture consists on construction, anatomy, materials and putting things together by following a logical sense (Zumthor, 2006).

In 1923 Mies stated that there are no forms at all but only construction issues, therefore forms is not the aim of architecture, only its result. Form does not exist per se, otherwise it would be formalism. Construction must be preferred to aesthetic speculation (Frampton and Gregotti, 1999).

Continuing on this subject and by referring to Herzog and De Meuron's architectures of the first phase, Moneo (2005) strongly opposes against the obsession of either conceiving architecture as the "art of space" or privileging form for communicating meanings.

Zumthor (2003) claims the necessity of the architect to step aside after completion and letting the building to be used by people, as buildings are made for dwelling and belong

to the world of things; they reflect calm, spontaneity, durability, presence, integrity, warm and sensuality all together (Zumthor, 2003).

Buildings consist on things per se, they do not represent things (Zumthor, 2003).

4. Back to the Things Themselves

The world is inseparable from the subject, but from a subject which is nothing but a project of the world, and the subject is inseparable from the world, but from a world which the subject itself projects.

Maurice Merleau-Ponty

The pure present is an ungraspable advance of the past devouring the future. In truth, all sensation is already memory.

Henry Bergson

4.1. Phenomenological Framework

The controversial separation between mechanical, visual, and bodily measures, together with the blurred definition between the appearance of building and its affect, discloses the dilemma inherited by the 20th century from the debates of the Enlightenment (Bloomer and Moore, 1977).

In opposition to abstraction and mental constructions, phenomenology was conceived as a way to go back to the things themselves (Norberg-Schulz, 1980). Such phenomenology is founded on human immediate contact with existence, claiming the pre-existence of the world before thinking about it (Sharr, 2007). It promotes a long forgotten philosophical rediscovery of the direct contact with the things (Sharr, 2007). In light of such philosophical approach, Merleau-Ponty (2012) states:

> The phenomenological world is not pure being, but the sense which is revealed where the paths of my various experiences intersect and engage each other like gears. It is thus inseparable of subjectivity and inter-subjectivity, which find their unity when I either take up my past experiences in those of the present, or other people's in my own

Marleau-Ponty reminds us that perceiving is a vital exchange with the world which becomes a familiar place to us in our daily life (Queysanne, 1981). According to

Heidegger, “being” was mostly pre-intellectual, and “thinking about being” was a subsequent activity (Sharr, 2007). He believes that every human being exists before starting the act of thinking (Sharr, 2007). On the ontological dimension of phenomenology, Heidegger (2013) claims:

> “Body”, “soul”, and “spirit” may designate phenomenal domains which can be detached as themes for definite investigations; within certain limits their ontological indefiniteness may not be important. When, however, we come to the question of man's Being, this is not something we can simply compute by adding together those kinds of Being which body, soul, and spirit respectively possess-, kinds of being whose nature has not as yet been determined. And even if we should attempt such an ontological procedure, some idea of the Being of the whole must be presupposed.

Architectural phenomenology is mainly based on intellectuality, bodily experience and history (Otero-Pailos, 2010). It also focuses on those places where natural and artificial elements converge onto a synthesis (Norberg-Schulz, 1980), which aims to describe the world from the richer perspective of experience, rather than any sort of mathematical abstraction (Sharr, 2007).

Phenomenology relies on perception of pre-existing conditions and on the importance of lived experience in authentic philosophy (Holl, 1996).

Although its prominence in architectural theory has been much reduced, architectural phenomenology remains the privileged approach for dealing with questions of perception and affect (Otero-Pailos, 2010).

Many artists and architects have embraced the phenomenological mode in the last century. As such, Holl et al. (1994) assert:

> Once geometric space had become the locus of social and political life, these architects sought to retrieve the mystery of depth, the transitional event of chora, by implementing strategies of destructuration and recollection of an embodiment. Piranesi and Ingres were precocious members of this group. Their request was continued by artistic movements in the 20th century, intensely informed by Cezanne's obsession to abandon the external form of objects that preoccupied realism and Impressionism in order to retrieve a new depth, a true depth of experience whose paradigm is erotic, that traditional illusionism could not convey.

As reported by Jobst (2013), the phenomenological connection between sensory experience and architectural history has been identified by Otero-Pailos through three different strands: the theme of experience, with its belief on the non-historically origin of senses, which would eventually lead to the “essentialization of bodily experience”; the theme of history, founded on the modernist conviction that historical buildings are

expressions of a “deeper structuring reality”, which remains constant across time; the theme of theory, which would represent the early stage of of interdisciplinary.

Architectural phenomenologists supported the integration of essential historical knowledge of buildings in direct experiences (Otero-Pailos, 2010).

In particular, the architectural debate between semiologists and phenomenologists concerns a substantial difference in the nature of the fundamental questions the exponents are asking: "what does architecture mean?” from the architectural phenomenologists and "how does architectural form communicate meaning?” from the semiologists (Robinson, 1989). Furthermore, by referring to the semiologists, their design oriented theory is founded in rational deductive approaches based on empirical evidence and logical deduction; in contrast, the phenomenologist approach is rooted in the inductive/intuitive approach based on subjective observation (Robinson, 1989).

Phenomenology owes its main thrust to Edmund Husserl and Martin Heidegger. According to Otero-Pailos (2010), the architectural phenomenology was an early phase of post-modern history, whose intellectual development can be summarised as follows:

- the first architectural crisis happened in 1747, shortly after the French Revolution, and corresponded to the split between the profession of engineering from that of architecture. Disconnected from construction, architecture became utopian and unbuildable, such as those projects by Boullée. The failure of the Beaux-Arts approach has allowed all those disciplines disconnected from the sensible space to spread out: economics, semiology, topology, deconstruction etc. (Queysanne, 1981). The second architectural crisis took place with the building of the Crystal Palace in 1851, designed by railway engineer Charles Fox and architect Joseph Paxton. According to Frampton, "with the Crystal Palace the question of "how" began, at a public level, to take precedence over the issue of "what"".
- in 1873 Robert Vischer coined the term Einfühlung as empathy (i.e. “in feeling”). Rather than a process of formal thought, he defined the emphatic experiential process according to emotional union between the objects and the perceiving subject (Bloomer and Moore, 1977).
- Edmund Husserl launched the phenomenological movement in philosophy at the beginning of the 20th century with the intent of developing a precise method of philosophical investigation and of description of the experience free from prejudice. Husserl believed that previous philosophical accounts of experience had misinterpreted the pure concept of experience given to consciousness.

- Husserl's student Martin Heidegger promoted a new phenomenological ontology by revealing the structures of "Being" through those ones of human existence (Habib and Khosro Sahhaf, 2012).
- Heidegger influenced in first place Norwegian theorist Christian Norberg-Schulz, who attempted to translate the phenomenological approach in architecture by developing an overarching "system" that would account for the diverse spheres of architectural activity. He claimed that the failure of modern architecture regarded the lack of significance given to perception of the built environment, and of importance attributed to history as a source of meanings (Habib and Khosro Sahhaf, 2012). His philosophical approach influenced all subsequent developments in philosophy, from Sartre to Foucault and Derrida. (Habib and Khosro Sahhaf, 2012). If phenomenology in architecture begins with Christian Norberg- Schulz (In the 70s and 80s) and in the French philosopher and historiographer Gaston Bachelard (In the 30s to the 50s, and are rediscovered in the 60s and 70s), also the architectural influences of Aldo Rossi (primarily in the 70s) and Bernard Tschumi (in the 80s) should be taken into account (Brott, 2013).
- Ernesto N. Rogers contributed to architectural phenomenology by introducing the belief that history was contained with buildings as a "cumulative collective experience" that can only be accessed through experience. Vittorio Gregotti and Aldo Rossi were the first supporters of Roger's theories. Later they developed their own approach and eventually dropped phenomenology in favour or of the more clearly Marxist teachings of the Frankfurt school.
- Merleau-Ponty's described his phenomenological concept of embodiment through Cezanne's paintings. The fact that he placed less emphasis on the historicity of experience, explains why hison a second generation of architectural phenomenologists, including Steven Holl, less concerned with historiography.
- John Labatut believed the historical sources of architecture should include roadside commercial advertising and other symbols of popular culture. His method concerns a four step process: "learning to experience existing things in a modern way; assimilating the inner experiential lessons; forgetting the outer form of the object; creating the same experience within a different form".
- Labatut had connections with Italian phenomenologist Enrico Peressutti, a partner in the Milanese firm of BBRP (Banfi, Belgioioso, Peressutti, Rogers) who designed the Velasca Tower in 1958. Labatut praised the high-rise building for its remarkable aesthetics of medieval reminiscence, characterised by "long ribs running vertically on the facade and buttressing the overhand of the upper stories".

- Rudolf Arnheim was interested on the link between mental activity and visual perception (in the form of a mental image). He studied diagrammatic structure of paintings as for him diagrams were the connection between the visual end of the textual.
- After World War 1, industrial production and consumption became mass production and the mass consumption of men. These crises undermined architectural styles which had become the image of the bourgeois taste. Frampton described this moment when architecture lost all of its cultural significance as "an architecture degree zero", a cultural break. After the third crisis there was no visible experience of architecture left, and all that was left was building.

Although architectural phenomenology was not as socially defined and no collective manifesto was written, this did not prevent it from achieving coherence and set up the intellectual ground for the rising of post-modernism (Otero-Pailos, 2010).
During the past hundred years the phenomenological movement has developed into numerous branches, including Husserl's trascendental phenomenology, Heidegger's hermeneutic ontology, Sartre's existentialism, Mereau Ponty's phenomenology of embodiment, Arendt's phenomenology of the public sphere, Ricoeur's eschatological phenomenology, Levina's phenomenology of activity, and countless other equally important offshoots (Otero-Pailos, 2010).

4.2. Continuity of Perception and Matter

Since the beginning of our lives we measure and sense the world through our own bodies (Bloomer and Moore, 1977). Man distinguishes three important things in everyday life: his body, his soul and the rest of the world (Valéry, 2011).
Although our reality has been invaded by technology, the most important existential knowledge is still a silent one, disconnected from theories and definitions, beyond the threshold of consciousness, fused with experience and behaviour (Pallasmaa, 2009).
Our body image is located inside a three-dimensional boundary that demarcates our "inside" personal space from our "outside" extra personal space (Bloomer and Moore, 1977). The unique form of the ever present body coexists within an unstable relationship (Bloomer and Moore, 1977). From this perspective, Bergson (1988) claims:

> That there are, in a sense, multiple objects, that one man is distinct from another man, tree from tree, stone from stone, is an indisputable fact; for each of these beings, each of these things, has characteristic properties and obeys a determined law of evolution. But the separation between a thing and its environment cannot be absolutely definite and clear cut; there is a passage by insensible gradations from the one to the other: the close solidarity which binds all the objects of the material universe, the perpetuity of their reciprocal actions and reactions, is sufficient to prove that they have not the precise limits which we attribute to them. Our perception outlines, so to speak, the form of their nucleus; it terminates them at the point where our possible action upon them ceases, where, consequently, they cease to interest our needs.

As thinking takes place in the same flesh of the world, it is not abstract or alienated from reality, but right the opposite, it is part of our life experiences (Pallasmaa, 2011). Thats said, Jean-Paul Sartre argues: "understanding is not a quality coming to human reality from the outside; it is its characteristic way of existing" (Pallasmaa, 2011).

In light of this, Holl et al. (1994) reports the following Plato's view on the threefold nature of reality:

- Being, "the unchanging form, uncreated and indestructible, imperceptible to sight or the other senses, the object of thought";
- Becoming, which "is sensible, has come into existence, is in constant motion and is apprehended with the aid of sensation";
- Chora, come "which is eternal and indestructible, which provides a position for everything that comes to be, and which is apprehended without the senses by a sort of spurious reasoning and so is hard to believe in".

Chora is involved in a process for all becoming and change, and stands between intelligible and sensible, mind and body, surface and interior, body image and at body potential (Burns, 2013).

By describing the space of human creation and participation, Plato proposes a coincidence between natural place, called "topos", and "chora", which is the distinct reality apprehended in the crossing (chiasma) of being and becoming (Holl et al., 1994). Continuing on this line, Heidegger (2002) states:

> Much of what is cannot be brought under the rule of humanity. Only a little becomes known. What is known remains approximate; what is mastered remains unstable. What is never something [entirely] man-made or even only a representation, as it can all too easily appear.

Humans internalise their existentially most critical skills through automatic feedback beyond consciousness and intentionality (Pallasmaa, 2009). During the process of learning skills, the execution of the task concerns a complex sequence of spatial and

temporal relationships which are unconsciously embodied rather than intellectually understood (Pallasmaa, 2009).

In Bergsonism there is no "difference in kind" between perception and matter, but only "difference in degree", hence perceptions are continues with matter (Deleuze 1991) (Brott, 2013). In light of this relationship between body and sensations, Jobst (2013) reports Grosz's following statement:

> Sensations, affects, and intensities, when not readily identifiable, are clearly closely connected with forces, and particularly bodily forces, and their qualitative transformations. What differentiates them from experience, or from any phenomenological framework, is the fact that they link the lived or phenomenological body with cosmological forces, forces of the outside, that the body itself can never experience directly.

In addition, Jorge Luis Borges writes "the taste of the apple […] lies in the contact of the fruit with the palate, not in fruit itself. In a similar way […] Poetry lies in the meeting of the poem and reader, not in the lines of symbols printed on the pages of a book" (Pallasmaa, 2009).

The Uexküll's theory dated 1934 in centred around the concept of Umwelt, "environment" in English and "milieu" in French, which is composed by either the animal's Merkwelt, the perceptual world apprehended through its organs of sensation (le monde noté), composed by eyes, ears, skin, nose, tongue, or the Wirkwelt, the world of actions (le monde agi) (Ballantyne, 2007).

Psychologist Howard Gardner developed another theoretical approach based on a multiple intelligences based on seven separate components: linguistic, logical/ mathematical, musical, bodily/kinaesthetic spatial, interpersonal and interpersonal intelligence (Pallasmaa, 2009).

Ballantyne (2007) recalls Uexküll's view in the dynamic of perception, as follows:

> With the tick one can distinguish receptors (Organs of sense), and effectors (Organs of action), linked together through the central nervous system by an apparatus that directs. The assemblage (ensemble) is at machine, but nowhere is our mechanic to be seen. […] Everywhere we have nothing but machines, not parts of the machines. Each individual cell in the reflex arc works note at the transmission of movement, But at the transmission of excitation. So an excitation has to be perceived either subject and doesn't exist for objects. […] What ever the intervention from outside, it responds in the same way, by contracting. It changes every external intervention into the same excitation, and responds with the same impulse that causes the contraction of its cellular body […]. Therefore we can conclude that each living cell is a mechanic who perceives and that is, and that consequently it has its own perceptive character, and impulsions or "active characters". That

> perception and action complexes of the assemblage of the animal subject lead thus to the collaboration of little cellular mechanics, each one of which makes use of the just one perception signal and one action signal.

Within the human perception domain, another remarkable function of the brain is the ability to separate and object from its background so as, for instance, to detach a building from its surrounding and perceive it as an independent object (Grutter, 2012). Adding to that, Holl et al. (1994) states:

> […] physical phenomena engage our "outer perception", while mental phenomena involve our "Inner perception". Mental phenomena have real, as well as intentional, existence. Empirically we might be satisfied with a structure as a purely physical-spatial entity that, intellectually and spiritually, we need to understand the motivations behind it. […] The challenge of architecture is to stimulate both inner and outer perception; to heighten phenomenal experience while simultaneously expressing meaning and to develop these into duality in response to the particularities of site in circumstances.

In a world that changes continuously, the brain also acquires knowledge on the permanent, essential and constant properties of the objects (Zeki, 1999). Our perception is always driven by a series of overlapping perspectives, which unveil the perceived object according to a particular angle and speed of movement (Holl et al., 1994). For this reason, buildings and urban space cannot be grasped by a single view, which is incomplete by nature, as perception is altered by its relationship with its juxtaposed spatial elements of the surrounding (Holl et al., 1994).
As man does move and act outside the things of the world, in order to penetrate the surface of things, he has to break them (Focillon, 2002). Merleau-Ponty (2012) makes a clear statement on that:

> The constitution of a spatial level is simply one means of constituting an integrated world: my body is geared onto the world when my perception presents me with a spectacle as varied and as clearly articulated as possible […]. This maximum sharpness of perception […] points clearly to a perceptual ground, a basis of my life, a general setting in which my body co-exists with the world.

By refuting the 19th-century idea of empathy (Einfühlung) Paul Schilder sustains that a person's feeling, which derives from direct experience, cannot be transferred to another person by means of directly imitating the demonstrated self directed activity (Bloomer and Moore, 1977).

There are no objects completely detached from our surrounding, hence the world cannot be represented per se: within a mutual process of alteration, our presence makes things to appear different (Bonaiti, 2002). Even the environment acts upon us as a pair of glasses that operates a selection of sensorial data: some information shifts through, some other not (De Angelis, 1996).

The environment is much more than a physical location, it is made by innumerable connections between individuals. Language is the most powerful way of connecting. The fact that we learn languages most easily when we're young because of the neural development (Onians, 2002). Our brains are predisposed at birth to develop neural structures when interacting, often passively, with our environment, hence climate, landscape, flora and fauna will critically influence the development of our brains (Onians, 2002). “Understanding” is the way we experience reality, as Johnson (1990) claims:

> A crucial point here is that understanding is not only a matter of reflection […] on some preexistent, already determinate experience. Rather, understanding is the way we "have a world," the way we experience our world as a comprehensible reality. Such understanding, therefore, involves our whole being - our bodily capacities and skills, our values, our moods and attitudes, our entire cultural tradition, the way in which we are bound up with a linguistic community, our aesthetic sensibilities, and so forth. in short, our understanding is our mode of "being in the world." It is the way we are meaningfully situated in our world through our bodily interactions, our cultural institutions, our linguistic tradition, and our historical context. Our more abstract reflective acts of understanding (which may involve grasping of finitary propositions) are simply an extension of our understanding in this more basic sense of "having a world”.

In accordance with Merleau-Ponty’s view, perception operates in a total way with the whole being, which speaks to all the senses at the same time; Bachelard calls this sensory interaction "the polyphony of the senses” (Pallasmaa, 2011). From the beginning of his life, every human being is outside himself and open to the world (Merleau-Ponty, 2012). From such this perspective, Mallgrave (2011) affirms:

> We are our bodies and even the rationalizing mind cannot operate outside of this condition. A thing in the world is no longer “given” in perception, as classical psychology would have us believe, “it is internally taken up by us, reconstituted and experienced by us in so far as it is bound up with the world, the basic structures of which we carry with us, and of which it is merely one of many possible concrete forms.” Thus the perception is always a process of creative receptivity, a composing rather than a copying of the external world, but more importantly, “a formation already bound up with a larger whole, already endowed with meaning”.

The perceptual world only exists in relation to one's body awareness, and constitutes an extended potential field of human activity (Mallgrave, 2011). The thing can never be separated from the one who perceives it; nor can it ever actually be in itself because its articulations characterise our own existence (Merleau-Ponty, 2012).

The body cannot be objectified as it does not exist in space and time, it rather inhabits space and time, hence the appearance of space or time cannot exist per se without the body (Mallgrave, 2011). By referring to the act of perceiving, Mallgrave (2011) states:

> Because consciousness operates only through the body and its senses, the union of the mind and body is implied throughout every moment of our existence. Such a formulation also expands Merleau-Ponty's notion of perception, or rather, he conflates it with phenomenal consciousness and the senses. […] Merleau-Ponty observes that the "body is the fabric into which all objects are woven, and it is, at least in relation to the perceived world, the general instrument of my comprehension". "Summarizing this point another way, he concludes the book by quoting a passage from the French aviator and writer Antoine de Saint-Exupéry: "Man is but a network of relationships, and these alone matter to him".

Merleau Ponty talks about an osmotic relation between the self and the world, where they act on each other through interpenetration and mutual definition (Pallasmaa, 2011). He also refers to the physiological dynamic of chiasm to explain his philosophical approach. Chiasm indicates an "intersection or crossing over of anatomical strands" and the most relevant is the optic chiasm, where both hemispheres of the brain receive stimuli from the bifurcated optic nerves (Mallgrave, 2011). This split between the body seeing and the body seen has ontological meaning and is called "dehiscence", so that "the things pass into us as well as we into the things" (Mallgrave, 2011).

