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The role of empathy in aesthetics and architecture

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INDEX

Introduction p. 3

1. Empathy in Aesthetic Perception

1.1 Definition and conceptualization of empathy p. 4

1.2 The relationship between empathy and aesthetics p. 14

1.3 Empathy as a tool for aesthetic appreciation in architecture p. 22

2. Understanding Empathy in Architecture

2.1 The role of empathy in architectural design p. 27

2.2 Empathetic design principles and strategies p. 34

2.3 Theories of empathy in the architectural field p. 43

3. Case study: Libeskind's Jewish Museum in Berlin

3.1 Overview and historical context p. 47

3.2 Architectural design and spatial experience p. 56

3.3 Exhibitions and narrative strategies p. 78

3.4 User experience and emotional engagement p. 83

3.5 The thoughts of Daniel Libeskind p. 86

Conclusions p. 90

Bibliography p. 92

Abstract

This thesis explores the connection between empathy, aesthetics, and architecture, focusing on the case study of Libeskind's Jewish Museum in Berlin. The concept of empathy is fundamental to understand human experiences, emotions, and the ability to relate to others. Architecture, as an art form, has the potential to evoke empathetic responses and shape the way in which individuals interact with each other and perceive their surroundings. The renowned architectural project of the Jewish Museum, in Berlin, serves as an exemplary case study thanks to its emphasis on empathetic design principles. This research aims to investigate how the incorporation of empathy in architectural design impacts aesthetics and influences human experiences within the built environment.

Introduction

The well-known Swiss art historian, aesthetician and educator Heinrich Wölfflin, in his book *Prolegomena To A Psychology Of Architecture* wrote: "If we were beings who only perceived things visually, an aesthetic judgement of the physical world would always be denied us. However, as human beings with bodies that teach us to know what gravity, contraction, strength and so on are, we acquire the experiences that first enable us to empathize with the conditions of external forms".[1] Starting from this statement, we start from the body, from being human.

In this thesis the body and its emotional basis will be at the centre of the discussion in order to understand the complex psychological and behavioural mechanisms that regulate the relationship of man with aesthetics and architecture. We are *embodied beings*, as Mallgrave write,[2] and our minds and bodies are interconnected with culture, art and build environments.

In the present work, we will consider how, consciously, and not, our emotions shape the way we think and live our urban cultures. What shapes our way of understanding the world around us, is the dynamic relationship between us and matter. The *affective neuroscience*,[3] a field of study that deals with the neural bases of emotions and studies how the brain generates, regulates, and responds to emotions, explains how every perception of the environment corresponds to our emotional experience that conditions our evaluations, even those we retain objective. The contribution that subjectivity gives to our perspective is crucial. Affective neuroscience is a rapidly evolving field of study. New discoveries are being made constantly, which help us to better understand the human brain and its capabilities.[4]

Another important evidence given by the neuro-cognitive science is that some of the brain regions involved in the subjective experience of sensations and emotions are activated also when such emotions and sensations are recognized, from here the crucial role of empathy.

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[1] Wölfflin H., *Prolegomena to a Psychology of Architecture,* Colorado, KeepAhead Books, 2017, pp. 7-8.
[2] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. X.
[3] Some bibliographical examples: LeDoux J. E., *The Emotional Brain,* New York, Simon & Schuster, 1996; Damasio A. R., *The Neuroscience of Decision Making,* New York, Penguin Books, 2010; Panksepp J., *Affective neuroscience. The Foundations of Human and Animal Emotions,* Oxford, Oxford University Press, 1998.
[4] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015.

1. Empathy in Aesthetic Perception

1.1 Definition and conceptualization of empathy

Robert Vischer is among the first authors of the complex season of thought, initially philosophical and then psychological, arisen in Germany and later spread out in all Europe, which takes the name of *Einfühlung* theory. Robert Vischer,[5] scholar of figurative arts and of aesthetic problems, continues the reflections of his father Friedrich Theodor Vischer to open up to psychologizing of the Subject-Object relationship. Robert Vischer coined the term "Einfühlung" (empathy) to describe the way in which we project our own emotions onto inanimate objects, the active process in which we literally feel the works of art.[6] When we experience a great work of art we feel an intensification of our vital sensations, Vischer wrote: "Each work of art reveals itself to us as a person who harmoniously feels himself in a similar object, as a humanity that objectifies itself in harmonious forms."[7]

The main concepts on which Vischer worked are: the necessity of distinguishing between the association of different representation and the direct fusion with the object (*Verschmelzung*) and the concept concerning the controversy of pure forms and the idea of beauty.[8] Vischer argues that in the soul we can find the principle of unity in multiplicity, "with its nervous life and one's whole body".[9] In Vischer, therefore, the psychophysiological component of the empathic concept is fundamental. The experience of form strictly depends on the organization of our body and becomes material for aesthetic perception.[10] The Vischer, father, and son, thus formulate the general principle according to which all laws of regularity, symmetry and proportion are subjective laws

[5] Robert Vischer (1847-1933) was a German art historian and philosopher. He developed the aesthetic theory of "Einfühlung", empathy and wrote notable works of art history, as "Aesthetics", published in 1873, that explored the concept of empathy in greater detail and became a foundational text in the field of art theory (from *Robert Vischer* in treccani.it).

[6] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design*, Firenze, University Press, 2022, p. 21.

[7] Vischer R., *Sul sentimento ottico della forma*, in Vischer R., Vischer F. T., *Simbolo e forma*, Torino, Aragno, 2003, pp. 94-95 (my translation).

[8] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti*, Università degli studi "Sapienza" di Roma, 2013, p. 38.

[9] Vischer F.T., Vischer R., *Simbolo e Forma*, edited by Pinotti A., Torino, Aragno, 2003, p. 15 (my translation).

[10] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti*, Università degli studi "Sapienza" di Roma, 2013, p. 39.

of the normal human body, and that only as such can they have some value for aesthetics.[11]

Robert Vischer also focuses his attention on the development of the theory of symbol: a perspective in aesthetics that addresses the role of the symbol in aesthetic experience. According to Vischer, aesthetic experience involves a fusion of subjective and objective elements.[12] The symbol, in his theory, acts as a bridge between the artistic object and the subject who perceives it; it represents a wider and deeper meaning, which goes beyond its physical manifestation. Vischer identified three key elements in symbolism: the symbol itself, the subject who perceives and interprets the symbol, and the object or artwork which serves as the vehicle of the symbol.[13] Through the process of perception and interpretation of the symbol, the subject is able to get in touch with the essence of the artwork and to connect to universal meanings.[14] From here the connection with the empathy because through empathy, we can tune into the emotions and experiences that the artist has sought to express through the symbol, thus allowing for a deep emotional and intellectual participation in the work of art or architecture itself. The link between symbol theory and empathy lies in the ability of empathy to facilitate understanding and interaction with the symbol in the aesthetic experience, allowing the subject to connect emotionally and intellectually to the work of art and to grasp deep and universal meanings.[15]

This corporeistic approach will not be shared by all the theorists of empathy, Lipps in primis.[16]

Theodor Lipps, born in the mid-nineteenth century, was a philosophy professor in Munich.[17] As the cornerstone of his own philosophical conception in the great debate on