In opposition to the concept of Cartesian eye of the outside spectator, Merleau Ponty's sense of vision is embodied in the "flesh of the world" (Pallasmaa, 2011), as he claims:

> I understand the world because there are for me things near and far, foregrounds and horizons, and because in this way it forms a picture and acquires significance before me, and this finally is because I am situated in it and it understands me. […] There is nothing to be seen beyond our horizons, but other landscapes and still other horizons, and nothing inside the thing but other smaller things

At the beginning of the 20th century, the Berlin School of Gestalt ("Form") psychology proposed new theoretical model that demonstrated the influence of irrational forces in the act of perceiving onto the object being perceived (Bloomer and Moore, 1977). The

word gestalt has been firstly applied to a body of scientific principles that were derived mainly from experiments in sensory perception (Arnheim, 2004). In his gestalt psychology Köhler sustains that the organism reacts to the stimuli to which it is exposed. He defines perception as an “unitary process, a functional whole”, rather than a pattern of local sensations (Mallgrave, 2011).

While Aristotele listed five senses (sight, sound, smell, taste and touch), James Gibson refers to sensory systems, which do not call for any intellectual activity to be operated (Bloomer and Moore, 1977). They have been listed as visual system, auditory system, taste and smell system, basic orienting system and haptic system (Bloomer and Moore, 1977).

Anton Ehernzweig (1967) distinguishes two kinds of attention: the gestaltic conscious attention which follows conscious intentions and thoughts, and multi-dimensional, polyphonic and scattered unconscious attention, which catches complex and conflicting entities (Pallasmaa, 2011).

Taking this into account and by focusing on the artistic domain, Arnheim favours the "untrained eye" approach to philological interpretations of art based on intellectual and historical research (Otero-Pailos, 2010). In his application of Gestalt theories of perception that artistic forms appear first as immediate "total" visual experiences (Otero-Pailos, 2010).

He also claimed that “cognitive operations called thinking are not the privilege of mental processes above and beyond perception but the essential ingredients of perception itself” (Mallgrave, 2011).

4.3. Reflective Poiesis of Perception and Memory

Man identifies with the real entities of the environment and maintains with them those kind of relationships that develop especially during the childhood period (Norberg-Schulz, 1980). Memory confers measure of time to entities of space; that time that precedes our lives. Bergson (1988) summarises the true nature of every moment of the existence with the following statement:

> Every moment of our life presents two aspects, it is actual and virtual, perception on the one side and memory on the other. Each moment is split up as and when it is posited. Or rather, it consists in this very splitting, for the present moment, always going forward, fleeting limit between the

> immediate past which is now no more and the immediate future which is not yet, would be a mere abstraction were it not the moving mirror which continually reflects perception as a memory.

Philosopher Edward S. Casey claims that there is no memory without body memory, which means that man could not remember without having the capacity for body memory (Pallasmaa, 2009). Over a lifetime of personal encounters with the environment, man develops memories of an inner universe that includes a range of experiences taken from the world and engraved on his personal identity (Bloomer and Moore, 1977). Our inside world is populated with people, places, and occurrences that have been perceived in the outside world, and with their associated feelings (Bloomer and Moore, 1977).

The theory of "experiential immediacy" elaborated by Charles Moore focuses on the way an architectural composition affects the consciousness of the viewer by wipping out previous and future memories of buildings from his/her mind and by revealing the authentic poetic image. (Otero-Pailos, 2010). In Moore's view, poetic images are "memory born images" that allow to forget the outward form of a building and to grasp its inner creative nature (Otero-Pailos, 2010).

Every time we aim to discover the known and personal memory image related to the present, the perception brings us towards the future; we have then to put an effort to go backwards into the past (Bergson, 1988). In this process, all the analogous images to the present perception are still with us and the representation has to be chosen from among all possible representations (Bergson, 1988).

The moment of maximum materialisation of memory, that is *déja vu,* coincides with the moment of highest dematerialisation of matter into void (Dall'Olio, 1997). A combination of one's own past experience, cultural visual inclination and statistical odds would contribute to define and complete the present time, by filling in the left void with matter from another place, a mental place (Dall'Olio, 1997).

Bachelard (2006) believes that memory and imagination stay associated in a way that somebody, for instance, can pick up memories from another century, "open the deep cardboard that still retains […] that unique odour, the odour of raisins, drying on our wicker tray […]" (Pallasmaa, 1996).

In Heidegger's theory, the imaginative projection might refer to thinking about place's memorable qualities, associated memorable events and memorable people related to it (Sharr, 2007). Continuing on this line, Zumthor (2003) asserts:

> I used to take hold of it when went into my aunt's garden. That the door handle still seems to me like a special sign of entry into a world of different moods and smells. I remember the sound of

> gravel under my feet, that soft gleam of the waxed oak staircase, I can hear the heading front door closing behind me as I walk along the dark corridor and enter the kitchen […]".

In a similar way, that mental impact of architecture on our mind derives from the authentic experiences rooted to the true sense of life, rather than aesthetic and intellectual speculations (Pallasmaa, 2009). Meaning in architecture arises form bringing to light the true nature of our buried embodied memories (Pallasmaa, 2009).
During the design process, Zumthor finds himself repeatedly absorbed in old and nearly forgotten memories and meanings of that particular architectural configuration. He aims to achieve that particular atmosphere soaked of the rightful presence of the natural things (Zumthor, 2003).
By reminding us that even the smallest perception is determined by a multitude of vibrations, Bergson claims that the act of seeing a colour or hearing a sound already calls for a memory process that transforms a "quantitative multitude" into a "qualtitative multiplicity" (Cache and Girard, 2013). Rather than the engram/memory of computers, which only involves a sequence of bits, memory condenses our presence in the world by crystalising a "series of moments into the thickness of a duration" (Cache and Girard, 2013).
Neurologist V. S. Ramachandran points out that the the potential synapses of our 100 billion neurons in the brain allow for a "number of possible permutations and combinations of brain activity" that "exceeds the number of elementary particles in the known universe" (Mallgrave, 2011).
On this point, every perception involves a disturbance communicated by the nerves from the perceptive organs to the cortical centres (Bergson, 1988).
By starting from the theories of Donald Hebb, the Nobel laureate Eric R. Kandel, demonstrated that all forms of learning result in synaptic changes (Mallgrave, 2011). Kandel discovered that short-term memory (working memory) strengthened synapses by releasing glutamate, while the long-term memory other than reinforcing synapses with proteins also created new synapses to enhance neuronal connections (Mallgrave, 2011).
According to Bergson (1988), the primary function of memory is:

> […] to evoke all those past perceptions which are analogous to the present perception, to recall to us what preceded and followed them, and so to suggest to us that decision which is the most useful. But this is not all. By allowing us to grasp in a single intuition multiple moments of duration, it frees us from the movement of the flow of things, that is to say, from the rhythm of necessity. The more of these moments memory can contract into one, the firmer is the hold which it gives to us on

> matter: so the memory of a living being appears indeed to measure, above all, its powers of action upon things and to be only the intellectual reverberations of this power.

In that sense, rather interesting is Baudrillard's and Nouvel's (2003) view on the American cities: although they should not be considered as a benchmark for urban developments, their lack of intellectually involved in architecture and historical aesthetics allow for the setting out of a tabula rasa of memory. One of the greatest difficulty for today's architecture is the need to be remembered and forgotten at the same time, as architectural space is not meant to be contemplated within a status of permanence (Baudrillard and Nouvel, 2003).

4.4. Experience as a Means to Describe Reality

Human body and its way of experiencing realty is frequently excluded from the architectural debates (Tschumi, 2005). Knowledge comes through our experience rather than our intellect (Merleau-Ponty, 2012), and understanding does not come to human reality from the outside; it is in fact its characteristic way of existing (Pallasmaa, 2011).

In his essay "Flesh of the world - Flesh of the body - Being", Merleau-Ponty refers to our ontological relationship with the world and specifically recalls Vischer's concept of Einfühlung (empathy): human body is made of the same flesh as the world, and at the same time this flesh of my body is shared by the world, in a dynamic of reflection (Mallgrave, 2011). In light of considering the body as both the starting point and the measure of all of the dimensions of the world, Merleau-Ponty (2012) asserts:

> At the root of all our experiences, and all our reflections, we find a being which immediately recognizes itself, because it is its knowledge of both of itself and of all other things, and which knows its own existence, not by observation as a given fact, nor by inference from an idea of itself, but through direct contact with that existence. Self- consciousness is the very being of mind in action.

Since beauty should not be considered as a detached aesthetic quality, but rather a quality of the experience that arises from "grasping the unquestionable causalities and interdependencies of life" (Pallasmaa, 2009), knowledge of an experience is never separated from the experience itself (Varela, Rosch, Thompson, 1991).

Self-consciousness is the very being of mind in action, as being immediately recognises itself and comes to know about its own existence not by observation and as a given fact, but through direct experience of reality (Merleau-Ponty, 2012). Experience also signifies complete interpenetration of self and the world of objects and events (Dewey, 2005).

As man does not really have knowledge of the world but rather he does only have knowledge of our representations of the world, he tends to treat these representations as if they were the world (Varela et al., 1991). Being mindful means acknowledging the present embodied nature of mind in everyday experience.

The body experience provides the deepest and most substantial sense of three dimensionality and sets up a basis for understanding “spatial feeling” when experiencing buildings (Bloomer and Moore, 1977). Experience of phenomenal perceptions in space and time requires the refusal of a priori thought and provides a “pre-logical” and ”pre-theoretical" ground for architecture (Holl, 1996).

The fullness and quality of experience sets up the true benchmark for architectural quality, that is connected to the concept of "aura" in the work of art observed by Walter Benjamin (Pallasmaa, 2009).

Architectural experience makes us aware of our fundamental existential solitudes (Holl et al., 1994), and distances us from the present allow for experiencing the “slow, firm throw of time and tradition” (Holl et al., 1994). Continuing on this line, Rasmussen (1964) states:

> It is not enough to see architecture; you must experience it. You must observe how it was designed for a special purpose and how it was attuned to the entire concept and rhythm of a specific era. You must dwell in the rooms, feel how they close about you, observe how you are naturally led from one to the other. You must be aware of the textural effects, discover why just those colours were used, how the choice depended on the orientation of rooms in relation to windows and sun.You must experience the great difference acoustics make in your conception of space: the way sound acts in an enormous cathedral, with its echoes and long-toned reverberations, as compared to a small panelled room well-padded with hangings, rugs and cushions.

Rasmussen promotes architecture as a multi-sensory experience, which he finds most intense in the city of Rome (Mallgrave, 2011). After noticing group of schoolboys playing with a ball off the exterior wall of the church of Santa Maria Maggiore, he states: “as I sat in the shade watching them, I sensed the whole three-dimensional composition as never before” (Mallgrave, 2011). Embodied memory allows us to

remember a space or a place through the acts of recollecting, remembering, comparing (Holl et al., 1994).

In his theory, Johnson (1990) proposed a pattern and order to our actions, perceptions, and conceptions. These patterns drive our bodily movements though space and our interaction with objects. In that sense, particularly inspired is Twitchell Hall's (1992) reference to the Japanese way of conceiving spaces:

> Lacking wide-open spaces, and living close together as they do, the Japanese learned to make the most of small spaces. They were particularly ingenious in stretching visual space by exaggerating kinesthetic involvement. Not only are their gardens designed to be viewed with the eyes, but more than the usual number of muscular sensations are built into the experience of walking through a Japanese garden. The visitor is periodically forced to watch his step as he picks his way along irregularly spaced step stones set in a pool. At each rock he must pause and look down to see where to step next. Even the neck muscles are deliberately brought into play. Looking up, he is arrested for a moment by a view that is broken as soon as he moves his foot to take up a new perch. In the use of interior space, the Japanese keep the edges of their rooms clear because everything takes place in the middle. Europeans tend to fill up the edges by placing furniture near or against walls. As a consequence, Western rooms often look less cluttered to the Japanese than they do to us.

Furthermore, in accordance with Zumthor's (2003) view, embodied memory is related to the concept of beauty, which appears to him as a perfect natural scene, like a still life painting, without any traces of artificiality, where everything is where it should be. Experience is involuntary. Considering this, Sharr (2007) reports Zumthor's assertion on his Thermal Baths in Vals:

> Ordinary people come in, older people come in and say it is good that I can come in here and it is not this cool atmosphere where I would like to wear a robe going into the water. In the bath there is a little bit of fun mythological place, the drinking fountain where the water comes out. It has a red light and is purely an artificial, theatrical piece. It does have a tradition though. The old spas had these marble, shaped drinking fountains, so this is the new version but it is also a little bit theatrical. Also, coming down these long, long stair. This is like making an entrance, like in some movies or old hotels. Marlene Dietrich coming down a flight of stairs, or something. You make an entrance into the room. Also, the mahogany in the changing rooms looks a little bit sexy, like on and ocean liner or a little bit like a brothel for a second, perhaps. They are where you change from your ordinary clothes to go into this other atmosphere. That is sensual quality is the most important, of course, that these architecture has these sensual qualities.

Zumthor favours the immediate evidence of experience and memory over that of mathematical and statistical data (Sharr, 2007). By pursuing the intent to manipulate perception too, Steven Holl, helped by his watercolour paintings, focuses on the object qualities of his buildings. He differs from Zumthor as well, as his methods concern distortion of edges, contours and surfaces and anticipating transformations induced by different weather conditions (Sharr, 2007). From this perspective, In an analogous way, Charles Moore had explored new ways of introducing new immediate architectural experiences onto existing buildings: through his fountain installation at the Lever House and at the Seagram building he encouraged the visitors to escape from the “modernist boxes” that enclosed them (Otero-Pailos, 2010).

Rudolf Arnheim claims that sensory symbols intensify the architectural experience, and the most intense symbols “derive from the most elementary perceptual sensations because they refer to the basic human experiences on which all others depend” (Mallgrave, 2011). He pictures strong architectural images such as the intensity of morning light streaming through a choir window of a cathedral or the capacity of a cupola to retain a “spontaneous affinity with the natural sky and share some of its principal expressive connotations” (Mallgrave, 2011). Sharr (2007) makes reference to Aldo Van Eyck as another skilled “choreographer” of architectural experiences:

> In his Amsterdam orphanage project, children were invited to identify places in their games with these things, imagining new world around them. […] Edges where thickened to provide ledges, seats and shelves, offering places to settle and to put things down. Steps become seats and auditoria, sills become seats, shelves become hidden holes and play scapes. Openings, windows and fragments of mirror where introduced to enrich experience. […] They suggest uses rather than proscribing them, introducing a little ambiguity and the redundancy so that individuals might use them in multiple ways.

The cinematographic equivalent of the above mentioned architects are directors Michelangelo Antonioni and Andrei Tarkovsky: their “weak cinematic narrative”, based on discontinuous narrative and repeated improvisation, creates the distance between the image and the narrative through the usage of “clustered images” (Pallasmaa, 2011). The viewer is encouraged to participate and to accepts a “moral responsibility” for the upcoming events (Pallasmaa, 2011).

On this perspective, Kenneth Frampton pursued the idea that architectural theory could be re thought on the basis of a “new phenomenological understanding of experience” (Otero-Pailos, 2010). With his theory of “surplus experience”, he wanted to

demonstrate the capacity of printed media to construct a new augmented world of the building rather than just representing it. As an editor, Frampton saw graphic design as a means to provide a mostly visual medium (print) with a tactile experience (Otero-Pailos, 2010).

In today's retail industry, the communication of an identity has been replaced by the creation of an experience: a brand new direct relationship with the customer and the multi sensorial experience play the major role on the design of the ultimate commercial spaces. According to Marchetti (2008):

> Lev Manovich draws attention to the perceptual coherence of the Prada epicentre in which images, interaction, architecture, products and impressions produced by the setting combine to create an emotionally or regional experience in such a way as to suggest a new language of brandscaping (promotion of the brand through space). To obtain this goal that technological object has to disappear from view and be transformed into embedded technology so as to "form a closer relationship with the environment […] The person, the product, the table, the chair, the building and even the city". No longer objects but experience.

Yet not enough energies have been invested in studying the relationship between architectural concepts and sensorial experience of space (Tschumi, 2005). The new sciences of mind need to enlarge their horizon to understand both lived human experience and the "possibilities for transformation inherent in human experience" (Varela et al., 1991).

As today's mass media distractions can easily deplete both psyche and spirits and distance people from the very nature of existence, everything real and tangible should be preferred (Holl et al., 1994). Facing the growing influence of vacuum media messages, an activism of consciousness should be largely supported (Holl et al., 1994).

5. The Creative Eye

The poet speaks on the threshold of being.

Gaston Bacherlard

Art must give suddenly, all at once, the shock of life, that sensation of breathing.

Constantin Brancusi

5.1. Between Inner Consciousness and Outer World

The prevailing orientation of western culture today tend to separate external world and inner consciousness, by suppressing imagination and the senses (Pallasmaa, 2009). As the imaginary is part of the world (Merleau-Ponty, 2012), education should cultivate and foster human quality of empathy and ability to imagination (Pallasmaa, 2009). There is no current theories of knowledge and rationality that exhaustively treat the imaginative dynamics. Imagination makes sense of our experience allowing a meaningful reading of the world and reality (Johnson, 1990).

The weakening of our autonomous capacities of imagination and critical discernment are compromised by the increasing speed of communication through the broader simplification of text and image (Pallasmaa, 2011).

In England, Hume was one of the strongest detractor of reason: he thought that feeling should not justify itself and, in matters of beauty, reason should surrender to the imagination (Bloomer and Moore, 1977).

Recent researches have proven that images and percepts are neurologically connected: images and visual perceptions take place in the same zones of the brain (Pallasmaa, 2011).

Hanekom (2008) explores two fundamental ways of interpreting the world outside of our bodies to allow the construction of associated animate and inanimate objects: abstraction and metaphoric activity. Through a process of interpretation, abstraction isolates our bodies from the world as a separate entity, whereas metaphoric activity is

the dynamic whereby “body gesture is projected onto an object”. The following statement by Bachelard (2006) on the capacity of imagination is rather inspiring:

> The imagination, by virtue of its freshness and its own peculiar activity, can make what is familiar into what is strange. With a single poetic detail, the imagination confronts us with a new world. From then on, the detail takes precedence over the panorama, and a simple image, if it is new, will open up an entire world. If looked at through the thousand windows of fancy, the world is in a state of constant change

Bacherlad claims that imagination allows men to infinitely build their world and acts as a nest. He also shares Boris Pasternak’s idea that between man and image only the latter speaks for him and keeps on track with nature. Bachelard states that “knowing must be accompanied by an equal capacity to forget knowing”, which has nothing to do with ignorance; it is rather a “transcendence of knowledge” (Pallasmaa, 2009). According to Merleau-Ponty (1964):

> The word “image” is in bad repute because we have thoughtlessly believed that a drawing was a tracing, a copy, a second thing, and that the mental image was such a drawing, belonging among our private bric-a-brac. But if in fact it is nothing of the kind, then neither the drawing nor the picture belongs to the in-itself any more than the image does. They are the inside of the outside and the outside of the inside, which the duplicity of sensing makes possible and without which we would never understand the quasi-presence and imminent visibility which make up the whole problem of the imaginary. […] The imaginary is much nearer to and much farther away from the actual. It is nearer because it is the diagram of the life of the actual in my body, its pulp and carnal obverse exposed to view for the first time […]. And the imaginary is much further away from the actual because the picture is an analogue only according to the body; because it does not offer to the mind an occasion to rethink the constitutive relations of things, but rather it offers to the gaze traces of the vision of the inside, in order that the gaze may espouse them; it offers to vision that which clothes vision internally, the imaginary texture of the real.

Vision is never static as much as thinking is never a sharp, neat and coherent process (Pallasmaa, 2011). Holding a immobile mental image or concept is not possible as it cannot be isolated from the functions of awareness (Pallasmaa, 2011).

Boredom also plays a major role in the imagination process: according to Odo Marquard, the experience of boredom in the early childhood promotes fantasy, imagination and self motivated observation. He argues that the overstimulation of children by their parents and teachers would compromise their “capacity of imagination, invention and self identity” (Pallasmaa, 2009).

When Zumthor (2003) speaks about architecture and inspiration, he recalls two types of images: the first ones are related to his knowledge of the profession built on years of experience, the others are linked to his childhood and his cheerful approach to architecture. In this respect, he provides a clear description of his experience at his aunt's house:

> There was a time when I experienced architecture without thinking about it. Sometimes I can almost feel a particular door handle in my hand, a piece of metal shaped like the back of a spoon. I used to take hold of it when I went into my aunt's garden. That door handle still seems to me like a special sign of entry into a world of different moods and smells. I remember the sound of the gravel under my feet, the soft gleam of the waxed oak staircase, I can hear the heavy front door closing behind me as I walk along the dark corridor and enter the kitchen, the only really brightly lit room in the house.

Most of our today's dwellings do lack of sensation and transactions between body, imagination, and environment (Bloomer and Moore, 1977). Often happens that he inner vision is much richer than any outer manifestation as It seems to grasp much more than the latter conveys. Dewey (2005) adds to his previous statement the following consideration:

> The object is felt to say something succinctly and forcibly that the inner vision reports vaguely, in diffuse feeling rather than organically. The artist is driven to submit himself in humility to the discipline of the objective vision. But the inner vision is not cast out. It remains as the organ by which outer vision is controlled, and it takes on structure as the latter is absorbed within it.

According to Sartre, the image and the percepts are different ways of being conscious about objects (Pallasmaa, 2011). The image puts in relation consciousness and object as it is the way in which the object makes its appearance to consciousness (Pallasmaa, 2011).

5.2. Inner Visions

In our contemporary architecture of the visual, artistic experience and thought should take into account the poetic and embodied image, which recalls and perpetrates the emotional reactions (Pallasmaa, 2011).

Italo Calvino pictures our modern experimental condition as "unending rain fall of images", Richard Kearney uses the expression "image addiction" whereas Roland Barthes speaks about "the civilisation of the image" (Pallasmaa, 2011).

When Bachelard speaks about "deobjectifying objects and deform forms" in order to "see the matter beneath the object", he promotes fantasy and daydreams both as sources of creativity and as means for accessing and reading historical buildings (Otero-Pailos, 2010).

As an "internalised experience", the poetic image that comes from an artistic expression is not a mere sensorial picture, it rather embodied in the flesh of the world. (Pallasmaa, 2011).

According to Bachelard, poetic images act as "inner visions", in which inner consciousness and outer world come together (Otero-Pailos, 2010). Their direct ontology drives their very own essence and dynamic as a result of reaching up consciousness directly from heart and soul (Bachelard, 2006).

Deleuze and Guattari use the term "transport", or "lift", in reference to the poetic image, which is produced by a "line of flight", as a direct product of the works of art (Ballantyne, 2007). Deleuze and Parnet (1977) describe the "line of flight" as follows:

> Our flight is a sort of delirium. To be delirious is exactly to go off the rails (as in déconner, to say absurd things, etc.). There is something demoniacal or demonic in a line of flight. Demons are different from gods, because gods have fixed attributes, properties and functions, territories and codes: they have to do with rails, boundaries and surveys. What's Demons do is jump across intervals, and from one interval to another interval

According to Pallasmaa (2011), images can be classified into two opposite types. The first type manipulates and conditions human choices, confines and weakens freedom and individuality, forces attention of the subject to a defined object which often triggers a sense of inferiority and guiltiness. With regards to the the second type of images and their quality of emancipating, inspiring and strengthening affected imagination and individual independence, Bachelard (2006) refers to a particular event of his own experience:

> When insomnia, which is the philosopher's ailment, is increased through irritation caused by city noises; or when, late at night, the hum of automobiles and trucks rumbling through the place Maubert causes me to curse my city-dweller's fate, I can recover my calm by living the metaphors of the ocean. We all know that the big city is a clamorous sea, and it has been said countless times that, in the heart of night in Paris, one hears the ceaseless murmur of flood and tide. So I make a sincere image out of these hackneyed ones, an image that is as much my own as though I myself

> had invented it, in line with my gentle mania for always believing that I am the subject of what I am thinking. If the hum of cars becomes more painful, I do my best to discover in it the roll of thunder, of a thunder that speaks to me and scolds me. And I feel sorry for myself. So there you are, unhappy philosopher, caught up again by the storm, by the storms of life! I dream an abstract-concrete daydream. My bed is a small boat lost at sea; that sudden whistling is the wind in the sails. On every side the air is filled with the sound of furious klaxoning. I talk to myself to give myself cheer: there now, your skiff is holding its own, you are safe in your stone boat. Sleep, in spite of the storm. Sleep in the storm. Sleep in your own courage, happy to be a man who is assailed by wind and wave

Bachelard defines these images, which bring subjectivity and objectivity together, as the origin of one's "creative eye" (Otero-Pailos, 2010). They do not emulate the outer world nor mirror our pure inner consciousness, right the opposite, they behave like a burst of pure spontaneity within consciousness as "open ended and primary sources of human creativity" (Otero-Pailos, 2010).

Daydreams very often derive from an indefinite and timeless past and challenge our rêverie (capacity of daydreaming) to such a point that one doubts his/her memories to be in fact memories, and not just mere inventions (Bachelard, 2006). In doing so, unreality seems to take possession of places and time (Bachelard, 2006).

Our historical period push us towards the tendency of mistrusting our institutions, "even the presence of the sun", as Louis Kahn claims (Bonaiti, 2002). He also believes that everything comes from the surprise, all the most marvellous inventions and manifestations of the human soul (Bonaiti, 2002).

In that sense, there is a privileged deepness in the rêveries of children who have been free to live their moments of creative solitude (Bachelard, 2006).

In architecture, experience affects our minds through images which are "condensations of distinct architectural essences" which have become an inseparable part of our lives (Pallasmaa, 2011). Bachelard (2006) makes an interesting point the way one can read a simple door. Behind the door lays a whole universe of mystery, where the rêveries materialise by accumulating desires and tentations. Continuing on this line, Ballantyne's (2007) statement on the way the lines of flight act upon perception in architecture is particularly meaningful:

> When I encounter a building, it produces in me certain effects, lines of flight, detteritorialization, Whatever. Precisely what affects it produces in me will depend on what I bring to it as part of me, my experience, ideas that I have picked up from reading, stray images that the building calls to mind. […] Perhaps the building reminds me of a place I knew as a child, where I was happy; or perhaps it evokes a place where I was attacked out of the blue. If it happens to do such things then

> the building might produce in me powerful affects that are a real part of my response, my pulse rate might we can. […] Other sorts of responses come about in ways that can be anticipated or cultivated. If I have studied architecture and I recognise that the building before we make use of the vocabulary of form developed by, say, Louis Kahn, then I would recognise it as a building of some sophistication and ambition on the part of the architect. I would be able to do this because part of my life experience has been the deliberate acquisition of a certain familiarity with these forms […] They are produced when the building and the person come into contact, and people are "prepared" in different ways by their life experiences, including their education. […] A building, like any works of art, is a bloc of sensations and affects.

Zumthor's (2006) preferred definition of designing architecture is producing interior images: associative, free, wild mental images of spatial, colourful and sensual spaces.
Psychological space is born in the imagination and plays a central role in the spatial experience (Holl, 1991). The rêverie is the psychic core of the room, which affects creative thought and imagination (Holl, 1991); it also embraces the dimension of time and timelessness, as timeless is the nature of a work of art (Pallasmaa, 2011). That is because each time the viewer experiences art, his/her effort is required to recreate imaginary worlds and mental reality (Pallasmaa, 2011). In this respect, Bachelard (2006) reports the following example to describe the powerful nature of daydreaming:

> And so the woodpecker enters into my sound world and I make a salutary image of him for my own use. In my Paris apartment, when a neighbour drives nails into the wall at an undue hour, I "naturalize" the noise by imagining that I am in my house in Dijon, where I have a garden. And finding everything I hear quite natural, I say to myself: "That's my woodpecker at work in the acacia tree". This is my method for obtaining calm when things disturb me.

In the act of designing a building, the source images that come to Zumthor's (2006) mind are mostly driven from subjective experience and very rarely accompanied by an architectural connotation; these memories are crucial to him to create precise atmospheres and inspiring spaces.
According to Louis Kahn, once the architect has drawn the first line on the paper to "grasp the dream", something of that dream has already been lost, as yet the line itself reveals what cannot be expressed in its totality (Bonaiti, 2002). The real spirit of architecture is moving close to sensation and away from mental constructions (Bonaiti, 2002).
Even before they are mentally recorded or understood, artistic images speak directly to our existential sense, and have deep impact on our bodily being (Pallasmaa, 2011).

Every project requires new images as the old ones only help us to find the new ones: images unveil that particular portion of reality one decides to be magnified; for instance, a wall, soffit, or floor, the quality of light, colours and materials, even the smallest joints (Zumthor, 2006).

When Pallasmaa (2011) states “each time one views again a great film, re reads a fine novel, looks repeatedly at a masterpiece of painting, or revisits and architectural classic, the more one discovers”, he means that a work of art, or architecture, reflects life itself in an unexpected timeless freshness.

5.3. Work of Art: Matter beneath the Object

The aim of art is not only understanding the world, but also producing autonomous extensions of the reality with their own laws and qualities (Eco, 2013).

All art forms, such as architecture, music, sculpture, painting, represent ways of sensory and embodiment (Pallasmaa, 2009). Heidegger (2008) expresses his view on the nature of art as follows:

> Art, as the setting-into-work of truth, is poetry. Not only the creation of the work is poetic, but equally poetic, though in its own way, is the preserving of the work; for a work is in actual effect as a work only when we remove ourselves from our commonplace routine and move into what is disclosed by the work, so as to bring our own nature itself to take a stand in the truth of what is.

The ontological character attributed by Heidegger to visual artworks, also includes poetry: he believes that experiencing poetry allows men to experience the reality for what it is; phenomena are given to the experience without speculative intermediations of scientific or technological assumptions (Otero-Pailos, 2010). Rather than mere singular objects, artists’ masterpieces recreate not only “the very essence of our lived world” (Pallasmaa, 2009). From these considerations, Dewey (2005) states:

> A work of art elicits and accentuates this quality of being a whole and of belonging to the larger, all-inclusive, whole which is the universe in which we live. We are, as it were, introduced into a world beyond this world which is nevertheless the deeper reality of the world which we live in our ordinary experiences. […] I can see no psychological ground for such properties of an experience save that, somehow, the work of art operates to deepen and to raise to great clarity that sense of an

> enveloping undefined whole that accompanies every normal experience. This whole is then felt as an expansion of ourselves.

Architectural spaces embrace and shelter our bodies by addressing our sense of bodily balance and movement (Pallasmaa, 2011). Architectural images function is mainly fostering human action and interaction: “the floor invites movement and activity, the door is an invitation to enter or exit, the window to look out, the table to gather around” (Pallasmaa, 2011).

Merleau-Ponty states that "any theory of painting is metaphysics”, as each form of art, and even the making of art, draws on the metaphysical and existential nature through its characteristic sensory medium (Pallasmaa, 2009). In his oeuvre “Paul Cezanne’s View”, Merleau-Ponty refers to the painter’s ontological exchange with the painted landscape, which thinks through him and Cezanne is the consciousness of the landscape (Holl ei al., 1994).

Paul Valery makes a similar point on the sensation, which is directly transmitted avoiding to narrate a story (Deleuze, 1995). An artistic thought merges together sensation, memory and desire (Pallasmaa, 2009). As stated by Deleuze and Guattari (1994):

> The artist is a seer, a becomer. He has seen something in life that is too great, too unbearable also, and the mutual embrace of life with what threatens it, so that the corner of nature or districts of the town that he sees, along with their characters, accede to a vision that, through them, composes the percepts of that life, of that moment, shattering lived perceptions into a sort of cubism, a sort of simultaneism, of harsh or crepuscular light, of purple or blue

There are two ways to overtake illustrative and narrative in art: one is the abstract form, which communicates to the brain, the other is moving towards the figure, the so called “sensation”. (Deleuze, 1995). Figure is the sensible form referred to sensation, which acts directly upon flesh and nerves (Deleuze, 1995).

As Merleau-Ponty has pointed out in regard to Cezanne, he no longer grasps the world from a perspectival distance; rather “it is the painter (and the observer) to form the things of the world by means of a concentration of the visible” (Holl ei al., 1994). Furthermore, sensation does not reside in the combination of light and colours, but right the opposite, in the body, and not necessarily a human body (Deleuze, 1995). The body itself gives and receives the sensation to join together subject and object (Deleuze, 1995). The painter, or artist, expresses only his encounter with the world (Merleau-Ponty, 1964) and has a great advantage in dealing with emotion: rather than

description an emotion in intellectual and symbolic terms, the artist “does the deed that breeds” the emotion (Dewey, 2005).

When we encounter an artwork or building made long time ago in a culture completely unknown to us, we experience the timeless present of our identity through the work, and consequently “rediscover the actuality of our own being in that world” (Pallasmaa, 2009). Holl et al. (1994) refers to the twofold nature of art in this way:

> Both katharsis and mimesis seem to have been employed quite early in relation to art, katharsis meaning purification or a reconciliation between the darkness of personal destiny in the light of the divine dike, as expressed in the tragedy. Mimesis, also in relation to the choreia, Signified not imitation but rather the expression of feelings and the manifestation of experiences through movement, musical harmonies and the rhythm of speech: an acknowledgement, through the body's presence, of its intermediate location between being and becoming, and at disclosure of its legitimate place of (public) appearance.

The way perceptual consciousness becomes imaginative one sets out both character and quality of the work of art. When imaginary prevails, our mind gets trapped into the illusional “or kitsch” nature of the work. (Pallasmaa, 2011). Whereas if the realistic component takes precedence, the work cannot evoke strongly enough the imaginary world (Pallasmaa, 2011). From this consideration, Dewey (2005) makes reference to Delacroix’s statement:

> [Delacroix] said [the painters of his day] used coloration rather than color. The statement signified that they applied color to their represented objects instead of making them out of color. This procedure signifies that colours as means and objects and scenes depicted were kept apart. […] The greatest aesthetic revolution in the history of painting took place when color was used structurally; then pictures ceased to be coloured drawings. The true artist sees and feels in terms of his medium and the one who has learned to perceive aesthetically emulates the operation.

Zeki (2001) compares artists to neurologists as they unknowingly study the mental activities with unique techniques for understanding of the the brain's perceptual capabilities. He shares Paul Klee’s idea that art does not reproduce the visible, but makes things visible.

The still lifes of Giorgio Morandi constitute a powerful metaphysical model of “philosophical meditations on existence and being, silence and solitude”. They very discretely seem to ask: "How is it that things exist in the world?” (Pallasmaa, 2011). Zeki also believes that whatever form of art is taken into account, that is a landscape, a

still life, an abstract or a portrait, it implies a strong cerebral activity related to pleasure. Furthermore, he states:

> […] the function of the visual brain is to seek knowledge of the constant and essential properties of objects and surfaces, when the information reaching it changes from moment to moment. The distance, the viewing point, and the illumination conditions change continually, yet the brain is able to discard these changes in categorizing an object.

Further to the law of constancy, incompleteness and ambiguity in art keep our mind focused and interested (Pallasmaa, 2011). Zeki points out that artistic ambiguity has a profound connotation as it reflects the "certain" essence of the world. Art of all historical appears as a provocation of experience left incomplete and interrupted on purpose, with a view to raise the natural mental tendency to the completion, driven by a "frustrated expectation" (Eco, 2013). Zeki quotes Schopenhauer by asserting that in art there should be always something, and the ultimate thing, that should be left over for the imagination. These works of art, even though physically completed, remain open to a "continuous germination" of relationships that the viewer is asked to choose from among all the range of possible stimuli (Eco, 2013).

In the same way that the ink-blot figure in the personality test conceived by the psychiatrist Hermann Rorschach allows for figural interpretations, incomplete artistic forms stimulate creativity and imagination (Pallasmaa, 2011). Elements of disorder can often increase the level of information on a message: among the pattern of possible models, Gestalt theories recognise the "good form" as the one that requires the minimum information with a maximum redundancy (Eco, 2013).

Charles Moore used cutouts figures and signs to create immediate experiences that involved both perception and mental projection: he aimed that visitors would associate their own inner images to complete the cutout figures in their minds (Otero-Pailos, 2010). There is no hierarchy in our consciousness between experience, memory and imagination: art can create images and emotions that affect our imagination in the same way than the real life experiences (Pallasmaa, 2009).

By referring to the Japanese traditional landscape painting, Pasqualotto (2006) points out the complete freedom in which the figures are left by the white surrounding surface, as if the void becomes a true "open artwork": what can be read as a cloud, can also be interpreted as falling water. The indefinite nature of the figuration allows the observer to range between possible and never definitive interpretations of the portrayed nature. In other words, "the void expresses not only a gnoseological function but also an ontological meaning".

6. Polyphony of Senses

The hands want to see, the eyes want to caress.
Johann Wolfgang von Goethe

6.1. Sensory Systems and Existential Knowledge

Men are connected with the world through our senses. Almost 80% of communication is estimated to take place outside the verbal and conceptual channel (Pallasmaa, 2011). The term “sense" includes a sensible framework of embodied experiences and pre-conceptual structures, such as mode of perception, orientation and interaction with objects, events and persons (Johnson, 1990), as our existential knowledge is silently produced and stored in our senses (Pallasmaa, 2011).
These embodied patterns of the senses are not only referred to the person who experiences them, rather, they become “shared cultural modes of experience” and help to understand the nature of the world (Johnson, 1990). Therefore the senses are not to be considered as merely passive receptors, as the body cannot provide a view of the world from a central perspective (Pallasmaa, 2011). In this respect, Ackerman (1991) states:

> The senses don’t just make sense of life in bold or subtle acts of clarity, they tear reality apart into vibrant morsels and reassemble them into a meaningful pattern.

Psychologist James J. Gibson categorises the senses in five sensory systems (visual system, auditory system, taste-smell system, basic orienting system and haptic system), whilst Steinerian philosophy works on the basis that humans utilise at least twelve senses (Pallasmaa, 1996). In experiencing architecture, Gibson’s basic orienting and haptic systems come of greater significance, as they contribute more than the others to our understanding of the three dimensionality (Bloomer and Moore, 1977).
Yet in 1927 Erich M. von Hornbostel claimed that only the rare perception is limited to a single sense; in fact, in the sensuous-perceptible experience it is important what unites

the senses with the entire even with the non-sensuous realm (Mallgrave, 2011). Continuing on this line, in 1934, Kurt Goldstein stated that every perception is not local but “a specific pattern of the whole organism” (Mallgrave, 2011).

During their the renaissance, the five senses were related with the image of the cosmic body: vision was associated to fire and lights, hearing to air, smell to vapour, taste to water, and touch to earth (Pallasmaa, 1996).

Although current theories of architecture consider sight and hearing as the only senses involved in the production and reception of architecture (Boyle and Frascari, 2009), by referring to “polyphony of the senses”, Bachelard speaks about the collaboration between eye and other bodily senses (Pallasmaa, 1996). It is no longer possible to limit the perceptual capacities of the individual to the five senses as a new kind of sensory perception, whose receptors are embedded, is arising (Marchetti, 2008). At this level, one can no longer distinguish between visual, auditory, imagination, language, intellectual, emotional, as all these components are all fused together (Sacks, 2010). Because of its “organic connections”, perception tends, to spread and fuse (Dewey, 2005).

In this respoect, Holl et al. (1994) reports the invigorating qualities of a walk through the forest or a Japanese garden due to the reinforcing interaction of all sense modalities. He also refers to the book of tea Kazuko Okakura, which describes accurately the multi sensory experience evoked by the tea ceremony:

> […] quiet reigns with nothing to break the silence save the note of the boiling water in the boiling kettle. The kettle signs well, four pieces of iron are so arranged in the bottom as to produce a peculiar melody in which one may hear the echoes of a cataract muffled by clouds; of a distant sea break in among the rocks, a rain storm sweeping through a bamboo forest, or of the soughing of pines on some farway hill (Holl et al., 1994).