[11] Herder J.G., *Plastica* (1778), edited by Maragliano G., Palermo, Aesthetica, 1994, p. 29.
[12] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti*, Università degli studi "Sapienza" di Roma, 2013, p. 44.
[13] *Ibidem.*
[14] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti*, Università degli studi "Sapienza" di Roma, 2013, p. 45.
[15] Vischer F.T., Vischer R., *Simbolo e Forma*, edited by Pinotti A., Torino, Aragno, 2003.
[16] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti*, Università degli studi "Sapienza" di Roma, 2013, p. 40.
[17] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti*, Università degli studi "Sapienza" di Roma, 2013, p. 47.

aesthetics that animated Germany in the 19th century, he chose the concept of empathetic feeling.[18]

According to Lipps, there is a so-called "*feeling of self*" which refers to the subjective awareness that an individual has of their own self, their experiences, and their mental states but also the perception and attribution of oneself as an object for others.[19] In this perspective, therefore, also from objects we can get a perception of our own life, as they are felt, empathized, as positive, or negative, depending on how they are perceived by the contemplative ego. Empathy, then, becomes the ability to project the *feeling of self* onto external objects and perceive these objects in relation to oneself, this encompasses also internal subjective experience.[20]

Another big step in the evolution of the concept of empathy, was done in the early years of the twentieth century by the philosopher Edmund Husserl.[21] He addressed the question of the relationship between subject and object, as well as the understanding of other subjects within the context of *intersubjectivity*, that is, in the understanding of other subjects within the context of social relations and shared experience.[22] According to Husserl, empathy implies an imaginative projection that allows us to go beyond our individual perspective and to understand the point of view of the other subject.[23] This involves a process of "reduction" in which we suspend our biases and interpretations to open up a space for understanding the other.[24]

Husserl argues that the physical object is exclusively what manifests to us in our direct experience, without the involvement of prior judgments or interpretations.[25] This direct manifestation of the physical object in its "*original givenness*"[26] occurs through intentional acts of pure consciousness. Husserl maintains that the perception of the world

[18] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti,* Università degli studi "Sapienza" di Roma, 2013, p. 48.
[19] Lipps T., *Empatia e godimento estetico,* in *Discipline Filosofiche,* n. 12 (2002), p. 34 (translation by Andrea Pinotti).
[20] *Ibidem.*
[21] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti,* Università degli studi "Sapienza" di Roma, 2013, p. 49.
[22] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti,* Università degli studi "Sapienza" di Roma, 2013, p. 50.
[23] Lipps T., *Empatia e godimento estetico*, in *Discipline Filosofiche,* n. 12 (2002), p. 63 (translation by Andrea Pinotti).
[24] *Ibidem.*
[25] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti,* Università degli studi "Sapienza" di Roma, 2013, p. 50.
[26] Husserl E., *Idee fenomenologiche sopra la costituzione*, in *Idee per una fenomenologia pura e una filosofia fenomenologica*, Torino, Einaudi, 2002, p. 1376 (my translation).

may differ among individuals because the way in which the physical object reaches consciousness can be different. Therefore, the physical object is solely determined by our perception and observation.[27]

In this philosophical field, where the conscience plays a fundamental role, a new philosophical definition of empathy is placed by Edith Stein, a student of Husserl.[28]

Stein, a 20th-century German philosopher and psychologist, regarded empathy as an essential capacity for understanding others and for intersubjective experience.[29] According to Stein, empathy involves a process of "co-presence" or "mental presence" within the experience of the other subject, but also an affective and experiential dimension.[30] Empathy becomes an act of conscience, but, in contrast to Lipps, there is one identification between subject and object.[31] Stein distinguished two forms of empathy: aesthetic empathy and personal empathy.[32] Aesthetic empathy refers to the ability to understand the objective experience of a work of art, while personal empathy concerns the understanding of the other subject as a person.[33]

Empathy becomes a medium essential for accessing to the richness of the existence of others beside us and to reality. At the time of Stein's study this meant "strive for a conception of reality that is all the more comprehensive as it is capable of embracing the data in which the infinite variations of existence and personal experience are most reflected".[34]

Stein argued that access to the reality of the outside world was guaranteed by the perception of things, but also by the comparison with the experience of others and their perspectives: empathy (*Einfühlung*).[35] The attention that is therefore placed on the concept of empathy is essential to observe and to describe our existence together with others. Stein wrote that the empathic experience is not a feeling, a sympathy, an internal

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[27] Husserl E., *Idee fenomenologiche sopra la costituzione*, in *Idee per una fenomenologia pura e una filosofia fenomenologica*, Torino, Einaudi, 2002, p. 1376.
[28] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti*, Università degli studi "Sapienza" di Roma, 2013, p. 50.
[29] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti*, Università degli studi "Sapienza" di Roma, 2013, p. 51.
[30] *Ibidem.*
[31] *Ibidem.*
[32] Stein E., *Il problema dell'empatia*, Roma, Edizioni Studium, 1985, p. 50.
[33] Stein E., *Il problema dell'empatia*, Roma, Edizioni Studium, 1985, p. 51.
[34] Boella L., *Sentire l'altro. Conoscere e praticare l'empatia*, Milano, Raffaello Cortina Edizioni, 2006, p. 9 (my translation).
[35] Stein E., *Storia di una famiglia ebrea*, Roma, Città Nuova, 2007, p. 246.

perception, or similar to compassion and love, but it is an original and concrete act aimed at capturing a foreign lived, painful or otherwise.[36] In order to fully experience the empathic experience, it is necessary to get rid of the constructions that instinctively bring us closer to reality, to bring out our ego that guides us from within, aware of the uniqueness of the lived reality we find ourselves in front of, regardless of the different perspectives that it can assume in the various objective and subjective contexts.[37]

According to more recent interpretations, Edith Stein allows us to understand meaning of "feeling the other: being in relationship is the horizon within which the totality of the ego is manifested, within which the subject presents himself in the entirety of his experiences".[38]

More in general, this approach considers that, in the perspective of empathy, the essence of the person is not completed in reflection on one's own actions or in perception and knowledge of objective reality.[39] Rather, it corresponds to an openness, to being, and therefore collect, with all the nuances, the various experiences of joy and pain, of longing, of living together in a society.[40] Stein aspires to a conception of reality that is complete and capable of accommodating the infinite variations of existence and personal experience. In this way, the elements of a world in continuous transformation become fundamental, and consequently from strong personal crises, with increasingly closed and lost lives.[41]

Edith Stein found in empathy, an individual act that, as we read in a writing from the 1930s, "we use daily in our relationship with other human beings",[42] the resource capable of renewing and developing the potential of human existence.[43]

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[36] Boella L., *Sentire l'altro. Conoscere e praticare l'empatia*, Milano, Raffaello Cortina Edizioni, 2006, p. 12.
[37] *Ibidem.*
[38] Boella L., *Sentire l'altro. Conoscere e praticare l'empatia*, Milano, Raffaello Cortina Edizioni, 2006, p. 14 (my translation).
[39] Boella L., *Sentire l'altro. Conoscere e praticare l'empatia*, Milano, Raffaello Cortina Edizioni, 2006, p. 15.
[40] *Ibidem.*
[41] Boella L., *Sentire l'altro. Conoscere e praticare l'empatia*, Milano, Raffaello Cortina Edizioni, 2006, p. 14.
[42] Stein E., *Vita muliebre cristiana*, in *La donna. Il suo compito secondo la natura e la grazia*, Roma, Città Nuova, 1995, p. 197 (my translation).
[43] Boella L., *Sentire l'altro. Conoscere e praticare l'empatia*, Milano, Raffaello Cortina Edizioni, 2006, p. 10.