Continuing on this line, Campbell (2007) asserts:

> […] the memory of approaching a small church in an Italian hill town. This was an experience of architecture of all the senses. First came the feeling of a slight ache in the knees, an ache that told me I had climbed to an elevation. Then the entry in the building, the sudden drop in temperature, The increase in humidity, hushed yet reverberant sound. […] The sound of a motorcycle starting up outside, reinforcing my sense that I was inside. The smell of candles and stone and mortar.

The sense of place is demonstrated when people apply their moral and aesthetic discernment to sites and locations (Tuan, 1977). Unlike the visual sense, hearing,

smell, taste, and touch require close contact and long association with the perceived object (Tuan, 1977).

Touch, pressure or the sensation of acceleration are constituted by a disperse sense organ hidden in our muscles and nerves endings or behind our skin (Marchetti, 2008). Although the eyes might be much more effective than the ears in sweeping up information (Hall, 1992), the eye and the hand constantly work together: “the eye carries the hand to great distances, and the end informs the eye at the intimate scale” (Pallasmaa, 2009). With regards to the relationship between brain and hand, Wilson (1999) claims:

> The interaction of brain and hand, and the growth of their collaborative relationship throughout a life of successive relationships with all manner of other selves - musical, building, playing, hiking, cooking, juggling, riding, art - not only signifies but proves that what we call learning is a quintessential mystery of human life. […] It marks the fusion of what is physical, cognitive, emotional, and spiritual in us […] [and] is reshaped continuously as hand and brain vitalise one another, and the capacity to learn grows continuously as we fashion our own personal laboratory for making things. […] It may also be that the most powerful tactic available to any parent or teacher who hopes to awaken the curiosity of a child, and who seeks to join the child who is ready to learn, is simply to head for the hands.

In addition to the prevailing architecture of the eye, there is also a haptic architecture grounded on the realms of hearing, smell and taste (Pallasmaa, 1996).

According to Frampton, deeper and unique architecture is achieved by both visually and other senses’ experiences: usage of materials should target all senses and allow variable emotional reactions. Materials should also ensure signification beyond the laws of composition. Tactile qualities, odours, acoustic of materials belong to the expressive language that architects are required to use (Zumthor, 2003).

Pallasmaa (1996) makes reference to Le Corbusier and Richard Meyer, for instance, whose architectures, clearly favour sight either as a frontal standing position or as through the “kinaesthetic eye of the promenade architecturale", whereas the architectures by Erich Mendelson and Hans Sharoun favour muscular and haptic plasticity. With reference to the past architectures, he believes that Frank Lloyd Wright's and Alvar Aalto’s works, together with the contemporary ones by Glenn Murcutt, Steven Holl and Peter Zumthor, fully enhance the embodied human condition.

By clarifying his view on the mechanism of design and perception, Marchetti (2008) asserts:

> Donald Norman recognises three distinct dimensions in design connected with the same number of phases of perception. Firstly the visceral then mention, which concerns valuations or judgements such as good/bad or safe/dangerous that we make spontaneously when we are stimulated by colours, late effects or the text is of objects like a piece of furniture made of translucent resin, at sports car or off four-ply cashmere pullover. The behavioural they mention on the other end is linked to performance: for instance to the satisfaction that we can obtain when driving a heavily accessorised car from operating its controls, accelerating or steering. Finally there is a reflective dimension, which comes into play for example when the object needs to be understood in order to be used, or when its design is associated with a style that we should recognise, or even alludes to another object.

Being our brain is mainly constituted by electricity, neuroscientists have proved that enlightenment status and deepest lucidity of mind correspond to specific electrical arrangements of the brain, in particular way related to the nature of theta waves and certain configuration of synchrony, which amplifies and strengthens the transport of electrical information (De Angelis, 1996). Another fundamental condition is the cerebral symmetry between left hemisphere, which coordinates logic, sequentiality, description, and the right one, which drives the intuitive processes (De Angelis, 1996).

According to Hall (1992), human sensory apparatus falls into two categories, which can be classified as:

- distance receptors, that is the eyes, the ears, and the nose, which examine the distant objects.
- immediate receptor, touch, which is used to examine the world close up and the sensations received from skin and muscles.

6.2. Distance Receptors: Vision, Hearing and Smell

The sense of sight is surely the most complex of all human senses as it involves a much greater amount of data communicated to the nervous system than those that come from the sense of touch and hearing (Grutter, 2012). Optimal perception is obtained by the combination of vision and hearing (Grutter, 2012), which are considered “ideal” senses because they do not alter their objects (Bloomer and Moore, 1977).

Sight was the last and most specialised sense developed in human evolution (Hall, 1992). By the time men left the ground and took to the trees, sight became more

important and olfaction less essential, since movements from branch to branch are eased with stereoscopic vision (Hall, 1992). In light of this, Pallasmaa (2009) claims:

> An essential line in the evolution of modernity has been the liberation of the eye from the Cartesian perspectival epistemology. The paintings of Joseph Mallord William Turner continue the elimination of the picture frame and the vantage point began in the Baroque era; the impressionists abandoned the boundary line, balanced framing and perspectival depth; Paul Cezanne perspires "to make visible how the world touches us, cubists abandon the single focal point, re activate peripheral vision and reinforce haptic experience, whereas the colour field painters reject illusionary depth in order to reinforce the presence of the painting itself as an icon artefact and an autonomous reality. Land artists to use the reality of the work with the reality of the lived world, and finally, artists such as Richard Serra directly at dress the body as well as our experiences of horizontality and verticality, materiality, gravity and weight.

The ocularcentrism thought of the ancient Greeks promoted the very distinction between subject and object, which is even more reinforced by the fact that sight allows the observer to avoid direct engagement with the observed object (Jay, 1993).
According to Hall (1992), the eyes enable man to “identify foods, friends, and the physical state of many materials” from a distant location, to avoiding obstacles and danger, to “make tools, groom himself and others, assess displays, and gather information as to the emotional state of others”.
The "image" that we make for ourselves of something is essentially different from the projection made on our retina and depends on the viewer’s past experiences and on the nature of his or her mind; therefore reality is no objective, but it is split into an infinite number of subjective perspectives (Grutter, 2012).
Touch helps vision to provide sensations of "solidity, resistance, and protrusion”, which promotes the awareness of bodily “distance, outness, or profundity” (Pallasmaa, 2009).
Furthermore, according to George Berkeley, touch "senses the weight, resistance, and three-dimensional shape (Gestalt) of material bodies”, which allows for the recognition of our bodily presence in the world (Pallasmaa, 2009).
Vision has become even more crucial in the process of different attributes in different compartments of human brain, furthermore, recent researches have discovered new cerebral visual areas, which are specialised in processing information related to form, colour and motion (Zeki, 1999). In this respect, Wilson (1999) states:

> The brain actively orients the the receptors in the eye or the hand toward a target of interest, and then moves them precisely during a process of exploration. [Moreover] the resulting image constructed by the brain must, of necessity, be based both on the messages from retinal and/or

> skin receptors, and on the record of guided eye or limb movements occurring during the collection of the sensory data […]. The eye, assuming the head to be in a favourable position, need only rotate toward the target to bring light from it to the retina. The hand, however, is located at the end of a complex bio-mechanical linkage and must actually get to the target to be touched [while] the body may first have to be moved toward the target.

Psychologist James Gibson technically distinguishes between the retinal image "visual field" and perceived image "visual world" : in the former the retina records the shifting light patterns as electrical impulses, which man uses to construct the visual world (Hall, 1992). The more complex the optical stimulus, the more interesting is the process for the brain because of the activation of higher levels of attention (Grutter, 2012).
Recent experiments have also demonstrated that perceptual systems themselves are functionally specialised and that colour, form and motion are not perceived at the same time: color is perceived before form which is perceived before motion (Zeki, 1999). Colour is determined by three components: hue, intensity and saturation. Within a spectrum of pure colours, human brain can identify approximately 200 variations in brightness and can only make out 160 hues (Grutter, 2012).
The “phenomenology of colour” also presents an enormous range of variations in reflectivity of glossy and matte, opaque and transparent colours (Holl et al., 1994). Furthermore, saturation also plays a decisive role in influencing our sensation of temperatures: red and orange give sensation of “warmth”, whilst blue and greenish are associated to “cold" (Grutter, 2012).
In this respect, as Hell et al. (1994) points out, “Mexican cobalt blue” surface becomes considerably different from the same colour (and saturation) “on the surface of plastic laminate in a Minnesota shopping centre” (Holl et al., 1994).
Painting depends on vision and acts with translation of vision into other senses, as it can never reproduce directly what senses perceive (Hall, 1992). A masterpiece work of art delivers sensations similar to those evoked by the original stimuli (Hall, 1992). From this perspective, Merleau-Ponty (1968) states:

> We see the depth, the smoothness, the softness, the hardness of objects; Cezanne even claimed that we see their odour. If the painter is to express the world, the arrangement of his colour must carry with it this invisible whole, or else his picture will only hint at things and will not keep them into the imperious unity, the presence, the unsurpassable plenitude which is for us the definition of there real.

Our current incapacity to discover meaning in what we see, concept is separated from perception, and thought is based on abstractions (Arnheim, 2004). Since vision has been reduced to the sense that only identifies and measures, we are constantly searching for objects that can be perceived only through the more familiar medium of vision (Arnheim, 2004).

According to painter Georgia O'Keeffe "nobody sees a flower really, it is so small, we haven't time and to see takes time, like to have a friend takes time" (Ackerman, 1991).

If vision is the most complex and specialised sense, also sound, at certain frequencies, can considerably alterate the cerebral processes (De Angelis, 1996). The composer John Cage has proofed that sounds can have a mesmerising effect on our mind: his "radical and poetic experiments with sound bridged the conventional gap between musical phenomena and the physical and psychological effects of sound" (Holl et al., 1994). It is known that some types of music, such as the baroque, classic, jazz, Gregorian chants can alterate the status of mind (De Angelis, 1996).

In architecture, there are buildings that have particular sounds. "The sound of space" has to do with the shape of each room, the surfaces of the materials they contain and the way those materials have been applied (Zumthor, 2009). By referring to the image of silence, Cambell (2007) asserts:

> After the clatter of building has ceased and the shouting of the workers has died away, the building becomes our museum of waiting, patience silence. The Egyptian temples we encounter the silence of the pharaohs, the silence of a gothic cathedral we are reminded of the last dying note of our Gregorian chant, and the eco of Roman footsteps has just faded on the walls of the Pantheon.

In some European cities, the regular sound of the church bells creates a psychological space for the community: the unique perceptive combination of the materiality of the bell, its resonant tower, and the adjacent square cannot be electronically recreated (Holl et al., 1994).

From this perspective, Zumthor (2009) recalls his happiness whilst hearing the noises his mother made in the kitchen. He knew that she was at home because as he could hear her "banging about with pots and pans".

The way in which sound is perceived, and evaluated, is deeply rooted in the perceiver's own culture. The Japanese, for instance, are entirely comfortable with paper walls as acoustic screens, as their concept of privacy differs from the Western one (Hall, 1992). As, in contrast, the Germans and the Dutch rely on thick walls and double doors to screen sound, they find it difficult to concentrate when sound reaches certain limit

because they are culturally not used to isolate themselves from the surrounding (Hall, 1992).

Although of less importance than vision, sound is still recognised as architectural object, whereas smell has never achieved such this status (Boyle and Frascari, 2009). In spite of that, the most persistent memory of any space is often its smell (Pallasmaa, 1996), which can instantly bring us back to an experience or place which we may not have recalled on our own (Boyle and Frascari, 2009). Odour, as one of the earliest methods of communication, is a basic chemical sense: it differentiates individuals and identify the "emotional state of other organisms" (Hall, 1992).

In his first Western treatise exploring the sense of smell, the Roman Epicurean philosopher Lucretius attributed different odours to different shapes and sizes of odor molecules that stimulate the olfactory organ (Boyle and Frascari, 2009).

In support of the odour as the strongest memory of a space, Holl et al. (1994) recalls the scent of home as an invisible wall behind the door (Boyle and Frascari, 2009). Odours surround and embrace human beings who perceive them spontaneously and involuntarily (Boyle and Frascari, 2009). On the subject, Ackerman (1991) claims:

> Nothing is more memorable than a smell. Still, when we try to describe a smell, words fail us like the fabrications they are. The physiological links between the smell and language centres of the brain are pitifully weak, not so the links between the smell and memory centres. Our sense of smell can be extraordinarily precise, yet it's almost impossible to describe how something smells to someone who hasn't smelled it (e.g. a new book, lilac). Smell is the mute sense, the one without words. We use words in terms of other things to describe smells (e.g. floral, fruity, smoky). We tend to describe how they make us feel. Try it. Describe the smell of your lover or your child, or your favorite scent.

The aura, which in Benjamin's thought is not the object itself but rather is found in cultural attributes and qualities, is a metaphorical term used to indicate that sensory stimulus detecting smells and aromas surrounding a person or thing (Boyle and Frascari, 2009). In ancient China, imperial concubines were housed in residences whose mud walls were infused with Sichuan Pepper during construction (Boyle and Frascari, 2009). Furthermore, as rose was a spiritual symbol in Islamic cultures, rose water and musk were mixed into mortar in mosque buildings to to create an olfactory experience, adding new perceptual dimension to the walls which would permeate the devotees' memory (Boyle and Frascari, 2009). Holl et al. (1994) refers to the sensory experience of walking across the street of a small town as follows:

> And what a delight to move from one realm of odor to the next in the narrow streets of an old town; the scent sphere of a candy store makes one think of deep innocence and curiosity of childhood; the smell of a shoemakers workshop makes one imagine horses and saddles, harness straps and the excitement of riding; the fragrance of bread shop projects images of health, sustenance and physical strength, whereas pastry shop makes one think of bourgeois felicity.

Unlike glass, aluminium and steel, which do not evaporate at room temperature, materials which are volatile enough can release microscopic particles into the air which deliver a smell (Boyle and Frascari, 2009). In today's architecture, materials seem to have eliminated all smells, and therefore we do not smell (Boyle and Frascari, 2009). As Hall (1992) pointed out, anyone who has walked along the streets of almost any European village or town knows what is nearby.

Western countries have cut themselves off from the olfaction as a powerful communication channel, the consequence of this approach is that cities lack both olfactory and visual distinction (Hall, 1992).

6.3. The Immediacy of Touch

The tactile sense is as old as life itself, as the ability to respond to stimuli is one of the basic criteria of life (Hall, 1992). Ackerman (1991) defines touch "as essential as sunlight".

All the senses, including vision, are extensions of the tactile sense and specialisations of the skin tissue related to tactility (Pallasmaa, 1996). Wilson regards the hand as an essential constituent of the story of human intelligence evolution (Frampton, 1983). The interdependence of hand and brain function must be considered in any theory of human intelligence and history on dynamics of modern human development (Wilson, 1999). Given that life's most intimate moments are often associated with change in the skin textures, Hall (1992) writes:

> The hardened, armor like resistance to the unwanted touch, or the exciting, ever-changing textures of the skin during love-making, and the velvet quality of satisfaction afterward are messages of one body to another that have universal meanings.

The skin is both an immediate and a distance receptor because it is the organ of touch and is also sensitive to heat gain and loss (Hall, 1992). On top of the visual impact, the

articulated and tactile material can reintroduce essential, intrinsic meanings and values to human experience in architecture (Chau, 2009).Touch and visual spatial experiences cannot be separated because their nature is interwoven.
Tactile space separates the viewer from objects whereas visual space separates objects from each other (Hall, 1992): sight is the sense of separation and distance, whereas touch is the sense of nearness and intimate affection (Holl et al.,1994). In this respect, Wilson (1999) states:

> Bodily movement and brain activity are functionally interdependent, and their synergy is so powerfully formulated that no single science or discipline can independently explain human skill or behaviour. […] The hand is so widely represented in the brain, the hands neurologic and bio-mechanical elements are so prone to spontaneous interaction and reorganisation, and the motivations and efforts which give rise to individual use of the hand are so deeply and widely rooted.

Several architects around the world today are attempting to strengthen the tactile qualities of architecture through a rediscovered “sense of materiality and hapticity, texture and weight, density of space and materialised light” (Pallasmaa, 1996).
The tactile sense in architecture can only be decoded in terms of experience itself; it cannot be reduced to mere information, to representation or to abstraction substituting for “absent presence“ (Frampton, 1983). With regards to the relationship between body and hand, Focillon (2002) claims:

> As for me I separate hands neither from the body nor from the mind. But the relationships between mind and hand are not, however, so simple as those between a chief accustomed to obedience and a docile slave. The mind rules over the hand; hand rules over the mind, the gesture that makes nothing, the gesture with no tomorrow, provokes and defines only the state of consciousness. The creative gesture exercises a continuous influence over the inner life. The hand wrenches the sense of touch away from its merely receptive passivity and organises it for experiment and action. It teaches man to conquer space, weight, density and quantity.

In Heidegger’s view, touch is associated to nearness, which is a fundamental for human experience (Sharr, 2007). Experience of nearness can be provided by the tactile, cognitive and a “sociological familiarity of things”, but also can measured mathematically (Sharr, 2007). He also claims that in every one of its tasks, every motion of the hand “carries itself through the elements of thinking” (Pallasmaa, 1996).
The haptic sense, which processes the sensual detection involving physical contact both inside and outside the body, shall include the entire body rather than merely the

sense of touch (Bloomer and Moore, 1977). This skin reveals to the brain the texture, weight, density and temperature of objects (Pallasmaa, 1996) and the haptic sense incorporates all those previously separated sensations: pressure, warmth, cold, pain and kinaesthetic (Bloomer and Moore, 1977). The memory of tactile experiences enables us to perceive the texture of materials, which are seldom used by architects and designers with the correct psychological or social awareness (Hall, 1992).

Haptic perception of material qualities, such as warm and cold, rough and smooth, soft and hard, are shaped by our experiences with our skin and are known to us from early childhood (Grutter, 2012). Considering this, Merleau-Ponty (1968) asserts:

> How does it happen that I give to my hands, in particular, that degree, that rate, and that direction of movement that are capable of making me feel the textures of the sleek and the rough? […] In a way recalling Wölfflin, we are capable of reaching out and feeling the world through our hands because our hands know what it feels like to be touched. The "body sensed and the body sentient" are two moments of one and the same body; they are reciprocal activities and the intertwining of each other's presence. They are, to use his preferred ontological term, "flesh".

The skin precisely detects the temperature of spaces: from the cool and refreshing shadow under a tree or the touching warmth in a spot of sun (Holl et al.,1994)

By talking about the "temperature of a space" and the fact that materials can extract the warmth from our bodies, Zumthor (2006) makes reference to the optimal bodily comfort achieved with his Swiss pavilion designed for the Hannover EXPO: "when it was hot outside the pavilion was as cool as a forest, and when it was cool the pavilion was all warmer then it was outside".

Marcel Proust gives an inspired description of sensing the fireside space in the house: "it is like an immaterial alcove, a warm cave carved into the room itself, a zone of hot weather with floating boundaries" (Pallasmaa, 1996). The strong identity between the skin the sensation of home comes with the experience of warmth: the strongest sense of welcoming is when one sees the light in the "window of the house in snow covered landscape at dusk" (Holl et al.,1994). Temperature in this sense is to be considered both physical and psychological (Zumthor, 2006).

The sense of touch was classically divided into five distinct sensations: pressure, warmth, cold, pain, and sensibility to motion (kinaesthetic) (Bloomer and Moore, 1977).

Hall (1992) describes scientifically the dynamic of haptic perception as follows:

> The information received from the distance receptors (the eyes, ears, and nose) plays such an important part in our daily life that few of us would even think of the skin as a major sense organ.