It is also interesting to consider the criticisms of other empathic theories, such as that of Max Scheler. He, 20th century philosopher, in opposition to Husserl, which defines empathy as "a dark and even tormenting [...] enigma",[44] criticizes Husserl's conception of consciousness as "pure intentionality".[45] Scheler argued that Husserl did not adequately consider the role of emotions in the constitution of experience.[46] Scheler attributed central importance to emotions as modes of knowledge and as factors that influence our way of perceiving and understanding the world. Scheler's empathic theory is based on the idea that knowledge of the other and understanding their experiences and emotions are possible through empathy.[47] Scheler believed that empathy is not only a cognitive process but also an affective and volitional phenomenon.[48]

Scheler distinguishes between two types of empathy: affective empathy and intellectual empathy.[49] Affective empathy involves feeling the emotions and moods of the other person, while intellectual empathy involves understanding the experiences and mental perspectives of the other. For Scheler, empathy is essential for understanding social and moral reality.[50] Through empathy, we can understand the motivations and values of others, which allows us to relate and live in society more effectively.[51] It is important to note that Scheler's empathic theory is not limited solely to interpersonal relationships but also has implications for ethics and understanding moral values.[52]

This alternative that the two philosophers, Husserl and Scheler, propose to us: on the one hand a vision focused on emotional and cognitive experiences that allow us to experience empathy and on the other a vision more interested in cultural, anthropological phenomena, where the I and the other are indistinguishable.[53]

This is our starting point, a decisive point to understand that empathy is not sympathy, compassion, or love. Empathy creates contact but does not correspond to emotional

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[44] Husserl E., *Logica formale e trascendentale*, edited by Neri G.D., Bari, Laterza, 1966, p. 295 (my translation).
[45] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti*, Università degli studi "Sapienza" di Roma, 2013, p. 53.
[46] Stein E., *Il problema dell'empatia*, Roma, Edizioni Studium, 1985, p. 52.
[47] Stein E., *Il problema dell'empatia*, Roma, Edizioni Studium, 1985, p. 104.
[48] Stein E., *Il problema dell'empatia*, Roma, Edizioni Studium, 1985, p. 105.
[49] *Ibidem.*
[50] Stein E., *Il problema dell'empatia*, Roma, Edizioni Studium, 1985, p. 106.
[51] Stein E., *Il problema dell'empatia*, Roma, Edizioni Studium, 1985, p. 107.
[52] Stein E., *Il problema dell'empatia*, Roma, Edizioni Studium, 1985, p. 108.
[53] Boella L., *Sentire l'altro. Conoscere e praticare l'empatia*, Milano, Raffaello Cortina Edizioni, 2006, p. 4.

participation or a common affection. It is quite the road to access something else, represents the condition of possibility of the feelings mentioned above, as well as of the different forms of understanding others.

"The emotion of the encounter is this: the upheaval, the amazement, the surprise deriving from the birth of a search aroused by the appearance of the other".[54] However, this encounter is not a spontaneous and simple act. As individuals, we often resist it due to our own illusions and blindness, preoccupied with our existing feelings and emotions.[55]

Philosopher John Dewey[56] posits that art serves as a human construction of meaning, transforming our embodied and social experiences into new, more intense, and harmonious experiences that enrich the meanings we perceive.[57] Dewey recognizes art as a guide to the realization of the aesthetic experiences of our daily lives.[58] In this context, the emotion of encounter aligns with Dewey's view, emphasizing the potential for profound transformations and heightened experiences through engagement with the other. Art, in this context, is not catalogued separately but interconnected with all other forms of human activity.[59] The aesthetic experience can be defined as the result of the interaction between man and the environment which, when it reaches its peak, transforms into participation and communication through the sensory organs.[60] The existence of art is the result of man's application of materials and energy from nature in order to expand his life.[61] "Art is the living and concrete proof that man is capable of restoring consciously, and thus on the plane of meaning, the union of sense, need, impulse and action characteristic of the live creature."[62]

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[54] Boella L., *Sentire l'altro. Conoscere e praticare l'empatia*, Milano, Raffaello Cortina Edizioni, 2006, p. 31 (my translation).
[55] Boella L., *Sentire l'altro. Conoscere e praticare l'empatia*, Milano, Raffaello Cortina Edizioni, 2006, p. 32.
[56] John Dewey (1859-1952) was an American philosopher, psychologist, and educator. He is considered one of the most important thinkers of the 20th century, and his educational theory was foundational to the development of progressive education. In his book "Art as Experience", he criticizes the estrangement of art and religiosity (which he values as an attitude and rejects as a belief in the supernatural) from real everyday life: aesthetic and religious experience are irreplaceable harmonizing factors in our concrete commitment to social life and their values should not be distinguished from intellectual ones (from *John Dewey* in treccani.it).
[57] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design*, Firenze, University Press, 2022, p. 54.
[58] *Ibidem.*
[59] *Ibidem.*
[60] Dewey J., *Art as experience*, New York, Perigee Books, 1980, p. 22.
[61] Dewey J., *Art as experience*, New York, Perigee Books, 1980, p. 25.
[62] *Ibidem.*

According to Dewey, each of us absorbs certain aspects of the values and significance held within previous experiences. However, some elements become deeply ingrained, while others remain superficial and easily displaced.[63] In this context, artistic expression and empathy can emerge as a result of this process of absorption and sedimentation of experiences. Historically, the old poets often called upon the muse of Memory as if it were entirely external to themselves, beyond their current conscious awareness.[64] This approach can be interpreted as a way for artists to attribute value and meaning to their past experiences, seeing them as external sources of inspiration that can be called upon in the creative process. Some event, regardless of its nature, awakens the personality: this awakening prompts the need for expression.[65] The event that awakens the personality represents a crucial point in Dewey's thought. This awakening can be seen as the moment when a past experience, perhaps deeply rooted in memory, becomes particularly relevant or stimulating to the individual. In this awakened state, the need for expression arises, which can take the form of art or other modes of creative communication. In this context, empathy could be considered as the ability to understand and share the feelings of others based on one's own personal experiences, underlining the link between memory, expression and the ability to relate to the experiences of others. Artistic expression therefore becomes a means through which individuals can communicate and share their inner experiences, trying to arouse empathy and understanding towards others.

The perspective articulated by John Dewey regarding memory, artistic expression, and empathy aligns with the contributions of Jaak Panksepp in affective neuroscience. Dewey's notion that individuals absorb elements of values from past experiences, coupled with Panksepp's exploration of the neural foundations of emotions, suggests an intricate interplay between our embodied experiences and the biological underpinnings of emotions. The bridge between Dewey's humanistic philosophy and Panksepp's empirical exploration lies in the shared recognition of the intricate connections between memory, emotion, and the expressive aspects of human experience.

[63] Dewey J., *Art as experience*, New York, Perigee Books, 1980, p. 71.
[64] *Ibidem.*
[65] Dewey J., *Art as experience*, New York, Perigee Books, 1980, p. 92.

Jaak Panksepp,[66] discovered the brain systems underlying primal emotions, particularly the emotions of joy and playfulness in mammals.[67] He conducted experimental research to investigate the neural circuits associated with emotion and behaviour.[68] Panksepp coined the term "*affective neuroscience*" to describe the field of study that focuses on the neural foundations of emotions and feelings.[69] He wrote extensively on this subject, in particular his book *Affective neuroscience. The Foundations of Human and Animal Emotions* (1998) is still a seminal work in this field of study. The premise of Jaak Panksepp's research is human consciousness in its neurological journey. He writes: "It is not peripheral bodily changes that are the main sources of our emotional feelings, but rather the central neural circuit dynamics that generate instinctive emotional actions and the related automatic changes that support those actions."[70] For Panksepp, therefore, emotions are genetically "programmed" and generated in the subcortical areas that function as integral parts of the pleasure circuit, i.e. the neuronal structures that have the function of making us feel pleasure.[71]

Another primary emotional effect studied for a long time by Panksepp is "*research*", considered as the condition of curiosity that pushes any living being to explore the world around him and to seek neuronal stimuli.[72] For Panksepp, research is the underlying condition of life, the one that leads us to the discovery and, subsequently, to the appreciation of art.[73]

Alongside these researches, also those of the Antonio Damasio[74] study developed, which presented his *"ipotesi del marcatore somatico"* in the early 1990s, according to which: through the emotional and somatic responses we give to events in the past, we trigger

[66] Jaak Panksepp (1943-2017) was an Estonian-American psychologist and neuroscientist renowned for his contributions to the field of affective psychology and neuroscience (from *Jaak Panksepp* in Società psicoanalitica italiana, https://www.spiweb.it/la-ricerca/ricerca/jaak-panksepp-neuroscienziato-affettivo-1943-2017/ (consulted on 01/02/2024).
[67] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 139.
[68] *Ibidem.*
[69] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 27.
[70] Panksepp J., *On the embodied neural nature of core emotional affects,* in *Journal of Consciousness Studies,* n. 12 (2005), p. 164.
[71] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 139.
[72] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 140.
[73] *Ibidem.*
[74] Antonio Damasio is a Portuguese American neuroscientist, psychologist, and philosopher, born on 1944. He is known for his studies in cognitive neuroscience, particularly for his work on the significance of emotions and consciousness in human decision-making and behaviour (from *Antonio Damasio* in treccani.it).

emotions and physiological memories of previous responses emotional responses which then condition our future responses.[75] These emotional responses correspond to our feelings which are often unconscious and usually arise from neuronal activities or via cortical reflection processes in the somatosensory regions of the brain.[76] According to Damasio, human beings are not rational beings, because we are totally immersed in our cognitive and reflective activities.[77] "Il corpo sa quello che la mente non può dire" as an ancient proverb says.

Our life is based on emotional responses which are preconditioned vital systems, linked to the survival instinct but which are nevertheless based on sensory experience.[78] Hence the sensorial suggestion that the origin is the same for our responses to works of art, our first reaction is linked to the sensorial experience we live.[79] And it is precisely architecture that allows us to be in total multisensory contact with our body, immersed in the environment that surrounds us.

For Damasio emotions and feelings are distinct and the former originates before we become aware of our feelings, which he himself defines: "composite perceptions of what happens in our body and mind when an emotion occurs".[80]

One of the main conclusions we can draw from all this survey on emotions is that our thinking and our emotional responses to art and the environment are driven from below, by emotional and/or bodily activity. Our stream of consciousness is in continuous interaction and changes with stimuli.[81] From here we can get a suggestion regarding how we can experience architecture, in particular. Not randomly, but with our body integrally, through our emotional, physiological responses to the environment.[82] Judgments and reflections regarding taste and beauty can arrive and be considered secondarily, first we experience the building emotionally, through the homeostatic mechanisms of our body, which in some cases can also be perceived in a very intense manner.[83]

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[75] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 141.
[76] *Ibidem.*
[77] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 141.
[78] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 142.
[79] *Ibidem.*
[80] Damasio S., *Il sé viene alla mente. La costruzione del cervello cosciente,* Milano, Adelphi, 2012, p. 144 (my translation).
[81] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 144.
[82] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 145.
[83] *Ibidem.*

1.2 The relationship between empathy and aesthetics

Towards the end of Damasio's previously mentioned study, the homeostatic principle was also extended to cultural conditions. The neuroscientist claims that over time human beings have become increasingly aware of the imbalances present in the social system.[84] Likewise, arts have become an expression originating from the homeostatic impulse.[85] The primordial arts obviously showed the threats and opportunities of the time. Subsequently, ornaments, decorations, colours, rhythms entered our existence, but always maintaining their homeostatic and emotional value.[86]

Empathy and emotional resonance are closely intertwined concepts in the realm of art. Both pertain to the ability to understand and share the emotions represented or evoked by a work of art. Aesthetic empathy occurs when a viewer can put themselves in the shoes of the artist and comprehend the emotions and intentions the artist sought to convey.[87] This emotional engagement can allow the audience to connect more deeply with the artwork and experience a form of empathic understanding. Emotional resonance, on the other hand, occurs when the artwork evokes intense emotions in the viewer, creating a kind of emotional echo.[88] This can be achieved through the representation of situations, characters, or themes that resonate with the viewer's personal experience. Emotional resonance can generate strong reactions and a profound connection between the viewer and the artwork. Empathy and emotional resonance mutually reinforce each other, and both are crucial aspects of the aesthetic experience. They contribute to art's ability to elicit emotions, create emotional connections between people, and foster a broader understanding of human experiences.[89]

The role of empathy in the aesthetic field is a topic of considerable importance and scholarly inquiry.[90] Understanding how empathy functions within the realm of aesthetics

[84] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 144.
[85] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 145.
[86] *Ibidem.*
[87] Dewey J., *Art as experience,* New York, Perigee Books, 1980, p. 105.
[88] Dewey J., *Art as experience,* New York, Perigee Books, 1980, p. 106.
[89] Dewey J., *Art as experience,* New York, Perigee Books, 1980, p. 190.
[90] Some bibliographical examples: Panksepp J., *Affective Neuroscience: The Foundations of Human and Animal Emotions,* Oxford, University Press, 1998; Stein E., *On the Problem of Empathy,* 1917; Vischer R., Fiedler C., Wölfflin H., Göller A., Hildebrand A., Schmarsow A., *Empathy, form, and space: problems in German aesthetics, 1873-1893,* Texts & Documents, 1994.

is crucial for comprehending the nuanced dynamics of artistic experience and engagement.