> However, without the ability to perceive heat and cold, organisms including man would soon perish. People would freeze in winter and get overheated in summer. […] Nerves called the proprioceptors keep man informed of what is taking place as he works his muscles. Providing the feedback which enables man to move his body smoothly, these nerves occupy a key position in kinaesthetic space perception. Another set of nerves, the exterioceptors, located in the skin, convey the sensations of heat, cold, touch, and pain to the central nervous system. One would expect that since two different systems of nerves were employed, kinaesthetic space would be qualitatively different from thermal space. This is precisely the case even though the two systems work together and are mutually reinforcing most of the time.

In addition to that, Bachelard (2006) dwells on the new dimension of being achieved by an object which is cherished from a person, such as the housewife who awakens furniture that was asleep. Continuing on this line, Bachelard asserts:

> The minute we apply a glimmer of consciousness to a mechanical gesture, or practice phenomenology while polishing a piece of old furniture, we sense new impressions come into being beneath this familiar domestic duty. For consciousness rejuvenates everything, giving a quality of beginning to the most everyday actions. […] when he puts a little fragrant wax on his table with the woolen cloth that lends warmth to everything it touches, he creates a new object; he increases the object's human dignity; he registers this object officially as a member of the human household.

There is an endless friendship between hand and tool: the first communicate its warmth to the latter and continuously shapes it (Focillon, 2002). The lifeless tool will eventually become alive after progressive gestures, gentle and coordinated, based on mutual habits and wear (Focillon, 2002). Architecture geometrical perception are generated by the visual sensations guided by tactile sensations, such as "feeling a handrail, walking up steps or between walls, turning a corner, and a noting the seating of being in a wall" (Frascari, 1996).

Pallasmaa, (2009) compares the red brick walls of Alvar Aalto's Säynätsalo Town Hall, with their powerful tactile bricklaying, to the very same bricks in a building nearby, designed by another architect, which reveals instead a sense of lifeless industrial and mass-production. He also speaks about the Salk Institute in La Jolla, California, by Louis Kahn, where volcanic ash was added to the concrete mix in order to achieve extraordinary sensations of matt silky softness and warmth (Pallasmaa, 2009).

Another inspired example of architectural visual, kinesthetic, and tactile quality is the old Imperial Hotel in Tokyo, where Frank lloyd Wright fostered the experience of space by directly involving people with the surfaces of the building: "walking down the halls the guest is almost compelled to run his fingers along the grooves. But Wright did not

intend that people run their fingers along the grooves. The brick is so rough that to obey this impulse would be to risk mangling a finger" (Hall, 1992).

Tapio Wikkala, the well known Finnish designer and master craftsman, believes that sculpting or modelling natural materials has an almost therapeutic effect to him (Pallasmaa, 2009). When the sight fails, "the fingertips see the movement and the continuous emergence of geometrical forms", that is why he often used the expression "eyes at the fingertips" referring to the precision of the hand (Pallasmaa, 2009).

Architect Tadao Ando promotes tactile awareness rather than the distance affected by the power of sight. In light of this, Frampton (2002) recalls Ando's statements:

> Since there has been life on earth it is our feet which reminds us we are alive. We know we exist when we feel it in the soles of our feet and all of us in infancy beginning by learning to walk. No matter how computer rise the world may become we will probably keep on walking and that will probably be the last thing we feel. If we finally lose all perception of reality our psychological disintegration will follow and in the midst of environmental catastrophe, famine and natural calamities, Being alive will mean nothing any more. In the world is determined to destroy itself the only thing architects can do is make sure we don't lose our sense of touch.

Ando pursues the removal of function from architecture after granting the observation of the functional basis, in order to demonstrate the significance of the distance between architecture and function (Pallasmaa, 1996). According to Ando, technology can be neither rejected nor celebrated, it is merely the "productive capacity of an epoch", which can be used to reinforce the spiritual sphere of human beings (Frampton, 2002).

7. Human Body and “Body” of Building

Dwelling is not primarily inhabiting but taking care of and creating that space within which something comes into its own and flourishes.

Christian Norberg-Schulz

7.1. Harmonic Proportions and Synesthetic Perception

Our sense of human form has not been uniform at all times and in all places: western architecture has tent to promote the proportion of an idealised figure, and to apply that proportion when designing a building (Ballantyne, 2007). The historical and perpetrated closed connections between building and the body was established in architectural theory, either analogically or in "reality", from Vitruvianism, 17th century mechanicism, 18th century sensualism, towards the 20th century “celibate machines" and" dwelling machines” (Teyssot, 1997).

The transfer of human form to the building form is deeply grounded in the Aristotelian philosophy, where body is always seen as undifferentiated from its place within a “unified cosmic framework” and as an “included thing in its whole” (Vesely, 2002). The corporeal component is undervalued and neglected in its role, as well as the true essence of the embodied existence and knowledge as witness of the collapse of existential human condition (Pallasmaa, 2009).

For Aristotele, the soul acts for the general governance of the body and live by the continuity of its material structure which keeps life to the remaining parts of the human body (Vesely, 2002). His view results very close the phenomenological position of Merleau-Ponty when he states that "there are several ways for the body to be a body and several ways for consciousness to be consciousness” (Vesely, 2002).

Vitruvius combined the pure geometry of the square and circle with a list of numbers that embraces the "symmetrical proportions” to achieve the corporeal unity (Tavernor, 2002). The three numbers 6, 10 and 16, were identified by the ancient philosophers as signifiers of perfection, hence fundamental to architectural design (Tavernor, 2002). In Vitruvian theory, the body is projected directly onto buildings: human body is merely a

pictorial representation of the body in architecture, used as a system of measurement (Hanekom, 2008). In light of this, Ballantyne, (2007) claims:

> Vitruvius inscribed as square in a circle around the human figure, and these forms were seen to embody something important about the human form, which, to a superficial view, is neither square nor circular. The masons drawings show grids of the squares with human figures superimposed across them, which turn into the ground plans of churches, and in doing so in body divinely ordered proportion.

The Greeks were concerned with perception to a point that their greatest building, the Parthenon, was made almost entirely of curved adjustments in order to address distorted perceptions in the luminous Greek light (Holl et al., 1994). For the Greeks, proportion was the ultimate principle for shaping spaces, surfaces, volumes and lines (Holl et al., 1994).

Continuing on this line, Perez Gomez (2002) refers to Briseaux's point that the process of acknowledging Beauty involves a "natural trigonometry" anchored on proportions to be adopted by the architects. Briseux demonstrated the intuitive, embodied, synestheic quality of harmonic ratios to be presente in all the great architectures, from Palladio and Scamozzi to Bernini and Borromini (Perez Gomez, 2002). He also states:

> Harmony operates across the senses because our soul participates in the mathematical order of creation. Our soul can be affected by either perception or sensation. Sensation is and judgement that it derives from our received impression, without examining its causes. Sensation is not the cause of the perception of proportions, it is merely the occasion. But the perception (of proportions) is born from a sensation can also take place without said sensation, through the imagination of the force of memory.

Like the bird shapes its nest with its body, men of traditional society shaped their buildings with their own bodies by using the essential principle of the "body stored in the haptic memory" (Holl et al., 1994). In light of this, Pallasmaa (1996) states:

> I confront the city with my body, my legs measure the length of the arcade and the width of the square; my gaze unconsciously projects my body onto the facade of the cathedral, where it roams over the mouldings and contours, sensing the size of recesses and projections: my body weight meets the mass of the cathedral door, And my hand grasps the door pull as I enter dark void behind.

Furthermore, by engaging with “immediacy of our sensory perceptions”, the complete experience of architecture involves elements like time, light, shadow, transparency, colour, texture, material and detail (Holl et al., 1994). Adorno refers to the mimetic impulse, as the component which allows humans to progressively feel at home within a particular building (or surrounding) through a process of symbolic identification (Leach, 2002). Holl et al. (1994) refers to this mimetic impulse as follows:

> […] an architect internalises the building in his body; movement, balance, the distance and scale are felt unconsciously through the body as tension in the muscular system and in the positions of the skeleton and inner organs. As the work interacts with the body of the observer the experienced mirrors these bodily sensations of the maker. Consequently, architecture is a communication from the body of the architect directly to the body of the inhabitant. […] When experiencing a structure, we unconsciously mimic its configuration with bones and muscles; the pleasurably animated flow of a piece of music is subconsciously transformed into bodily sensations, of the composition of an abstract painting is experienced as tensions to the muscular system. The structures of the building are unconsciously imitated and comprehended through all the skeletal system and unknowingly, as we perform the task of the column or the vault with our body

When the body discovers its “resonance in space”, it also understands the architectural scale through the unconscious measuring of an object or a building, and through the projecting of bodily configuration on the space in question (Holl et al., 1994). According to Vesely (2002):

> The numerical representation of the module is a visible entity into world structured by analogy and proportion. In relation to that world, it is the most tangible embodiment and paradigm of the primary tradition. The meaning of the module and its role in the proportionally architectural elements of the human body depend entirely on the presence of an articulated world in which the body is connected with an embodiment and proportion with architectonics.

Zeki (1999) seems to suggest multiple levels of perceptions related to what is considered a “good” form:

> […] we approach every act of perception with a stored visual record of forms and colours, which we have acquired over the course of a lifetime. These patterns, as it were, interface with new perceptions and of course affect the way we view new images. A second implication of the “pre-existing forms,” one very much related to architecture, concerns those highly selective cells that are active only with certain colours, lines, or forms. […] Early Renaissance architects, as we see in the mezzanine and temple story of Alberti’s new facade for the church of Santa Maria Novella, broke with the diagonal forms and triangulated geometries of the Gothic style by stressing the simple

forms of squares, rectangles, and circles. In a similar way, do the curved and buckled forms of a Frank Gehry concert hall speak to a particular single-cell language?

The renaissance tradition of inscribing human figure into the plans and elevations of buildings is a mimetic device that clearly shows the human will of identification (Leach, 2002).

As Zeki claims, the idea of “pre-existing forms” as privileged or harmonic ratios was already known to Alberti or Palladio, and among most architects up to the middle of the 18th century (Mallgrave, 2011). Furthermore, Zeki refers to Cezanne’s visual revolution promoted by the use of certain prototypical forms that resemble nature, such as cones, spheres, and cubes, which are crucial for the “visual discrimination of the brain” (Mallgrave, 2011). Piero della Francesca painting of the flagellation is an inspired example of the use of the single module, identified in Christ's height, which is ”a unit of measurement which appears to have played an important part in the painting surface organisation” (Tavernor, 2002). The perfection of the circle and the equilateral square is mentioned in Luca Pacioli treatise “De Divina Proporcione" where “nature, that divine agent, has endowed the human fabric with our head consumed in the proportions that corresponded to all other parts of the body” (Pepper, 2002). Pacioli believes that "from the human body derive all measures and their denominations and in it is to be found all and every ratio and proportion by which God revealed the innermost secrets of nature” (Tavernor, 2002).

7.2. Corporeal Resonance in Space

The process of embodiment in architecture is related to the cosmic order and becomes comprehensible to the human body only in the context of the primary reality, where all relationships and references are constituted into “spontaneity of our continued encounter with the conditions of our existence” (Vesely, 2002). The body, as incarnated soul, is the real ground for all architecture (Otero-Pailos, 2010). Men use to live in their bodies but they have forgotten to be themselves embodied constitutions, since human existence is fundamentally an embodied condition (Pallasmaa, 2009).

Heidegger approached the philosophical meaning of architecture by starting with the phenomenological act of “dwelling”. The fundamental character of dwelling is “sparing and preserving”, and human being consists in dwelling, “in the sense of the stay of

mortals on the earth" (Heidegger, 1971). He named the basic conditions of human experience "the fourfold" ("das Geviert") composed by earth, sky, divinities and mortals (Norberg-Schulz, 1980).

Heidegger gives to the word "construction" several meanings, form erecting a building itself to arranging a dining table, from nursing the things that grow to constructing things that do not grow; the act of construction allows the fourfold to emerge as a physical incarnation (Sharr, 2007). He describes each component of the fourfold with the following statement:

> Earth is the serving bearer, blossoming and fruiting, spreading out in rock and water, rising up into plant and animal. […] The sky is the vaulting path of the sun, the course of the changing, moon, the wandering glitter of the stars, the year's seasons and their changes, the light and dusk of day, the gloom and glow of night, the clemency and inclemency of the weather, the drifting clouds and blue depth of the ether. […] The divinities are the beckoning messengers of the godhead. Out of the holy sway of the godhead, the god appears in his presence or withdraws into his concealment. […] The mortals are the human beings. They are called mortals because they can die. To die means to be capable of death as death. Only man dies, and indeed continually, as long as remains on earth, under the sky, before the divinities. […] This simple oneness of the four we call the fourfold. Mortals are in the fourfold by dwelling. But the basic character of dwelling is to spare, to preserve. Mortals dwell in the way they preserve the fourfold in its essential being, its presence.

In a broader ontological sense, the definitive characteristic of a "thing" is its capacity to promote nearness as a function of immediacy, to bring people nearer to themselves, to make them engaging with their existence and the fourfold (Sharr, 2007). The weightiest and most inspired example of this engagement converges on the essence of the jug. The jug, with its corresponding void, owns the potential to contain and embody, which concerns the fourfold pre conditions of existence, by reflecting the fourfold back to those who engaged with it (Sharr, 2007). For Heidegger, that potential of the jug, which generally stands for the role of all things in the world, shall be extended to buildings (Sharr, 2007).

Within the experiential continuum space, we understand distinct objects and distinct fields, as a whole. Regardless the scale of the perceived matter (Bloomer and Moore, 1977), our experience of an object, of a house, room or city, always consists of partial views and "synthesised experiences" (Pallasmaa, 1996).

Among the phenomenological framework, the vast majority of the establishment most influent figures do respond in some way to Heidegger and his notions of dwelling and space: Zumthor's atmospheric qualities of spaces and materials; Norberg-Schulz's concept of genius loci, Pallasmaa's notion of senses and perception; Veseley's

argument on the crisis of the representation; Harries' ethical parameters of architecture; Holl's connection between natural phenomena and architectural experiences (Sharr, 2007).

Every city is characterised by its own eco, depending on the pattern and scale of its streets, their architecture styles and building materials (Pallasmaa, 1996). Contemporary urban configurations prevent the possibility of grasping the acoustic volume of space, as the wideness of today's streets do not return sound; furthermore, in the building interiors echoes are absorbed and neutralised: "our ears have been blinded" (Pallasmaa, 1996). From this perspective, Holl (1996) claims:

> The space of a single room, like the vast space of a city, is defined by juxtaposition of matter. The stuff of which something is made has emotive motive. The transparency of a membrane, the chalky dullness of a wall, the glossy reflection of opaque glass and a beam of sunlight intermesh in reciprocal relationships, forming the particular phenomena of a place. Given an architectural idea, the relationships of construction materials impose a dimension that penetrates through matter to tactility. Matter interlocking with perceiver's senses provides the detail that moves us beyond acute sight to tactility. From linearity, concavity and transparency, to harness, elasticity and dampness, the haptic realm opens.

Other than having the concrete and useful vocation of building shelters for dwelling and shaping the contour of our consciousness allowing our mind to externalise (Pallasmaa, 2009), architecture also has the duty to constantly re examine itself (Teyssot, 1997). Our satisfaction in experiencing architecture derives from desiring it and dwelling in it, not from seeking it (Bloomer and Moore, 1977). To dwell is the foundation of architecture, as Heidegger (1971) states:

> The old word bauen, to which the bin belongs, answers: ich bin, du bist mean: I dwell, you dwell. The way in which you are and I am, the manner in which we humans are on the earth, is Buan, dwelling. To be a human being means to be on the earth as a mortal. it means to dwell. The old word bauen, which says that man is insofar as he dwells, this word barren however also means at the same time to cherish and protect, to preserve and care for, specifically to till the soil, to cultivate the vine.

Architecture has the power of modifying our human condition allowing for the growth and externalisation of our identity (Queysanne, 1981). As true extensions and shelters of our "bodies, memories, identities and minds", buildings express existential "confrontations, experiences, recollections and aspirations" (Pallasmaa, 2009).

Pallasmaa's phenomenology opens with the question “Why do so few modern buildings appeal to our emotions, when an anonymous house in an old town, or an unpretentious farm building, will give us a sense of familiarity and pleasure?” (Mallgrave, 2011), which shows a certain similarity with Valéry's (2011) statement “have you noticed, while walking in the city among buildings, that some of the buildings are mute, others speak and others, finally - and they are most rare - sing!”. The intensification of rationalism of the last few centuries and the excessive formalism of the last few decades would partially answer to such these questions (Mallgrave, 2011).

Architecture, rather than a purely visual scenario, stands for the body as a sort of placental surrounding, which nurture and protect it (De Angelis, 1996). In this sense, it seems significant that Michelangelo clearly pursued the aim for his architectural works to be experienced with all the anatomical components, as they were never anticipated by a drawn perspective representation (Bloomer and Moore, 1977). Continuing on this line, Zumthor (2006) writes:

> To me it is a kind of anatomy we are talking about. Really, I mean the word "Body" quite literally. It's like our own bodies with their anatomy and the things we cant see and skin covering us, that is what architecture means to me and that is how I try to think about it. As our bodily mass, membrane, fabric, that kind of covering, cloth, velvet, silk, all around me. The body! Not at the idea of the body, the body itself! A body that can touch me.

The memory of every real place can happen both because it is unique, and because it has affected our bodies and generated enough mental associations to be remembered (Bloomer and Moore, 1977). Authentic architectural experiences consists of an infinite number of tactile encounters rather than visual units or gestalt, such as “approaching the volume of the building and sensing its physical presence, crossing the threshold between two spatial domains, looking out of the window and being reconnected with the world outside” (Pallasmaa, 2011). It is clear that the relationship between body and architecture does not only concern the two physical entities, but also their capacity of reciprocal interaction and influence (De Angelis, 1996).

Rather than involving just vision, or the five classical senses, every experience of architecture is multi-sensory, as it is equally grasped by the eye, ear, nose, skin, tongue, skeleton and muscle (Pallasmaa, 1996). In light of this, Tanizaki’s (2001) statement on the traditional Japanese toilet spaces is rather inspired:

> I love to listen from such a toilets to the sound of softly falling rain, especially if it is a toilet of the Kantō the region, with its long, narrow windows at floor level; one can listen with such a sense of

> intimacy to the raindrops falling from the eaves and trees, seeping into the earth as they wash over the base of a stone lantern and freshen the moss about the stepping stones. And the toilet is the perfect place to listen to the chirping of insects and the song of the birds and, to view the moon, or to enjoy any of those poignant moments that marked a change of the season.

By dealing with materials and surfaces, enclosures and valued views, mass and light, Zumthor proposes a rich layering of perceptions that allows people to glean their sensual responses from their memories (Sharr, 2007). His imagination is oriented towards the building as a whole entity finalised to the act of dwelling and the reality of the materials (stone, steel. leather, etc.). There are no ideas if not in the things themselves; reality in architecture is what is concrete, made of shape, mass and space, as an unique body, as (Zumthor, 2003). His thermal baths in Vals were firstly designed for delighting the senses, and secondly to respond to interpretation and analysis (Sharr, 2007). With reference to his spa project, Zumthor (2006) declares:

> It all has to do with proximity and distance. That classical architect would call it scale. But that sounds too academic, I mean something more bodily then skills and dimensions. It refers to the various aspects, size, dimension, scale, the building's mass by contrast with my own. The fact that it is bigger then me, far bigger than me. Or that things in the building are smaller than me. Latches, hinges, all of the connecting bits, doors.

For Heidegger, dwelling takes place through measuring, which is always conducted through instant physical and imaginative perceptions rather than through an intellectual approach (Sharr, 2007). To him, a building does not differ from a table, as they both are things, which participate to to the fourfold of the everyday life by orienting people's existence in the world (Sharr, 2007). Architecture directs and organises behaviour and movement; building is "encountered, approached, confronted, related to one's body, moved through" (Pallasmaa, 1996).

Our perception of space is bound to the emotive impact and the muscular tension in relation to the very nature of the perceived space (De Angelis, 1996). The typical path in the Japanese garden, called roji, which leads to the tea pavilion, is a good example of bodily micro adjustments to avoid falling in the water pond, being the walking steps oddly distributed and having different heights (De Angelis, 1996). The tea pavilion, sukija, is organised not only to be seen, but as a "model of becoming": here the absence of decorative elements frees the sight from the danger of distraction, but at the same time the presence of chiaroscuro elements in the composition enhance the attention without creating tension (Pasqualotto, 2006).