Empathy, as an emotional and cognitive process, plays a pivotal role in aesthetic appreciation and interpretation. It allows individuals to emotionally connect with and understand the intentions, emotions, and perspectives embedded within artworks.[91] Empathy enables the elicitation and shared experience of intense emotions evoked by the artistic creation.[92] This emotional resonance creates a powerful bond, fostering a deeper connection and sense of relatability between the viewer and the artwork.[93]

The interplay between empathy and aesthetic experiences is reciprocal.[94] Engaging in empathic responses towards artworks enhances the potential for emotional resonance, while art that successfully evokes emotional resonance can engender a heightened empathic understanding of the depicted human experiences. The role of empathy in the aesthetic field cannot be overstated. It serves as a bridge. Scholarly exploration of empathy's multifaceted influence within aesthetics continues to contribute to our comprehension of the intricate dynamics between art and human experiences.[95]

Vernon Lee,[96] an important and sensitive artist, has developed a theory which has something in common with the German theory of Einfühlung, empathy. According to her, "art" signifies a group of activities, constructive, logical, and communicative, there is nothing aesthetic about art itself.[97] The results of the arts become aesthetic "in response to a totally different desire having its own reasons, standard, imperative",[98] the desire for shapes, and this desire arises because of the need for satisfaction of relations among our modes of motor imagery. Therefore, direct sensuous qualities such as those of colour and

[91] Dewey J., *Art as experience,* New York, Perigee Books, 1980, p. 54.
[92] *Ibidem.*
[93] Dewey J., *Art as experience,* New York, Perigee Books, 1980, p. 55.
[94] Dewey J., *Art as experience,* New York, Perigee Books, 1980, p. 106.
[95] *Ibidem.*
[96] Pseudonym of Violet Paget (1856-1935), who was a prolific British writer known for her wide-ranging literary output. She was also a well-connected intellectual who had associations with prominent cultural and artistic figures of her time. Vernon Lee's work and her relationships with other intellectuals of her time provide valuable insights into the cultural and intellectual currents of the late 19th and early 20th centuries (from *Vernon Lee* in treccani.it).
[97] Dewey J., *Art as experience,* New York, Perigee Books, 1980, p. 101.
[98] Lee V., Anstruther-Thompson C., *Beauty and Ugliness and Other Studies*, in *Psychological Aesthetics*, London & New York, John Lane, 1912, p. 9.

tone are not pertinent.[99] The request for forms is fulfilled when our motor imagery reproduces the relationships embodied in an object.[100]

Works of art, as expressive objects, use different languages.[101] Each type of art has its own means of communication.[102] All these languages can only exist if "heard" by someone.[103] A work of art reaches its completion when it manages to become part of someone's experience.[104] Therefore, this language of art requires three elements: the speaker, the message, and the listener. "All language, whatever its medium, involves what is said and how it is said, or substance and form."[105] In conclusion, this exploration of the languages of art illuminates the intricate dynamics between expressive objects and those who perceive them. Furthermore, it is clear that a work of art reaches its completion not only in its creation but when it integrates perfectly into someone's lived experience.

The concept of empathy, as we have previously illustrated, emerges in the aesthetic reflection of the late nineteenth century through the works, among many, of Robert Vischer, who build upon and develop Hegel's conception of *beauty* as a reflection of the spirit.[106] He transformed the age-old philosophical notion of "*beauty complexity of parts*" into "*beauty complexity of subject object acts*" through a reciprocal implication (*Ineinander*).[107]

"*Ineinander*" is a German word that can be translated into Italian literally as "within the other" or "one within the other".[108] The term can be used to describe a situation where several elements are closely interconnected with each other. In the aesthetic context, this term can be used to describe the harmonious interweaving or connection of different parts or elements within a work of art. In this context, "*Ineinander*" indicates a condition in which the different components create a unitary and well-structured whole.[109]

[99] Dewey J., *Art as experience,* New York, Perigee Books, 1980, p. 101.
[100] *Ibidem.*
[101] Dewey J., *Art as experience*, New York, Perigee Books, 1980, p. 106.
[102] *Ibidem.*
[103] *Ibidem.*
[104] *Ibidem.*
[105] *Ibidem.*
[106] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti,* Università degli studi "Sapienza" di Roma, 2013, p. 46.
[107] *Ibidem.*
[108] Pinotti A., *Empatia: "un termine equivoco e molto equivocato"*, in *Discipline Filosofiche*, n. 12 (2002), p. 74.
[109] *Ibidem.*

This notion of interconnectedness extends into the development of "science of art" (*Kunstwissenshaft*), a concept cultivated within German nineteenth century theory.[110] Sholars like Gustav Fechner, who in 1870 proposed an "experimental aesthetic" that was able to correlate the value of a sensory stimulus to its psychological effects, gave rise to aesthetic psychology.[111] The emergence of this discipline reflects a deep-seated commitment to understanding the intricate relationship between sensory experiences and their psychological impact, aligning with the holistic and interconnected spirit embodied by the term "*Ineinander*" in the aesthetic realm.

In the sixties and seventies of the twentieth century, a new approach begins to develop, challenging the traditional centrality of beauty in the aesthetic experience. During this period, advancements in brain visualization techniques become prominent, marking a shift in how scholars perceive and study aesthetic phenomena.[112] This shift reflects an evolving understanding of aesthetics that goes beyond the confines of traditional beauty, incorporating insights from neuroscientific exploration into the intricate workings of the brain during aesthetic encounters. The interplay of these developments underscores the continuous evolution of the aesthetic discourse, from its roots in interconnectedness to a more nuanced exploration of the cognitive and neural dimensions of aesthetic experience.

Speaking of art and perception, it should be mentioned that the "peak shift" effect plays an important role.[113] In the context of art, this term indicates an aesthetic principle that consists of accentuating and exaggerating visual characteristics to elicit an emotional response or greater attraction from spectators.[114] This is made possible through the stimulation of particular areas of the brain, consequently influencing the reactions of the spectators. The integration of the "peak shift" effect further enriches the understanding of how aesthetic experiences are intricately linked to neurological processes, adding a layer of complexity to the ongoing exploration of the interconnected nature of art and cognition.

In the contemporary art world, in search of novelty and effect, the arts and architecture are often defined as self-expression of artists and architects.[115] However, the perspective

[110] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 42.
[111] *Ibidem.*
[112] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 43.
[113] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 44.
[114] *Ibidem.*
[115] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 62.

of artists like Balthus[116] challenges the notion of artistic self-expression as the sole purpose of creation. Balthus critiques the idea that an artwork merely expressing the creator's personality is redundant, asserting that what is truly compelling is the ability to express and comprehend the world.[117]

Connecting these threads, Balthus's critique aligns with the earlier exploration of interconnectedness and the holistic nature of art. The emphasis shifts from individual expression to a broader engagement with the world. The evolving discourse, incorporating neurological insights and critiques of self-expression, highlights the dynamic and multifaceted nature of the relationship between art, perception, and the human experience.