Since the body moves, works, plays, rests and sleeps in a space shaped by architecture, the importance of understanding the level of consciousness of this relationships becomes crucial for the architect's design intent (De Angelis, 1996). Authentic experiential or mental elements of architecture are not visual elements or geometric gestalt units but "confrontations, encounters and acts which project and articulate specific embodied and existential meanings" (Pallasmaa, 2011). Traditionally the personal subject is independent and unprecedented to the architectural encounter, in this approach the individual subject is constructed through the encounter, which takes precedence (Brott, 2013). Mallgrave (2011) describes the architectural encounter towards the example of the "boldly curved portico" of Pietro da Cortona's Santa Maria della Pace in Rome:

> It is a breath-taking experience to come from the dark, narrow passage out to the sunlit courtyard and then turn and see the church entrance like a little round temple surrounding a cool, shadow-filled cavity. And as you gaze upwards the extraordinary arrangement of the reduplication columns is even more dramatic.

Zumthor's (2006) impression of Palladio's Villa Rotonda is equally significative:

> It's huge, monumental, but when I get inside it I don't feel intimidated at all, feel quite sublime, in fact, if I may be allowed such an old-fashioned term. Instead of intimidating me, these are the surroundings that somehow make me feel larger, allow me to breathe more freely, I don't know how to describe it actually.

Architecture is always concrete matter: a project displayed on paper is not architecture, but only a mere incomplete representation of it, fully comparable to the musical score: whilst music needs execution, architecture needs realisation to fulfil its sensual essence (Zumthor, 2003). In addition to that, Merleau-Ponty (1964) asserts:

> Visible and mobile, my body is a thing among things; it is one of them. It is caught in the fabric of the world, and its cohesion is that of a thing. But because it sees and moves itself, it holds things in a circle around itself. Things are an annex or prolongation of my body; they are incrusted in its flesh, they are part of its full definition; the world is made of the very stuff of the body.

Introduced into architectural discourse by Leon Battista Alberti, the Seneca's concept of vita beata examines the possibility of a sympathetic dance between bodies and buildings, an "interaction between corporeal images and buildings images as a means

for allegorically apprehending space and form" (Frascari, 2002). Continuing on this line, (Frascari, 2002) claims:

> In Scarpa's drawings it is also possible to have a "proof" of the system of appropriation that rules the perception of architecture. These representations of three-dimensional structures on two-dimensional surface results from the interaction existing between visual and tactile perceptions. The central parts of the drawings generally presents graphic constructions of it might be labelled our technical drawing. But they are not what are traditionally identified as plans, sections and elevations. Scarpa's drawings are not merely devices of Cartesian and descriptive geometry column rather, they are descriptions of the future of reception in relationship to the making of the architectural object. […] That they are the results of the memory effects of the organs of touch and sight in the making and using of architecture. These drawings are never fully rendered. Only fragments and a parts of them are.

By observing the drawings from Le Corbusier for the projects Saint-Baume (1948) and "Roq and Rob", in Cap Martin (1949), one notices that human figures are abundant and fully comparable with the architecture itself in their corporeal presence (Espuelas, 2004). In the same period Mies is working at the IIT campus: his perspective representation lacks of clear shadows and its view angle is enhanced by few human figures. They acts like ghosty dark silhouettes in opposition the the crispiness of the building. Mies uses these figures, which resemble the Japanese kurogo ("black men") of the kabuki theatre, to highlight the transient presence of man in comparison to the quasi timeless permanence of the building (Espuelas, 2004).

Construction drawings possess the same character than the anatomical ones: they reveal a "secret portion of that interior tension" that the completed building will never reveal so openly (Zumthor, 2003).

In the drawings of both Scarpa and his pupil Pastor, human figures are an extension of the process of architectural design: the delineation of these figures takes place during the outlining of the design (Frascari, 2002). In Pastor's drawings, "images of mimes and dancers merge with the walls, beams, windows, doors, floors, and other building elements" (Frascari, 2002).

When realism and graphic mastery of an architectural representation do not allow for any imaginative interpretations, the curiosity for the future represented object tends to vanish; the representation ends in itself by becoming the object of desire, which constitutes one of the major defaults of the architectural representation (Zumthor, 2003).

7.3. House and Body Intertwinement

In the past, man has always preferred to live a nomadic condition, free to conquer the world, but in recent times the concept of freedom itself has changed towards a more intimate sense of belonging to a tangible place, that is dwelling (Norberg-Schulz, 1980). However, “home” is also a mobile need other than a physical place, as it can always be found somewhere else (Perez Gomez, 2002). Leroi Gourhan in 1964 pointed out the peculiarity of the human shelter, which shows more similarities with several types of rodents’ tangled burrows, than the monkeys’ dwellings, which concern only small adjustments to the place where they will spend a night (Ballantyne, 2007).

Our existential world takes place in two simultaneous loci: our body and our home (Pallasmaa, 2011). Their proximity produces an ultimate sense of connection, wheres their distancing leads to a sense of belonging, nostalgia and alienation (Pallasmaa, 2011). The house, therefore, plays a key role in human existence: it is the place where one learns as a child to understand his being in the world, and the place to continuously depart from and return to (Norberg-Schulz, 1971). The threshold of entrance door separates the outside from the intimacy of the inside realm. When it also separates the holy from the profane also possesses a great symbolic value (Grutter, 2012).

Heidegger considers the house as the place of a physical marker, a part of the earth (Sharr, 2007), and also denounces the unfamiliar specialised vocabulary used by the professionals in the construction industry: their economic interests have intensified the separation between building and dwelling (Sharr, 2007). He asserts:

> In today's housing shortage even this much is reassuring and to the good; residential buildings do indeed provide shelter; today's houses may even be well planned, easy to keep, attractively cheap, open to air, light, and sun, but do the houses in themselves hold any guarantee that dwelling occurs in them? […] To dwell is to garden.

The primordial sensations of comfort, protection and home are rooted in the very deepest human experiences; those ones that Bachelard calls "images that bring out the primitiveness in us", or "primal images” (Pallasmaa, 2011). The primordial parallel function of the house is to shelter daydreaming, to give peace and ensure protection for the man who dreams (Bachelard, 2006).

The house we were born has engraved within us a range of the several modalities of dwelling: all the other houses are but variations of a this fundamental functional diagram of the inhabiting (Pallasmaa, 2011). The native house is physically inside us: we might have lived in several houses afterwards, and they would have surely banalised our usual gestures, but if we return back to the first house after a long period, we surprisingly ascertain how the original gestures come back naturally and always perfect (Bachelard, 2006).

In this model of architecture, buildings are memorials to the engagements of minds with place involved in their construction and alteration overtime (Sharr, 2007).

In light of this, Bachelard (2006) associates the human body to the hierarchical composition of the typical layout of a house. In the places away from the hearth, especially above (in the attic) and below (in the basement), lie the domains of fantasy. The attic stands for the rationality, whilst the basement is linked to the unconsciousness. The attic honestly declares its intent of sheltering and protecting from the weather conditions. Towards the attic, where the carpentry is proudly visible and recognisable, all the thoughts become clear. The basement is the place of obscure and irrational presences. Mice and rats populates the attic, whilst in the basement slower and more mysterious creatures move around. In the attic the experience of the daylight can always sweep away the fears of the night, whereas in the basement, darkness is always present.

Equally inspiring is Harris' (2005) reference on the matter and soul of Deleuze's Baroque house:

> We can observe in the upstairs apartment of Deleuze's Baroque house, the folds of the soul, and below, on the ground floor, the pleats of matter. Upstairs the voluminous space of the house is entirely dark, it has no windows to the outside, in fact, it is quite difficult to tell exactly how expansive it might be. Its exterior form gives no true indication of the cavernous space that sprawls within. Downstairs there are windows, a door, and a rather formal set of steps that allow us to enter or exit with some ceremony. This is the realm of the five senses. Here the dimensions might be measured, and the space quantified and assessed with more ease. The event, restless inhabitant of this house, is that which neither the material nor the immaterial, neither the ground nor upper apartment, can entirely account for. The event wanders about, ghost-like, ungraspable, in-between floors, surveying the flexible membrane that has been developed by Deleuze and Leibniz.

Man lives poetically when he is capable of reading the meaningful revelation that constitutes our places: things are made for revealing meaning beneath reality, they gather the world and can be gathered to create micro cosmos (Norberg-Schulz, 1980).

Our house is "the life enhancing" spaces that becomes an extension of our body, skin, senses and memory, within a complete sense of fullness (Pallasmaa, 2011).

Continuing on this line, Ambroise Paré refers to the ability possessed by all those little animals that build their nests. Bricklayers, carpenters and builders could not provide a better shelter for their families than these animals (Bachelard, 2006). In particular way, birds' nest is built like a shell through repetitive tireless bodily gestures. The body gives the nest its physical shape, which is the shape of the most immediate animal's effort and even pain (Bachelard, 2006).

Continuing on this line, Paul Valéry refers to the shell as an extraordinary object modelled by the shellfish's skills, Valery believes that a shell finely shaped by the human hand would always carry the mark of a retouched beauty, never comparable to the authenticity of the one that came from the nature (Bachelard, 2006).

The idea of home is deeply rooted in every man's childhood. Children understand the character of the perceived objects in relationship to their psychical conformation: they do not make distinction between psychical and physical dimension, as they experience things as they were animated (Norberg-Schulz, 1980). Meaning depends on identification and implies a sense of belonging, which constitutes the very nature of dwelling (Norberg-Schulz, 1980). The child associates his home with the happiest dreams. When a child is happy, he/she imagines a sheltered, solid, closed and protected house (Bachelard, 2006).

The correspondence between house and face, which constitutes one of the most direct and powerful associations operated by children, is also one of the topics raised by Deleuze and Guattari in their philosophical approach. Face and landscape were an inspiration to the arts as much as the arts were an inspiration to them. Ballantyne (2007) recalls Deleuze's view on architecture's faciality, in the shape of houses, cities, monuments, factories, which all function like faces in the landscape they operate the transformation. He also states:

> […] in dealing with the landscape is the correspondence with the face, which reappears continually in a fantastically varied guises. Their "face" is made up of two components called the white wall and black hole. As a white wall is a reflective screen, which reflects back any information that is projected onto it. The black hole is the opposite principle, it reflects nothing at all, but it absorbs everything into it. […] The important thing is that there is something unknowable behind the white wall, a "subject" with thoughts and feelings, which, if they are to be inferred at all, can be inferred only from the signs that are inscribed in or projected on the white wall. The "face" is these dual operation of exclusion and absorption, reflection and reception.

Faciality is a system that either inscribes meanings onto blank surfaces, or "white walls" or describes signification as a “quasi-architectural system”, a wide wall with black holes (Burns, 2013): a door like a mouth, windows like eyes, and a roof like a forehead (Bloomer and Moore, 1977). Deleuze and Guattari (1980) describe the white face wall as follows:

> The shimmering pure white wall is at cinema screen, but not only that. It is also the "screen of dreams", onto which I will dream images are arranged, which is apparently to be identified with an infantile memory of the breast that, close up, feels the field of vision. […] And like uniforms the facades of building can be worn as a disguise. Here we read the buildings as screens, and they allow us to project onto them our hopes for our fears, without offering explicit confirmation or denial.

7.4. Dynamic Relationships in Buildings’ Domain

The perspective of the experience implies that the world is constantly changing, or “becoming” (Otero-Pailos, 2010). In the present days, the tendency of magazine photos or screen images to substitute real experience leads a diminished ability to perceive and comprehend architecture (Holl, 2000). We are increasingly replacing our own body movement with propulsion, faster and farther, of the immobilised body: motion gives way to ”frozen speed” (Bloomer and Moore, 1977).

Experiencing buildings fosters a series of dynamic relationships among the persons moving within their domains (Bloomer and Moore, 1977). At the beginning of the 20th century the Puteaux Group developed a representation method that emphasised the movement of the viewer, in accordance to Bergson’s idea of "creative space”, whose essence could not be captured with representation methods based on a static viewpoint (Otero-Pailos, 2010).

The up/down orientation, as our most basic one, is successfully exemplified by a child struggling to stand up and walk and the human process of growing up (Bloomer and Moore, 1977). The upward position, allowed by a unique bodily structure where the backbone acts literally as a column upon which the head rests, stands for striving, fantasy, and aloofness (Bloomer and Moore, 1977).

Spatiality of architecture promotes the body engaging long and then short perspectives, up and down movements, open and closed or dark and light sequence of geometries (Holl, 2000). Labatut believed that architecture should perform experientially like a car,

carrying out visitors into “extraordinary ways of sensing and rediscovering the ordinary surroundings” (Otero-Pailos, 2010). From this perspective, Tuan (1977) claims:

> Body implicates space; space coexists with the sentient body. This primitive relationship holds when the body is largely a system of anonymous functions, before it can serve as an instrument of conscious choice and intentions. […] Visual perception, touch, movement, and thought combine to give us our characteristic sense of space. Bifocal vision and dexterous hands equip us physically to perceive reality as a world of objects rather than as kaleidoscopic patterns.

The standing body becomes the pivot of communication between horizontal and vertical axis, the implicit link between earth (material, mineral, dark, compact) and sky (divine, spiritual, ethereal, light) (Bloomer and Moore, 1977). The primary connection between body and architecture is traced by the movement of the body across overlapping perspectives formed within its spaces (Holl, 2000).

An inspired example of this is the frenetic and spatially exciting Berlin Philharmonic by Hans Shaoroun, where one’s sense of orientation is challenged by the diagonal relationship between stepping cascades (Bloomer and Moore, 1977). In his Villa Savoye, Le Corbusier has designed a complex periodic pattern of space/time relationships, experienced primarily through body movements, especially by choosing two means of vertical circulation: a spiral stairway, clockwise, curvilinear, incremental, and a ramp, counterclockwise, rectilinear, continuous (Bloomer and Moore, 1977). Labatut was focused in exhibition design methods for organising the attention of visitors around a space. By using certain expedients, such as an unusual tread heights to make people consciously focused on the floor, he introduced techniques for orchestrating visual and tactile stimuli to attract people’s attention (Otero-Pailos, 2010).

When the observer moves around the building, and the townscape as well, the ontological relationship between the spatial elements of the composition change constantly: at a certain point one element prevails, in a different moment, another one takes prevalence (Venturi, 1977).

In the Bernini’s forecourt for St Peter's in Rome, in order to achieve a “powerfully unsettling experience”, the two acts of moving with the body and mind’s eye are put into conflict: the eye sees a certain grand intimacy whilst the feet feel great distances (Bloomer and Moore, 1977). Continuing on this line, Holl (2000) provides an accurate description of the variations of perspective when experiencing buildings:

> Overlapping perspectives, due to movement of the position of the body through space create multiple vanishing points, opening a condition of spatial parallax. Perspectival space considered

> through the parallax of spatial movement differs radically from the static perspectival point of Renaissance space and the rational positivist space of modern axonometric projection. A dynamic succession of perspectives generates the fluid space experienced from the point of view of a body moving along an axis of gliding change. This axis is not confined to the x - y plane but includes the x-y-z dimensions manifesting themselves in the other dimensions, gravitational forces, electromagnetic fields, time, etc. Perspectives of phenomenal flux, overlapping perspective space is the "pure space" of experiential ground.

By considering the spatial researches carried out by his professor Labatut, Moore pursued the authentic architectural experiences and the use of spaces to direct visitors' attention, to fully involve them in the aesthetic process of creating space by enhancing their self-consciousness during the spatial experience (Otero-Pailos, 2010). This can occur only when there are harmonious relationships between the "human body and that "body" of building" (Otero-Pailos, 2010). Moore used the aedicule, a miniature "house in the house" no bigger than a person, to promote intimate sensual contact with the body (Otero-Pailos, 2010). It was a form of the physical confinement to induce the contemplation of the divine mystery beyond introspection and the transcendence of the body's physical limitations (Bloomer and Moore, 1977).

The aedicule literally wrapped up against the skin, forming it through friction and empowering the seed of men's fertility and creativity (Otero-Pailos, 2010). He also filled niches with toys and miniature houses, suggesting a smaller scale of consciousness (Otero-Pailos, 2010).

Like the Gaston Puel's man who sleeps within a cradling cosy almond shaped boat (Bachelard, 2006), the aedicule is a means for self purification to help the architect to achieve the universal and timeless (Bloomer and Moore, 1977). Every corner of a house, a room, a reduced space where snuggling up shows the positive human condition of living protected in a shell (Bachelard, 2006).

On the perspective of experiencing forms, Bergson believes that the corner is cold, masculine and repulsive, whilst the curve is warm, feminine and embracing. He attributes hardness to the straight line and grace to the nestlike curve, which invites us to stay and rest. A small change of value is a big change in the sphere of perception (Bachelard, 2006).

According to Bloomer and Moore (1977), the curve is a pattern. Experiencing spaces involves patterns, described as follows:

> Patterns are composed mostly of paths and places, but it is in the system by which they are related that allows us to make sense of a bounded space. The usual kinds of patterns can be classified as

> haptic, haptic with geometric, centripetal radial, centrifugal radial, the grid, And lately the three-dimensional grid. Haptic patterns are composed up piece by piece responses to the situation at hand rather then being based on any kind of visual or conceptual grand design […].

This coexistence of a haptic and a regularly geometric plan is enhanced in the Italian town of Vigevano, where a monumental the renaissance piazza was carved into the irregular pattern of a mediaeval town (Bloomer and Moore, 1977). Furthermore, while in Florence at ground floor ashlared surfaces were used to concretise a rational “built” space, characterised by a classical consistency, in Siena, the use of de-materialised continuous brick walls suggest a spiritual mediaeval atmosphere (Norberg-Schulz, 1980).

Significant stone balustrades promote cosy leaning, whilst niches and bays allow for intimate groups to gather (Bloomer and Moore, 1977). Moore pursued a number of architectural expedients to achieve his purpose: stair raiser changes and ramps to modulate speed of the walk, changes in the scale of conventional elements to enforce exaggerated boldly movements; emphasis of untreated materials, use of tactile texture; small niches to locate precious objects; wall apertures framing valued views; dramatic displays of natural and coloured lights, use of large painted graphics, “theatrical display of water” (Otero-Pailos, 2010).

7.5. Body without Organs as Pure Immanence

The modern disembodied style of life is a direct consequence of the increasing use of machines and of transplantations and communication technologies (Teyssot, 1997). The quality of urban life is enhanced by the provision of new sensitivities and relational capacities, in light of the spatial and temporal approach “body-becoming-city-becoming-subject” (Duff, 2013). While every possible aspect of the body has been celebrated, the bodily presence of many of the objects that surround us is disappearing (Marchetti, 2008).

The dynamic ability of the construction design processes towards flexible configurations and constantly adapting accommodation of the human habits can be explained with the concept of "body without organs", coined in 1987 by Deleuze and Guattari (Braham and Emmons, 2002). In today’s reality, architectural forms are rigid

enough to impede a true flexibility to be achieved, moreover, building strives to become more clothing or cosmetics where apparent adaptation is obtained through furnishings and the surface finishes (Braham and Emmons, 2002). Deleuze (1993) describe his concept of body as follows:

> A Body can be anything it can be and any more, A body of sounds, a mind or an idea; it can be a linguistic corpus, a social body, a collectivity. We call longitude of a body a set of relations of speed and slowness, of motion and arrest, between particles that compose it from these point of view, that is between unformed elements. We call latitude that set of affects that that occupy a body at each moment, that is, the intensive states of an anonymous force (for existing, capacity for being affected). In this way we construct the map of body. The longitudes and latitudes together constitute nature, the plane of imagines or consistency, which is always variable and is constantly being altered, composed and recomposed, by individuals and collectivities.