Amidst these evolving perspectives, the concept of beauty underwent significant transformation. Throughout much of the twentieth century, beauty was considered subjective, seemingly losing relevance in the artistic and architectural spheres.[118] This reconsideration of beauty set the stage for a continuation of the discourse. As the narrative unfolded, scientists sought to identify the neuronal basis of the aesthetic experience, contending that it involves a multi-layered process beyond visual analysis.[119] "an aesthetic experience is what allows the person who experiences it to 'perceive-feel-warn' (from the Greek *aisthesis-aisthanomai*) a work, and this in turn implies the activation of sensory-motor, emotional and cognitive mechanisms [...] The aesthetic experience is a multi-layered process that goes beyond a purely visual analysis of the work of art and which it rests on the viscero-motor and somato-motor resonance by those who try that experience."[120]

Building upon the evolving discourse on aesthetics, an essential contribution comes from David Freedberg's work "*Motion, emotion and empathy in aesthetic experience".* Freedberg emphasizes a crucial element in aesthetic response, asserting that the activation

[116] Balthus (1908-2001), pseudonym of the French painter Balthasar Klossowski. His pictorial activity has always taken place independently of artistic movements. His painting takes up forms and motifs from the art of past centuries, from Piero della Francesca to Ingres, in a constant search for correspondences between a severe formal study and the evocation of an everyday reality often captured in its most disturbing and emblematic (from *Balthus* in treccani.it).
[117] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 62.
[118] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 58.
[119] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 59.
[120] Di Dio C., Gallese V., *Neuroaesthetics: a review*, in *Current Opinion in Neurobiology*, n. 19 (2009), pp. 682-687.

of universal mechanisms, such as the simulation of actions, emotions, and bodily sensations, plays a fundamental role.[121] Freedberg's insights add a layer to the exploration of aesthetic experience by highlighting the universal nature of certain mechanisms involved.[122] This aligns with the earlier discussion on interconnectedness, sensory experiences, and the cognitive dimensions of art. The recognition of universal mechanisms underscores the shared foundations that contribute to the profound nature of aesthetic encounters across diverse individuals and cultural contexts.[123] In this continuum of thought, Freedberg's work reinforces the notion that aesthetic experiences extend beyond subjective interpretations and involve a complex interplay of actions, emotions, and bodily sensations. As the discourse on aesthetics unfolds, these insights provide a bridge to understanding the intricate layers of the human response to art, inviting a deeper exploration into the universal aspects that underlie the diverse and rich tapestry of aesthetic encounters.[124]

According to Freedberg, the three main different reactions to works of art are: the sensation of physical involvement with what is represented; the identification and perception of the observed emotions; a feeling of empathy for bodily sensations.[125] Empathic responses to works of art, are the basis of the process that allows the understanding of direct experience of intentional and emotional content of what is observed.[126] All this represents a challenge for the aesthetic theory of the twentieth century, according to which aesthetic judgments are prerogative of conscious reflection, or of human subjectivity.

The emotional foundation has several implications. It is interesting that, as put in evidence by Steven Brown and Ellen Dissanayake, who considered the area of the orbitofrontal cortex (OFC) the one dedicated to emotions, even the pleasure deriving from personal and social relationships, such as love or friendship, are based on this brain area.[127]

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[121] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti,* Università degli studi "Sapienza" di Roma, 2013, p. 103.
[122] *Ibidem.*
[123] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti,* Università degli studi "Sapienza" di Roma, 2013, p. 106.
[124] Freedberg D., Gallese V., *Motion emotion and empathy in esthetic experience*, in *Cognitive Sciences*, vol. 11, n. 5 (2007), pp. 197-203.
[125] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti,* Università degli studi "Sapienza" di Roma, 2013, pp. 107-108.
[126] Garramone V., *Studio dell'empatia in architettura - Analisi_Metodi_Esperimenti,* Università degli studi "Sapienza" di Roma, 2013, p. 109.
[127] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 62.

In the realm of neuroscience and aesthetics, a pioneering exploration led by a group of researchers from the University of Parma has delved into the intricacies of the human brain's response to art.[128] At the heart of their investigation lies the enigmatic realm of *mirror neurons* and *embodied simulation*, seeking to unravel the neural foundations of what we commonly understand as the aesthetic experience.[129] This scientific endeavour aims to move beyond traditional visual analyses of artworks, proposing a multi-level, dynamic process that engages not only visual perception but also visceromotor and somatomotor resonance within the observer.[130] Grounded in a holistic approach, the neuroscientists assert that the aesthetic experience involves a profound interplay of sensorimotor, emotional, and cognitive mechanisms, challenging conventional notions of passive observation. As we delve into the intricacies of their research, we uncover a fascinating journey into the depths of how our brains perceive, feel, and sense the artistic expressions that surround us. According to the neuroscientists involved in the research: "aesthetic experience is a multilevel process exceeding a purely visual analysis of artworks and relying upon visceromotor and somato-motor resonance in the beholder. [...] an aesthetic experience is one that allows the beholder to 'to perceive-feel-sense' an artwork (from the Greek *aisthesis-aisthanomai*), which in turn implies the activation of sensorimotor, emotional, and cognitive mechanisms."[131]

Our ability to understand others (the empathy) is the foundation of human relationships. The group of research of Parma guided by Giacomo Rizzolatti,[132] already mentioned, studied the relationship between touch and social cognition. According to Gallese, through embodied simulation we can understand the experience of others with the activation of the same neuronal structures that are involved in our bodily experiences.[133]

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[128] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 63.
[129] *Ibidem.*
[130] *Ibidem.*
[131] Di Dio C., Gallese V., *Neuroaesthetics: a* review, in *Current Opinion in Neurobiology*, n. 19 (2009), p. 682.
[132] Rizzolatti Giacomo is an Italian neuroscientist, graduated in Medicine from the University of Padua and specialized in Neurology (1967). Considered the discoverer of mirror neurons, motor cells of the brain that are activated during the execution of targeted movements and also in the observation of similar movements performed by other individuals, he highlighted their centrality both in learning by imitation and in the phenomenon of 'empathy. Among his publications it is worth mentioning: *I recettori, la sensibilità somatica, il talamo, la corteccia cerebrale* (1981); *Il neurone, le sinapsi, i riflessi* (1981); *Lezioni di fisiologia del sistema nervoso* (1998); *So quel che fai. Il cervello che agisce e i neuroni specchio* (con C. Sinigaglia, 2006); *Nella mente degli altri. Neuroni specchio e comportamento sociale* (con C. Sinigaglia, 2007); *Specchi nel cervello. Come comprendiamo gli altri dall'interno* (con C. Sinigaglia, 2019) (from *Rizzolatti Giacomo* in treccani.it).
[133] Gallese V., Ebisch S., *Embodied Simulation and Touch: The Sense of Touch in Social Cognition*, unpublished work, 2013.

We do not understand others simply by looking at them and deducing their mental state, but by perceiving precisely in our bodies what the other person is experiencing, sight and touch are interconnected.[134]

This emergent receptivity is not limited to animate beings alone, but also extends to inanimate objects.[135] The function of the somatosensory cortex has also been linked to empathic capacity. Our sense of touch is involved in our ability to feel empathy and, by extension, social perception.[136] And so, we can understand that it is when the architect (or artist) refers to sensations of touch and mobility, with the related emotions of heat, shape, and texture that a work of architecture (or art) achieves creative appeal, it becomes special.[137]

The aesthetic experience begins with a visual analysis, which then is furthermore processed.[138] This process may lead to an aesthetic experience on the basis of some embodied mechanisms that can be influenced by factors such as the context, interest in the art, prior knowledge.[139] Fundamental is the distinction between emotions directly associated with aesthetics and the cognitive processes. This distinction highlights concepts of aesthetic pleasure and aesthetic appraisal, which can be related to the emotional and cognitive aspects.[140] Later in the paper we will return to delve further.

Another interesting research to mention is that of fMRI[141] with the aim of determining if "exist specific biologically-based principles which may facilitate the perception of beauty

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[134] Gallese V., Ebisch S., *Embodied Simulation and Touch: The Sense of Touch in Social Cognition*, unpublished work, 2013.
[135] Ebisch S., Ferri F, Salone A., Perrucci M.G., D'Amico L., Ferro F.M., Romani G.L., Gallese V., *Differential Involvement of Somatosensory and Interoceptive Cortices during the Observation of Affective Touch*, in *Journal of Cognitive Neuroscience*, n. 23 (2011), pp. 1808-1822.
[136] Zaki J., Weber J., Bolger N., Ochsner K., *The Neural Bases of Empathic Accuracy*, in *Proceedings of the National Academy of Sciences*, n. 106 (2009), pp. 11382-11387.
[137] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design*, Firenze, University Press, 2022, p. 25.
[138] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 63.
[139] *Ibidem.*
[140] *Ibidem.*
[141] Functional Magnetic Resonance Imaging: it is a neuroscientific imaging technique that measures changes in the concentration of oxygenated hemoglobin in the blood, offering detailed information about brain function. fMRI works by taking advantage of the fact that increased blood flow in a certain area of the brain is associated with neuronal activity in that region. During an fMRI experiment, participants are subjected to a series of stimuli while inside an MRI machine. The machine detects changes in blood flow, indicating which areas of the brain are most active during certain cognitive or sensory activities. This technique is particularly useful for mapping brain regions involved in processes such as sensory perception, language, memory, and other cognitive functions. fMRI works without the use of ionizing radiation and is non-invasive, making it a valuable tool for studying brain function in vivo. Its application extends to several

in the beholder"[142] and that made it possible to understand that "the sense of beauty derives from a joint activity of neural cortical populations responsive to specific elementary or high order features present in works of art and neurons located in emotion controlling centres."[143]

All the research carried out and archived over the years make clear the idea that art is essential in human life and the pleasure it arouses in us is something real and deeply rooted in the mind.[144] The question whether beauty can be defined by a pure sensory pleasure or whether it can be identified in some physical properties of the objects, is not so important as it has been shown that aesthetic preferences are influenced by a variety of different factors: from emotions, from personal experiences, from sensations. Perhaps the most interesting question to ask is to what extent beauty is fundamental to our nature.[145]

Some indications have been presented by Semir Zeki, who comes to define *beauty* as an "inherited brain concept".[146] According to his point of view, beauty is both objective, associated with the hedonic system; and subjective, variable based on experience and personal culture. Zeki's definition does not aim to understand the nature of beauty, but proposes some suggestions: beauty, like art, is a neurological activity, a bodily sensation, an emotion.[147]

1.3 Empathy as a tool for aesthetic appreciation in architecture

The great architect Frank Lloyd Wright believed that to be able to design a building it was necessary to have direct experience of the true meaning of living. Wright understood how this profound learning could take place if the student perceived his own identity and belonging within a deeper knowledge of himself, of building and of the world.[148]

fields, including neuroscientific research, cognitive psychology, and clinical neurology (from *La grande scienza. Neuroimaging della funzione cognitiva.* in treccani.it).
[142] Di Dio C., Macaluso E., Rizzolatti G., *The golden beauty. Brain response to classical and renaissance sculptures*, in PLoS ONE, n. 2 (2007), p. 1201.
[143] *Ibidem.*
[144] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 64.
[145] *Ibidem.*
[146] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 65 (my translation).
[147] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 65.
[148] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 10.

Architecture has always been something to be explored with the body and the senses, not necessarily with intellectual exercise, interpretation exclusively on a symbolic level is not everything.

Valuable architectures help raise awareness of the boundaries between the world and us, allowing to establish deeper relationships. Art, like architecture, helps to live the experience through unique meanings. "The poetic experience brings me to a boundary line – the boundary of my perception and understanding of myself – and this encounter projects a sense of existential meaning."[149] Different disciplines as biology, psychology, cognitive neuroscience, and phenomenology have shown up to that point the properties of the mind depended on the functioning of the human nervous system. [150]

All the disciplines agree that all human behaviour depends on our brains, which are themselves actively involved in the ecological, architectural, social, and cultural environments in which we inhabit. We relate to the world at all sensory levels, the sum of all these contacts triggers chemical reactions in our brain.[151] Emotions are embodied in our perceptions and subsequently also show in our feelings.

Architecture constitutes a bridge between science and art, in fact architects have always applied principles discovered by scientific research.[152] This interdisciplinary approach has been a hallmark of architectural practice throughout history An early proponent of leveraging neuroscience as a valuable source of information for architectural endeavours was the influential Austrian architect Richard Neutra.[153] This great Austrian architect of the 20th century, despite working with Frank Lloyd Wright, embraced different aesthetics and philosophies. Neutra was known for his modernist and functionalist approach, while Wright was known for his organic style and his deep connection to nature.[154]

[149] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 62 (my translation).
[150] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 11.
[151] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 27.
[152] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 12.
[153] *Ibidem.*
[154] *Ibidem.*

In his book *Survival Through Design*[155] Neutra wrote: "Architecture is the art of creating environments that nurture the human spirit. It is the creation of spaces that are both functional and emotionally supportive. Architecture should be more than a mere shelter from the weather. It should be a place where human beings can flourish."[156] He argued that architects should use their skills to design buildings that are not only functional, but also emotionally supportive. In my opinion, Neutra's own work reflects his belief in the importance of empathy in architecture. His buildings are known for their simplicity, functionality, and connection to nature. He often used natural materials and light to create spaces that are both calming and inspiring.

The disciplines of neuroscience and architecture intersect with each other towards the human, a being who can only exist in relationship: relationship with the places we inhabit, relationship of one to the other, relationship with the world. Architectural environments could foster, weaken or destroy such relationships.[157]

John Dewey argues that in order to learn and appreciate the role of aesthetics in human experience, it is necessary to recognize that everything arises from the interactions between living creatures and complex environments.[158] For Dewey, aesthetics is concerned with the qualitative aspects of human experience.[159] He emphasized that aesthetic experiences can be found in everyday life and are not limited to the fine arts. He believed that aesthetic experiences occur when individuals engage with their environment and make meaningful connections with it.[160] Our perceptions, emotions and feelings are a consequence of our contacts with the physical environment, interpersonal relationships, and cultural practices. Dewey wrote in his book *Art as experience*: "life goes on in an environment; not merely in it but because of it, through interaction with it. No creature lives merely under its skin; its subcutaneous organs are means of connection with what lies beyond its bodily frame, and to which, in order to live, it must adjust itself, by accommodation and defense but also by conquest. At every moment, the living creature

[155] Neutra R., *Survival Through Design,* New York, Oxford University Press, 1954.
[156] Neutra R., *Survival Through Design,* New York, Oxford University Press, 1954, p. 13.
[157] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 14.
[158] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 39.
[159] *Ibidem.*
[160] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 40.

is exposed to dangers from its surroundings, and at every moment, it must draw upon something in its surroundings to satisfy its needs. The career and destiny of a living being are bound up with its interchanges with its environment, not externally but in the most intimate way."[161]

The purpose of architectural buildings is often reduced to functional performance such as physical comfort, symbolic representation, or aesthetic values.[162] But architectural purpose goes beyond these physical, measurable properties, beyond aesthetic ones, to the mental and existential properties of life.[163] In addition to sheltering ourselves, buildings must be able to accommodate our minds, our memories, our dreams, and desires. Architecture acts as a link between the outside world and our consciousness.[164] The constructed world that surrounds us allows us to scale time in order to fully understand it. Architecture gives its dimensions and its human meanings to unlimited space and time.[165]