Following Spinoza, Deleuze states that individual bodies are composed of an "Indefinite" number of "simple bodies" connected via ”characteristic relations” (Duff, 2013) Bodily assemblage has a tetravalent structure formed from the intersections of two primary axes (Deleuze and Guattari, 1987). The first of these axes is horizontal, neither side has priority, and describes form versus content; it also opposes and connects matching reality by involving interactions of bodies and things in space to “expressions of meaning through language and representation” (Dovey, 2013). The second axis, construed as vertical, involves the appropriation and/or expropriation of space, from “territorialisation to deterritorialisation and riterritorialization” (Dovey, 2013). In this respect, Spinoza describes body encounters as the meeting between diverse bodies where “characteristic relations of each body combine to augment or facilitate the power of acting of each body” (Duff, 2013). Such these encounters can produce either a sensation of joy, when bodies’ essence or nature match to each other, or sadness, as a consequence of the diminution in their power of acting (Duff, 2013). The body without organ shall be read in contrast with the concept of organism, as explained by Deleuze and Guattari (1987):

> The body is the body. Alone it stands. And in no need of organs. Organism it never is. Organisms are the enemies of the body. The Body without organs is not opposed to the organs; rather, the Body without organs and its ‘true organs,’ which must be composed and positioned, are opposed to the organism, the organic organisation of the organs.

The body without organs considers the body in its exteriority, in relationship with other bodies, through relations, effects, desires; on the other hand, the organism only conceives its interiority, as an autonomous singular entity (Teyssot, 1997).
The body in the Deleuze and Guattari philosophy possesses an interior as well as an exterior, which are both indistinguishable; it is also engaged in processes of production/ consumption and interaction within itself and with its surroundings (Ballantyne, 2007).
A body is a dynamic relationship whose limits can change depending on what it encounters (Loo, 2013). When two bodies are compatible, a new relationship is created, when they are incompatible, they decompose each other (Loo, 2013). Furthermore, according to Deleuze and Guattari (1987):

> The organism is a stratum on the Body without organs, in other words, a phenomenon of accumulation, coagulation, and sedimentation that, in order to extract useful labor from the Body without organs, imposes upon it forms functions, bonds, dominant and hierarchized organizations, organized transcendences. […] the Body without organs is that glacial reality where the alluvions, sedimentations, coagulations, foldings, and recoilings that compose an organism, and also a signification and subject, occur. […] It is the Body without organs that is stratified. It swings between two poles, the surfaces of stratification into which it is recoiled, on which it submits to the judgment, and the plane of consistency in which it unfurls and opens to experimentation.

The meeting of elements in space and time enhance subjectivisation and individuation, as there is no subject and its objects as such (Duff, 2013). Subjectivity is an “ethological” and “combinatorial” assemblage of elements acting together (Duff, 2013).
Since no conceptual nor transcendental superstructure has been imposed from outside, the body without organs is pure immanence, a state of creativity free from preconceptions: it is a pre design stage when all the possibilities are immanent when the line of flight could lead to the beginnings of a “form, a structure, a detail, a leitmotiv” (Ballantyne, 2007). The design would not be imposed from outside towards a specified form, but would work with the “grain of its matter, from within, but also seamlessly with the milieu and networks extending to its horizons”, by crystallising in various ways (Ballantyne, 2007).
Subjectivity lives in the encountering bodies and parts in the event of their mutual affective and relational constitution, like in the haptic sensation of the hand meeting the concrete: hand and concrete compose a subject (Duff, 2013).
In the city assemblage the nonhuman forces play a key role. A participatory architecture should take these forces into account and focus on the ethological affects arisen from the haptic and tactile sensations (Duff, 2013).

8. Tectonics at Multiple Scales

The landscape thinks itself in me, and I am its consciousness.

Paul Cézanne

You would not have seen that! Take the time needed to see all these little things that cannot be seen all together.

Gaston Bachelard

8.1. Ontological Reading of a Place

In spite of the ever-increasing mobility of humans and the trend that communication is less and less bound to the specificity of places, there is a progressively greater need for personal, individual locations (Grutter, 2012). Architecture operates with the two components space and time to provide man with his needs for shelter as part of the "flesh of the world" (Pallasmaa, 2009). Architecture also turns the wild physical world into a home of men by conferring substantial meanings to a framed human existence (Pallasmaa, 2009).

Other than the distinction between natural and artificial phenomena, models of space are grouped in the categories of earth/sky, that is horizontal/vertical, and of external/internal (Norberg-Schulz, 1980), which relate to either mathematical concepts, or, mostly, to an existential dimension (Norberg-Schulz, 1980). Existential space possesses an individual or collective connotation and is structured on the basis of meaning and values reflected upon it in a conscious or unconscious way (Pallasmaa, 2009).

In the act of dwelling, man both orients himself in a spatial context or identifies with it, by grasping its very true nature (Norberg-Schulz, 1980). Dwelling implies that the space where daily life occurs are experienced as a "place", with its distinctive character (Norberg-Schulz, 1980). Heidegger operates a clear distinction between "spaces",

which are appreciated mathematically, and “places”, appreciated through human experience (Sharr, 2007). By getting to know a firstly undifferentiated space better and better, we begin to endow with its value in a dynamic of familiarisation (Tuan, 1977).

Since ancient times, genius loci, literally the “spirit of a place”, has been considered a concrete reality that man has to deal with. Genius loci is a roman concept rooted on the belief that every being has its own genius, a guardian spirit, whose presence witnesses its existence is the world (Norberg-Schulz, 1980). Architectural form materialises the genius loci and converts it into an image in order to be decoded by the subject (Brott, 2013). Genius loci possesses the unique "character", the stimmung (mode) of the environment before the visualisation and conversion into physical form (Brott, 2013). Architectural arrangements, including settlements or cities. visualise the genius loci and allow people to dwell meaningful places (Norberg-Schulz, 1980) through the manipulation of environmental components (Brott, 2013). In the making of memorable places, a special collision occurs: building or landscape come together without loosing their individual identity or spirit (Bloomer and Moore, 1977). This relationship of psychological empathy is generated by the capacity of distinguishing between space and place through its “lines of force”, its potential design (De Angelis, 1996). The empathy means identification, “becoming friend” of the space we inhabit, like the Northern peoples become friends of haze, ice and cold winds (Norberg-Schulz, 1980).

By referring to Aldo Rossi’s view on how the genius loci operates, Brott (2013) states:

> In Aldo Rossi’s L’architettura della città (1966), the defining condition of the city is yet to mysterious agency of genius loci. In his version, it is the impersonal's spirit inhabiting a place that emerges as witness to the cumulative, historical incisions made in the urban terrain over time our form of interlocutor for architectural assemblages and historic moments that exist as a mnemonic tableau. Each architectural moment, fabric, landscape or monuments, is the signifier or point of purchase for his dialogue, which is in itself a dialogic encounter that proceeds by fits and starts. Each moment embodies the collective human will or spirit (agency) that produced it, in accordance with or in opposition to the genius loci, when joining together in a series, gives rise to the particular urban character or a mnemonic subjectivity that is its "genius of place”.

Topologies were used by Norberg-Schulz as an instrument to operate scientific site analysis, which aimed to reveal the “original site or grounding source of architecture and its history”, beyond representation and history (Otero-Pailos, 2010).

Norberg-Schulz’s topology might be read in conjunction with Bachelard’s (2006) concept of topophily, which aims at determining the human value of the inhabited affected spaces (Bachelard, 2006). Topo analysis includes “descriptive psychology”,

“psychology of the unconscious”, “psycho analysis” and “phenomenology” (Bachelard, 2006).

Architectural space, as a concretisation of man's existential space, are conceived by using the invisible source code of topologies (Otero-Pailos, 2010). In that sense, the weak point of Norberg-Schulz’s theory lays in the concretisation of these “invisible guidelines” in the design process: despite of stating that topologies are a hidden, invisible, and “beyond representation” code, he uses photographs to clearly illustrate them (Otero-Pailos, 2010).

In accordance with Heidegger’s approach to topology, places, as well as things and buildings, were primarily understood through use and experience (Sharr, 2007). He introduces the well known example of the bridge and its ontological transformation of the place where it takes shape: once the bridge is built, its site is understood differently, as it becomes, in the collective mind, the place of the bridge (Sharr, 2007). In light of this, Heidegger (1971) asserts:

> To be sure, the bridge is a thing of its own kind; for it gathers the fourfold in such a way that it allows a site for it. But only something that is itself a location can make space for a site. The location is not already there before the bridge is. Before the bridge stands, there are of course many spots along the stream that can be occupied by something. One of them proves to be a location, and does so because of the bridge. Thus the bridge does not first come to a location to stand in it; rather, a location comes into existence only by virtue of the bridge. The bridge is a thing; it gathers the fourfold, but in such a way that it allows a site for the fourfold. By this site are determined the localities and ways by which a space is provided for.

Good buildings enhance the properties of the place and bring them close to man. By discovering the vocation of the place, man becomes himself part of a “comprehensive totality” (Norberg-Schulz, 1980). Zumthor (2006) expresses the possibility of designing buildings that become, over time, part of their surrounding conformation and history. They often come from and idea that starts from a powerful image or a body experience, almost naïve and childway (Zumthor, 2009). One can tell that those buildings are in the right place, where a human sense of order is driven by the body, for which they seem to have always been there (Bloomer and Moore, 1977).

When the building becomes part of people's lives, a place where children grow up, it will be remembered for a “corner, a street, square” with no thoughts for its architect, and that is one of architecture’s great achievements (Zumthor, 2006).

Good architecture aims to capture the spirit of a location and to expand and reinforce it with new components (Grutter, 2012). All Zumthor’s buildings are in a sort of critical

dialogue with their site. In his spa at Vals the dialogue is with hot springs and water, mountains and storm, million years old materials (Spier 2001). Zumthor (2009) describes his design process of architecture creation as follows:

> When I start to do research, I'm really bad. This I know from studying. No research. You are just hanging out, listening, feeling, having the place resonate a little bit. And then all of a sudden, ideas come naturally. I don't know when and where. I think this is a very natural process. Everybody—all of you, all of us—we experience this. And what I discovered was that when I have these feelings, it is like being a boy again. All of a sudden, I think this is me when I was 10 years or 12 years old. I'm dreaming. I'm there and something comes to me, but it's not, of course, naïve dreaming. Everything, which is part of my biography, is there. But it's not there as a research product or as reference material. It went into me, as part of my life. Then it comes out from somewhere—from my emotions or whatever, my feelings.

Buildings that draw exclusively from the vernacular and the tradition do not manifest the confront with the contemporary world; vice versa, if a building only refers to the contemporary condition and produces visions without involving the concrete location, there result is a total lack of sensual connection with the place (Zumthor, 2003).

8.2. Cosmic, Classical and Romantic Realms

As "thing among things", living between mountains, seas, rivers and trees, man has come to know such these "things". Therefore, defining the character of geographical and natural environments, in close connection with human connotations, becomes of crucial importance for his existential knowledge (Norberg-Schulz, 1980). Built form and landscape engage in a relationship of figure/background, where figure acts as enclosure in comparison to the open space of the background.

According to Norberg-Schulz (1980), there are three archetypes of natural places, which are almost never present in nature as a pure form: cosmic, classical and romantic. Derived from the fundamental relationship between earth and sky, they form the categories on which the topological analysis on reality are based on.

Cosmic space is found in the desert areas of Northern Africa and Middle East, where clear and radiant sky highlights the openness of the landscape and locate man at the centre of the Universe. Landscape is all over neutral and doesn't manifest individual places. In contrast with the flat expanses, oasis show the typical horizontal/vertical

pattern of the Arab spaces through their palms' trunks and branches. Within this abstract order of light and shadows, plasticity is definitely denied.

Classical space origins in ancient Greece and becomes fundamental in the Roman period. Its main feature is the intelligibility of its natural components. Strong and evenly distributed daylight and limpid air confer to shapes a plastic and sculptural presence. Terrain is continuous and sky is high and embracing. Thanks to the defined and easily portrayable character of every landscaping scenario, and to the broader human scale of the natural elements, in approaching the earth, man can feel either comforted or scared: intelligibility of places offers protection and threat at the same time.

Nordic space is dominated by the earth element, a chthonic landscape characterised by a interacting multitude of non intelligible details, which struggle to compete with the presence of the sky, which is "low" and pale even in the warmest summer days. Generally, one can refer to this type of landscape as a "romantic" one, as it brings man back to his emotive experiences.

Cosmic, classic and romantic architecture are the three archetypes of artificial places that correspond to the above mentioned natural ones. Very seldom present as a pure type, they all help to interpret and outline the genius loci of every particular settlement.

Cosmic architecture is characterised by uniformity and "integrated logic system", which is mainly founded on static than dynamic shapes. It aims at necessity rather than expression, and is rigorously geometric, often labyrinthine and generally follows orthogonal grid.

The character of cosmic architecture is prevailing abstract. It tends to de materialise volumes and surfaces through intricate geometric pattern (mosaics, glazed tiles etc.). Cosmic space reaches its maximum expression in the islamic city, which shows a combination of geometric and labyrinthine spaces: public buildings sit on the orthogonal grid, whereas residential areas follow the labyrinth pattern.

Classical architecture is characterised by a concrete presence of true distinctive elements and organic shapes that results from a conscious composition of individual elements, which communicate a sense of either belonging and freedom. Classical space unifies topological and geometric traits: buildings can be strictly geometric, but their spatial organisation is still topological and shows no predominance of particular elements.

Romantic architecture is characterised by a illogical multiplicity and variety which manifest irrational components. Its atmosphere is always intense and expressive, and could also be fantastic, mysterious, intimate and idyllic. Its forms seem to be originated by a natural growth rather than an organised composition. Space is topological: urban

configuration are dense and indeterminate. The “line” becomes the symbol of strength and dynamism. Construction appears to be illogical and irrational, with a multiplication of skeletal membranes; profiles are irregular and blurry. Light and colour are used to accentuate variety and atmosphere.

Continuing on this line, Deleuze and Guattari (1994) state:

> The territory implies that emergence of pure sensory qualities, of sensibility that cease to be merely functional and become expressive features, making possible transformation of functions. […] These emergence of pure sensory qualities is already art, not only in the treatment of external materials but In the body’s postures and colours, in the songs and cries that mark out the territory. It is an outpouring of features, colours and sounds that are inseparable insofar as they become expressive.

The aim of the work of art is to communicate existential meanings, as one of the most fundamental human needs (Norberg-Schulz, 1980).

In accordance with Deleuze (1995), art, and painting in particular, has also three different ways to overcome the relationship between figure and background: abstractionism, classical representation and expressionism.

Byzantine art results close to abstractionism, as it works on a digital code that confers to the background a role that it is no longer possible to distinguish where the boundary between it and figures is located. Its plane of representation, often materialised on a dome, a vault or an arch, is moved backward to create the maximum distance from the viewer. Weightless shapes are defined by the alternate chiaroscuro of a purely optical dynamic of light and shadow. Tactile reference are suspended and a spiritual assumption, a quasi miracle, is born from the independence of the light and colour. Classical schemes leave place to a sort of composition, where the protagonist is the apparition itself, rather than the essence.

Classical representation is never perceived frontally: figure and background are separated by a unifying perspective that crosses the planes of representation, from the background to the close-up. Objects partially overlap, light and shadow embrace the space, boundary is no longer at the same plane and becomes the outline of the figures in space. On this combination of tactile and optical space, connection prevails on essence. Geometric boundary is replaced by an organic one, which participates at the perfection of the optical form. The eye subordinates the hand as a secondary component of perception.

Nordic (or barbaric) art dismantles the organic representation. Touch is given its pure activity. The hand moves so fast and violently that the eye is incapable to follow. The line proceeds endlessly by continuously changing direction, being interrupted, broken,

sometimes lost and sometimes coming back on itself with swirling movements. There are no longer figures and background as line and plane tend to equal each other in their expressive power. Line becomes something more than a line and plane becomes something less than a surface. The boundary never identified the object in a clear way as the space is entirely tactile and haptic.

8.3. Atmospheres

Space indicates the three dimensional organisation of elements that forms a place, whilst its character indicates the “atmosphere” as one of the most comprehensive traits of each spatial configuration (Norberg-Schulz, 1980). Atmospheres can be produced consciously through objective arrangements, such as light and music. By exposing oneself to atmospheres, one can experience the impression they produce, as characteristic manifestations of the subject and object interacting together simultaneously (Böhme, 1998). The indefinite and subjective concept of atmosphere has always been considered an issue in the Modernist philosophy because of its statement on the need for a strong sense of reality and authenticity (Bunchan, 1998). Spaces and spatiality is a subject of aesthetics theories within the study of the relations between ambient qualities and the states of mind (Böhme, 1998). In contrast to the omnipresence of telecommunication, it focuses attention on locality and physical presence (Böhme, 1998).

Following today’s trend of “lemon scented conditioning air and audible fast-paced popping music”, which are widely used in shops to make people’s sense more predisposed to impulse buying, Bunchan’s (1998) potential future scenario is rather alarming:

> In the office of the near future, the light levels might be constantly and subtly varied in differing parts of the rooms, just as the flow of conditions here we be varied in direction and intensity, as well as negatively ionised and pine scented, to keep some sense of the freshness of outdoors. […] And the slow movements of Baroque music will help workers simultaneously relax and concentrate, just as effectively if played above or below the threshold of hearing. But the use of subliminal sounds (below the threshold of conscious hearing) can be much less benign and is currently on the subject of much paranoia.

Being atmosphere something between the subject and the object, an aesthetics of atmospheres pertains to artistic activity, which consists in the production of particular receptions (Böhme, 1998).

By referring the concept of atmosphere, started with the baroque period, when architecture pursued the aim of evoking God's presence and induce a state of quasi ecstasy in the congregation, Bunchan (1998) proporses the following questions:

> It is an "objective" quality invested in the object or instead a "subjective" response in the perceiving subject? Or a term that unifies these two poles? Is atmosphere an essential component of a sense of place? How much atmosphere and sense of place be designed, and how much today depends on that patination of time and use? And how much is architectural atmosphere created by the forms and a fabric of the building, on the way it manipulates ambient conditions such as light And temperature, And how much does it arise from the activities and rituals it shelters and also shapes?

Likewise, the atmosphere of a building is achieved by its physical form and, in a kind of “sensuous emission of sound, light, heat, smell, and moisture” (Wigley, 1998). Only the atmosphere is experienced, not the object as such (Wigley, 1998). Within this physical form, materials and surfaces stimulate the senses and play a key role (Sharr, 2007). Zumthor (2006) is impressed with the works by Joseph Beuys and other artists of the Poor Art for the precise and sensual use of materials that reveals deep knowledge of their use, production and, at the same time, of their authentic essence. He also refers to their sensory potential in the following statement:

> I was going to need something harder, something more like ebony. These unbelievable lustre. Then a week to lead to the real building site. Oh shit! This cedar was better after all. I suddenly saw it. […] That is just one example of why things often seems so mysterious to me. And there is something else too. There is a critical proximity between materials, depending on the type of material and its weight. You can combine different materials in a building, and there is asserting point when you will find there are too far away from each other to react, and there is a point to where they are too close together, and that kills them. Which means that putting things together in a building has a lot to do with.

In today’s time, light as turned into a mere quantitative matter and the window has lost its mediating meaning between enclosed and open, interiority and exteriority, private and public, shadow and light (Pallasmaa, 1996). The ontological meaning of the window has been lost with the unproportioned over sizes that force men to live live public lives and deprive buildings of intimacy (Pallasmaa, 1996).

Tanizaki (2001) points out that Japanese cooking depends upon shadows, and that it is inseparable from darkness. He also recalls that in the past, the blackened teeth of the geisha and her green black lips as well as her white painted face acted to emphasise the darkness and shadows of the room. On this subject, Tanizaki remind us the atmospheric properties of the Japanese highest lacquerware technique (urushi): darkness of the ambient is an indispensable element of the beauty of lacquerware. The shadow provides the object in light with shape and life. It also set the ground the fantasies and dreams to happen (Pallasmaa, 1996). Continuing on this line, Tanizaki (2001) claims:

> […] we Orientals tend to seek our satisfaction in whatever surroundings we happen to find ourselves, to contend ourselves with things as they are, and so darkness causes us no discontent, we resign ourselves into it as inevitable. If the light is scarse than light is scarse; we will immerse ourselves into darkness and there discover its own particular beauty.

Shadows and darkness are crucial to stimulate sharpness of vision and invite "unconscious peripheral vision and tactile fantasy", whereas uniform light immobilise the imagination as homogenisation removes the experience of place (Holl et al.,1994). In fact, most contemporary public spaces would become more enjoyable through a lower light intensity and its uneven distribution (Pallasmaa, 1996).
By referring to the Japanese temples, Tanizaki (2001) points out the darkness of the innermost rooms of the these buildings, to which sunlight never penetrates:

> […] how do gold leaf of a sliding door or a screen will pick up a distant glimmer from the garden, then suddenly send forth an etherial glow, at faint golden light cast into the enveloping darkness, like the glow upon the horizon at sunset.

In Zumthor's Bruder Klaus Chapel, the cave-like interior, where cast concrete surface mirrors its burned away wooden framework, gives the impression of a conflict between darkness and light (Pallasmaa, 2011). Zumthor (2006) attributes to daylight a moving power as if it has almost as spiritual and mysterious quality, something beyond all understanding. He also writes:

> So what moved me? Everything. The things themselves, the people, the air, noises, sounds, colours, material presences, textures, forms too. Forms I can appreciate. Forms I can try to decipher. Forms I find beautiful. What else more moved me? My mood, my feelings, the sense of expectation that filled me while I was sitting there.

Hell et al. (1994) describes New York City's Times Square as a “dirty grey crowded intersection” during the day, but at night its glowing lights, colours and atmospheric conditions create an astonishing impression.

Great modern masters such as Frank Lloyd Wright and Le Corbusier, Alvar Aalto and Louis Kahn were very much concerned with atmosphere (Bunchan, 1998). Wright argued that a good atmosphere is produced by integrating every single detail according to a singular vision (Wigley, 1998). By representing the sky with a series of horizontal lines to match those of the building, he treats air as an architectural element, a suspended plane that defines his architecture (Wigley, 1998).

Scharoun, like Zumthor, reveals his Heideggerianism in his attention to atmospheres and moods, to site, and to changing qualities of light (Sharr, 2007). He is also associated to Van Eyck for his concern on tactics to enable social gatherings through architectural geometries and spaces (Sharr, 2007). By commenting a 30s picture by Baumgartner, picturing a cafe at a students’ hostel, Zumthor (2006) questions himself about how to achieve the "magic of the real”:

> Men, just sitting around, and they are enjoying themselves too. And I ask myself: can I achieve that as an architect, an atmosphere like that, its intensity, its mood. And if so, how do I go about it? And then I think: yes, you can. And I think: no you can't. And the reason I can is because there are good things and things things that are not so good in the world.

Sometimes these feelings or atmospheres come from one’s personal past, direct and potent memories from childhood (Bunchan, 1998). In a fraction of a second, man perceives atmosphere through his sense; this form of emotional perception works incredibly quickly (Zumthor, 2006). The novelist Calvino refers to the specific way that poet Leopardi achieves the ultimate sense of suspended vagueness by giving extreme attention to every single detail, image, object, atmosphere, light. He believes that “the poet of the vague can only be the poet of the precision” (Zumthor, 2003).

8.4. Phenomenological Experience of the Structural Joint

The close connection between construction site and processes of construction has been maintained in the architectural profession until the modern period, with the increased specialisation and the consequent separation of the architect from the

“physical work” of construction (Pallasmaa, 2009). During the postwar decades, the craft essence of the architect’s formation has been weakened by the prevailing intellectual slant of in architectural education, as well as the growing distance between professional practice and construction site, and the extended use of the computer in the design process (Pallasmaa, 2009).

The word “tectonics” derives from the same Greek root tekton found in “architecture” and “technology”, with reference on the basic human activity of “giving visible shape to something new” (Sekler, 1965). Despite of its current use in different contexts, it was originally referred to the craft of the carpenter and the builder (Sekler, 1965). Generally it refers to a craftsman who is able to work with all the durable and resistant materials, except metals (Frampton, 1983). Heidegger (1971) provides an exhaustive etymological explanation of the term “tectonics”:

> The Greek for “to bring forth or to produce” is tikto. The word techne, technique, belongs to the-verb’s root tec. To the Greeks techne means neither art nor handicraft but rather: to make something appear, within what is present, as this or that, in this way or that way. The Greeks conceive of techne, producing, in terms of letting appear. Techne thus conceived has been concealed in the tectonics of architecture since ancient times. Of late it still remains concealed, and more resolutely, in the technology of power machinery. But the nature of the erecting buildings cannot be understood adequately in terms either of architecture or of engineering construction, nor in terms of a mere combination of the two. The erecting of buildings would not be suitably defined even if we were to think of it in the sense of the original Greek techne as solely a letting-appear, which brings something made, as something present, among the things that are already present.

Tectonic aimed to elevate mere construction technology into a refined architectural aesthetic (Otero-Pailos, 2010), the "poetics of construction” (Chau, 2009). Another distinction can be traced between “construction”, which has connotation of something put it together with certain level of consciousness, and “structure”, which refers to an ordered arrangement of dependent parts in a broader sense (Sekler, 1965). Structure, the intangible concept, is realised through construction and given the visual expression through tectonics (Sekler, 1965).

The tectonic language of architecture expresses the inner logic of construction itself: gravity, structure, materials, joints between units and materials (Pallasmaa, 2009). Architecture is requested to deliver a unique creation starting from innumerable single components (Zumthor, 2003).

Critical regionalism was both an architectural and political approach based on a particular emphasis on building tectonic to deliver a different kind of aesthtetic

experience from other buildings, focused on people's direct experience of their relationship to one another as part of a shared local society (Otero-Pailos, 2010). In light of this, Frampton, (1983) specifies:

> In this way critical regionalism seeks to compliment our normative visual experience by readdressing is that tactilely range of human perceptions. In so doing, it endeavours to balance the priority accorded to the image and to counter the western tendency to interpret the environment in exclusively perspectival terms. According to its it technology, perspective means rationalised sight or clear seeing, and as such it presupposes our conscious suppression of the senses of smell, hearing and taste, and a consequent distancing from a more direct experience of the environment. These are self-imposed limitation relates to that which Heidegger has called a "loss of nearness". In attempting to counter these loss, the tactile opposes itself to the scenographic and the drawing of veils over the surface of reality.

Frampton argued that attention should be directed at the construction joints of buildings by emphasising tectonic, which is non stylistic and expresses straightforwardly the transfer of loads from the sky to the earth (Otero-Pailos, 2010). The importance attributed to construction joint by Semper implies a "syntactic transition" from stereotomic phase of a building to its tectonic structure, which sets the ground for the most authentic essence of architecture (Frampton, 1983). Details can be regarded as the "minimal units of the significations" in the architectural production of meanings: "the detail tells the tale" (Chau, 2009).

The detail reveals the process of signification and the "attaching of meanings to man-produced objects. The details are then the loci where knowledge is of an order in which the mind finds its own working, that is, logos" (Frascari, 1996). Like the botanic who holds the magnifying lens to erase the familiar world and discover a new world, details bring him back to his childhood when he used to explore the plants in his garden, the lost magnifying eye of the child (Bachelard, 2006). With regard to the relationship between the detail and the attached meaning, Frascari (1996) recalls the Italian renaissance architect Alberti:

> Beauty is the result oft he process of signification, and concinnity is the process for achieving it. Concinnity is the correspondence of three basic requirements: 1)Number, 2) Finishing, 3)Collocation. Number is a system of calculation. […] Numbers in this way are tools for giving meaning. In architecture there are elements, and, in order to build. it is necessary to draw numerical correlation among them. […] Finishing is a mathematical procedure for the definition of the dimension the directions in which the space of architectural objects is articulated. The edges of the tridimensional bodies of architecture are defined by a system of proportions. […] An analogical system is a set of norms for the creation and combination of details. […] Then all the parts of the

> building will stand to each other in a direct and intelligible relationship. This relationship stands even when its form does not yet have a verbalised expression. Collocation is the composing by place, that is, the functional placement of the details. […] The detail in this manner is not defined by scale, but, rather, the scale is a tool for controlling it.

Buildings consist of single parts to be jointed together. The quality of these connections determines the ultimate quality of the finished work (Zumthor, 2003). Details fully express the design intent pursued in a determined part of the building: union or disjunction, tension or weightlessness, solidity, fragility (Zumthor, 2003). According to Labatut, the detail unifies the tangible and the intangible of architecture: architectural greatness comes from the precise study and good execution of details (Frascari, 1996). Valéry (2011) reflects on the substantial coincidence between construction and self knowledge, as both of them are conceived as acts of thought.

For Frampton, construction joint, as ”a point of ontological condensation rather than mere connection”, aims at apprehend phenomenologically the haptic and visual experience of the architectural work (Otero-Pailos, 2010). Poetic details are deeply related to the materiality and the relationship of texture and construction, the nature of colour, light, reflection and surface (Chau, 2009). Details can be either "material joints”, as in the case of a capital, which works as connection between column shaft and architrave, or "formal joints”, as in the case of a porch (Frascari, 1996).

By referring to one of the great masters of the 20th century, Mies makes use of welded steel structures to make joints as less visible as possible and to avoid expressing the load transfer and the process of assemblage (Frampton, 1983). Furthermore, the allocation of services operated by his suspended ceilings are totally dissonant with the more structuralist and rationalist belief among the other contemporary architects like Perret, Kahn e Utzon (Frampton, 1983).

As Kahn said: “the joint is the beginning of ornaments and that must be distinguished from decoration which is simply applied. Ornament is the adoration of the joint” (Frascari, 1996). Khan was convinced that tectonic structure, rather than typology and volumetric shape, constitutes the primary condition for monumentality (Frampton, 1983). Furthermore, the fundamental building structure shall be exposed both externally and internally, hence Khan’s refusal for Mies’ hiding structure ceilings (Frampton, 1983).

Torroja’s and Nervi’s works excellently express the powerful simplicity of tectonics: they illustrate what Torroja defined as "synthesis of static aesthetic sensitivity, technical knowledge and mastery of execution”, where “mastery of execution” stands for “construction”, and “technical knowledge” to “structure” (Chau, 2009).

Craftsmanship is a crucial component of architecture tectonic. According to Pallasmaa (2009), mastering a craft is particularly helpful for architects and designers to understand and respect that special skill and experience of the craft executing his design. In this respect, he also asserts:

> I used to think that the architects duty was to design structures and details are as easy to execute as possible. Having realised that every serious professional has his ambition and pride, I have changed my view entirely. Skilled craftsmen and builders like to face challenges, and consequently the work needs to meet the full potential of the maker in order to provide the desired inspiration and satisfaction. Work that is too simple and repetitious kills ambition, self-esteem, pride and, finally, the craft itself.

In their obsession for the invention of new techniques, architects of today have forgotten the need to be experts of the existing ones (Venturi, 1977). In Eupalions, (Valéry, 2011) demonstrates the priority of the process of fabrication (faire) to the product itself (fait), such as the necessity of create meanings and to stimulate imagination.

Renzo Piano believes that an architect should be an artisan as well, whatever tools and instruments he makes us of: computer, physical model, mathematical notions etc. Mind activity is not separated from that one of the hand (Frampton, 1983). Creative work implies a circular process where "you start by a sketch, then you do a drawing, then you make and model, and then you go to reality, you go to the site, and then you go back to the drawing" (Frampton, 1983). Laboratory is more important than the atelier (Tessenow and Grassi, 1976). Despite of being one of the most sophisticated high-tech architects today, Piano has maintained a craftsman's approach in his design approach and execution of the work (Pallasmaa, 2009).

According to recent researches, any mastering of manual skill requires endless practice based on obsessive dedication and commitment, quantified in about 10,000 hours practice on average (Pallasmaa, 2009).

By contemplating a particularly refined and well made object we try to grasp the amount of work, care and skill the maker undertook to get such a brilliant achievement: the value of a work is concealed in those things that we proudly make (Zumthor, 2003). By making reference to the work of the miniaturists of the Middle Ages, Bachelard (2006) asserts:

> Unfortunately, being, as I am, a philosopher who plies his trade at home, I haven't the advantage of actually seeing the works of the miniaturists of the Middle Ages, which was the great age of solitary

> patience. But I can well imagine this patience, which brings peace to one's fingers. Indeed, we have only to imagine it for our souls to be bathed in peace. All small things must evolve slowly, and certainly a long period of leisure, in a quiet room, was needed to miniaturise the world. […] Intuitionists, in fact, take in everything at one glance, while details reveal themselves and patiently take their places, one after the other, with the discursive impishness of the clever miniaturist. It is as though the miniaturist challenged the intuitionist philosopher's lazy contemplation, as though he said to him: "You would not have seen that! Take the time needed to see all these little things that cannot be seen all together." In looking at a miniature, unflagging attention is required to integrate all the details.

Only with the expressive power of the artisanal work, architecture can be freed from the illusion of the trends, tendencies, and generally, everything that detaches human life from reality (Tessenow and Grassi, 1976). Zumthor (2003) believes that theories should always be subordinated to practice, construction and making, in order to satisfy our deepest interior images. He argues that the act of making that reveals a deep knowledge and skill of the matter is the very true essence of architecture.

Before the mid-19th century, when Viollet le Duc and some others started to promote the idea that materials should go with the form they were asked to make, whenever the grain of the materials prevailed, the quasi formless character of the object was given a lower status “as if the craftsmen did not have the skill to overcome the material and bend it to the inflexible will to geometric form” (Ballantyne, 2007). Hylomorphism was the philosophical approach that pursued the physical objects resulted from the combination of matter and form: an organising formal input by an external producer was required to project in advance onto the material which would otherwise have been chaotic (Hale, 2013).

According to Focillon (2002), technique, shapes and materials posses a formal vocation within a relationship of mutual correspondence. It is neither the shape to be imposed by a material, nor the shape to take prevalence on technique (Focillon, 2002). Man can only build by ignoring the level of complexity of the matter he utilises, as in the case of the carpenter, who obtains a table without strictly following the complexity of the wood grains: timber itself will always be more complex than the object made of it (Valéry, 2011).

Materials have “singularities or haecceities that are already like implicit forms that are topological rather than geometrical, and that combine with processes of deformation: for example, the valuable undulations and torsions of the fibres guiding the operation of splitting wood” (Deleuze and Guattari, 1980).

According to Deleuze's study of Leibniz, these "implicit" forms acts as virtual forms which are "folded" into the material (Ballantyne, 2007) In the example of timber and the carpenter, by taking to pieces of timber of the same dimension, the one which follows the grain of the wood is stronger than one that has been sawn geometrically straight (Ballantyne, 2007).

The artists Constantin Brancusi and Tapio Wikkala were deeply concerned with the innate properties of materials, the need to listen to them without imposing a preconceived idea or shape (Pallasmaa, 2009). In this regard, Brancusi also states: "You cannot make what you want to make, but what the material permits you to make" (Pallasmaa, 2009). Mies also refuses the willingness to create unintentional forms as he believes they result from the concrete application of a construction system (Espuelas, 2004). In light of this, Ballantyne (2007) claims:

> A precondition for finding form is to be without form, to suspend the condition of having form, so that a new possibility can emerge. If we define a building type by its form, then it does not need a designer, we already have the design […].

Designers and architects are requested to know the properties of the materials they work with, because they rarely make the objects they design themselves. They have to communicate their ideas and intentions to the specialist craftsmen, whose hands become their "surrogate hands" in the execution of the work (Pallasmaa, 2009). They are also required to experiment with what materials can achieve, become receptive to the particularities that they emit (Hale, 2013).

Everything which is done proper possesses its own order driven by its nature, which determines its form (Zumthor, 2003). The act of human construction depends both from the randomness of original ideas, entirely comparable to the generating activity of the nature, and from the rational organisation of the construction materials within symmetrically and coherently determined relationships (Valéry, 2011).

9. Conclusion

While we do sometimes indeed use silver for teakettles, decanters, saké caps, we prefer not to polish it. On the contrary, we begin to enjoy it only when the lustre has worn off, when it has begun to take on a dark, smoky patina.

Jun'ichirō Tanizaki

Humans do not want their body or the things that they construct to age. Their aim is immortality (Grutter, 2012). They refuse to accept what is the natural course of life, which inevitably leads to death.

In our age of speed, where time vanishes, or is exploded, one of the biggest challenge of art, and architecture as well, seems to be the pursuing time intelligibility, within its experiential perspective. Being our capacity of memory essentially a slow process, speed impedes the memorising process and facilitates forgetting (Pallasmaa, 2011).

From the Modernism, architects have inherited a general revulsion towards any references to death: crumbling constructions and ageing of materials are incompatible with the idea of modernity that refuses the passage of time (Tschumi, 2005). Not by chance, our contemporary sheets of glass, enamelled metal and synthetic materials, provide their “unyielding services to the eye” without expressing their age and history as well as the tale of their birth and human use (Holl et al.,1994).

The patina of wear, the countless scratches on surfaces, the lost gleam of an old paint, the corners smoothed by the use, they all call for the enriching experience of time (Zumthor, 2003). In this regard, Tschumi (2005) argues that Villa Savoye has never been so touching since when the worn plaster was exposing its original brick walling.

Architecture should aim to slow down experience, halt time, and defend that natural slowness and a diversity of experience (Pallasmaa, 2009).

According to Tanizaki (2001), Japanese people much prefer the "impure" varieties of crystal with opaque veins crossing their depths, as Orientals tend to carefully preserve and value every speck of grime, while Westerners generally attempt to eradicate it.

Valéry (2011) reminds us that human creations, made for the body, fall within the Latin principle called utilitas (usefulness), whereas all those ones to serve the soul are

connected to the concept of venustas (beauty). There is also a third principle, firmitas (solidity), which all human works shall pursue when aiming to overcome the forces of nature that perpetually tend to dissolve, corrupt and overturn them. Firmitas expresses the resistance that man wants to oppose, with his creations, to the perishing disposition of destiny.

Making durable things entails love and care. It does not conflict with the acceptance of mortality and ageing processes, it rather enhances life.

Architecture consists of matter exposed to life and exists in the continuum of time (Campbell, 2007). Space becomes place when people starts appropriating it. The ultimate goal of architecture is that of creating spaces that convert into places that acquire a fourth dimension, that one of the time, and eventually a fifth dimension, that one of the connections between people. Transforming spaces into places means emerging meanings from a location given a priori, whose structure is neither fix nor eternal (Norberg-Schulz, 1980)

Architecture enables us to place ourselves in the continuum of culture and to maintain the differentiation and quantitative articulation of existential space (Pallasmaa, 2009) The timeless task of architecture is to create embodied existential meanings that concretise our experience of the world, recognising and remembering who we are (Holl, 1994).

True existential meanings is the real essence of the beautiful form, which has very little in common with what the aesthetics theories tell us. “The beautiful form”, as Zumthor (2006) would say, is “what moves us”. It can be found everywhere, in literature, in music, in a photograph, an icon, a still life, a courtyard, a building.

Architecture must avoid narcissism or self-centredness and defend us against excessive exposure, noise and communication (Pallasmaa, 2009). It should be driven by practical reasons and founded on what we yet know, understand and perceive (Zumthor, 2003).

A good construction, conceived precisely enough for its location and function, manifests the physical and ontological strength for not needing any further artistic completion.

In 1994 Tschumi promoted the architecture of the “night walk lovers”, of the deconstructionists, of the auto-destructionists, at the expense of those ones of the mainstream who pursued the sheltering, connecting, familiarising purpose of buildings. He vigorously believed in the potential of our cities and architectures to promote complete sensual experiences, experimentations and reflections on contemporary society.

It often happens that theoretical formulations elaborated by a particularly inspired mind, once they have been fed to the “intellectual” masses, would eventually loose their positive progressive impulse.

If Deconstructivism in architecture was considered at that time the indispensable choc required to wake society from a long post-modern sleep, the more evident the shatter of its sparkling initial promises it gets, the more persuading power among architecture students and professors it still holds.

Barragan claimed that architecture should deliver together vitality and stillness (Frampton and Gregotti, 1999). Its ultimate task is maintaining and defending silence (Pallasmaa, 2009).

Giving a choc to society is yet necessary, but rather than “auto-destruction”, which is apparently something that human beings could easily pursue without the need of much effort, “taking our authentic emotions back” would be now, the real choc.

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