As research has recently revealed, we unconsciously possess the ability to mirror the behaviour of others and animate buildings or inanimate objects.[166]

Upon reasoning it seems difficult that we can produce empathic harmony with every aspect of the built environment we are experiencing, but the simulation of the characteristics of the inanimate world takes us back to the theories of Theodor and Robert Vischer presented in the previous pages. The great art historian Heinrich Wölfflin[167] criticized the Vischer theories as he believed that empathy was interpreted as a psychological projection of our self into the artistic/architectural entity, a means through

[161] Dewey J., *Art as experience*, New York, Perigee Books, 1980, p. 13.
[162] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 58.
[163] *Ibidem.*
[164] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 59.
[165] *Ibidem.*
[166] Robinson S., Pallasmaa J., *La mente in architettura. Neuroscienze, incarnazione e il futuro del design,* Firenze, University Press, 2022, p. 64.
[167] Heinrich Wölfflin (1864-1945) was a Swiss art historian, renowned for his contributions in the field of art history and for developing the stylistic and comparative method for the analysis of artworks. He is considered one of the founders of modern art history and art criticism as an academic discipline. Representative of the current of pure visibility, he proposed in his work *Kunstgeschichtliche Grundbegriffe* (1915) a critical system for a history of art "without names" based on pairs of opposing symbols (linear - pictorial; closed form - open form etc.) through which to analyse the evolution of artistic styles (from *Wölfflin Heinrich* in treccani.it).

which we read our emotional reactions and absorb experience.[168] Wölfflin, however, argued that architectural artefacts are animated by us because we ourselves possess a body.[169] We experience the force of gravity every day, consequently we observe the weight and balance of a building in gravitational terms and therefore, Wölfflin claims, we judge an architectural work to be beautiful as it reflects our organic living conditions.[170]

And it was Wölfflin, more than a century ago, who asked himself the question: "how it is that architectural Forms are able to express emotions and moods."[171] This question characterized the debate on German aesthetic theory at the end of the 19th century.

[168] Wölfflin H., *Psicologia dell'architettura*, Milano, Et al./Edizioni, 2010, p. 3.
[169] Wölfflin H., *Psicologia dell'architettura*, Milano, Et al./Edizioni, 2010, p. 16.
[170] Wölfflin H., *Psicologia dell'architettura*, Milano, Et al./Edizioni, 2010, p. 29.
[171] Wölfflin H., *Prolegomena to a Psychology of Architecture*, German text, and English translation by Michael Selzer (1886), KeepAhead Books Colorado Springs, 2017, p. 4.

2. Understanding Empathy in Architecture

2.1 The role of empathy in architectural design

In the field of architecture there have been important exchanges with neuroscience, with a focus on empathy, of which Harry Francis Mallgrave's book, *Architecture and embodiment*[172] was a point of reference.[173]

However, attention to empathy in the way of thinking about architecture is still limited, while it could play an important role in the design phase.[174] The "embodied simulation", as a functional element, could be integrated in a significant way, relocating the main interest on the condition of the human body and its experience.[175]

The centrality of a way of feeling, of union, of harmony with an object or a space, as well as the affective understanding of actions, perceptions, and emotions, is an essential characteristic for human coexistence, with its social, political and moral aspects.[176] When our emotional states arise facing with the effectiveness of an architecture, what occurs is not only our immediate pre-reflective reaction, but also a cognitive evaluation (*appraisal*), which appears fundamental in determining the intensity of the emotion elicited.[177] The concept of appraisal allows us to clarify the relationship between emotion, cognition and behaviour, in which a relevant role is played by the evaluation perceived by others, and by the individual's expectations regarding what the situation offers.[178]

Emotions can therefore be defined as the results of cognitive evaluation processes, physiological responses, behavioural responses, expressive mimic correlates, verbal and non-verbal.[179] Emotions emerge thanks to an interaction with the external environment, shaping themselves on an emotional atmosphere or a certain emotional tone (*Stimmung*), which, in the case study presented in the next chapter, derives from the shared knowledge

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[172] Mallgrave H. F., *Architecture and Embodiment. The Implications of the New Sciences and Humanities for Design*, New York, Routledge, 2013 (trans. it. *L'empatia degli spazi. Architettura e neuroscienze*, Milano, Raffaello Cortina Editore, 2015).
[173] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 12.
[174] *Ibidem.*
[175] *Ibidem.*
[176] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 25.
[177] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 27.
[178] *Ibidem.*
[179] Balconi M., *Neuroscienze delle emozioni. Alla scoperta del cervello emotivo nell'era digitale*, Milano, Franco Angeli, 2020, p. 41.

of the Holocaust tragedy.[180] Through this emotional involvement, which is linked to memory, expectations, the architectural space, the designer's requests, and personal experience, the phenomenon that we can identify as "*empathy*" manifests itself.[181]

Speaking of empathy, we should always consider it as a complex process.[182] Affective and cognitive neuroscience illustrate how it is characterized by the simultaneous presence of two different types of empathy: a "*basic empathy*" or affective empathy, of a perceptive-emotional nature which causes an imitation impulse identified in terms of a process low level: mirroring; and a "*reenactive empathy*" or cognitive empathy, which requires attention, memory and imagination, identified as a high level process: mentalizing.[183] The latter allows us to re-actualize a state of mind or situation in ourselves, reconstructing the context that caused it. Empathy therefore appears to be a stratified phenomenon and the relationships between the different components are anything but obvious.[184]

Aesthetic pleasure becomes pleasure of bodily feeling, and the empathic relationship can be described as a projection of our feelings into the object, which automatically and symbolically acquires one or more human traits such as courage or horror, serenity, fear, etc.; as if the object came to life.[185]

According to the psychologist Lipps,[186] empathy is one of the three sources that best allows us to know and understand, including architecture.[187] According to psychologist Lipps, empathy is one of the three sources that best allow us to know and understand, including architecture. For Lipps, our ability to understand and appreciate architecture can be influenced by our ability to feel empathy towards the people who use it or who are

[180] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 27.
[181] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 28.
[182] *Ibidem.*
[183] *Ibidem.*
[184] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 29.
[185] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 31.
[186] Theodor Lipps (1851-1914) was a German psychologist and philosopher. He studied mathematics, natural sciences, philosophy and theology in Erlangen, Tübingen, Utrecht and Bonn. He was a professor. in Breslau (1890) and in Munich (1894), where he founded the Psychological Institute. He developed a philosophy of psychology understood, rather than as an experimental science, as a science of the spirit (from *Theodor Lipps* in treccani.it).
[187] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 32.

involved in its creation process. This, therefore, suggests that empathy is not only a social quality, but can also play an important role in our appreciation and understanding of architectural works. The first is "sensitive perception", with which we can understand and perceive the world; the second is the "internal perception", which allows us to know ourself both immediately and in memory; the third is "empathy", which makes us get to know others, allowing to recognize ourself in others.[188]

In the objects observed and in the spaces in which we move, we can obviously observe different qualities and characteristics: alongside the so-called "primary qualities" such as size, weight, hardness or shape, there are "secondary qualities" such as colour, flavour or smell, which manifest themselves in relation to the observing subject, endowed with a certain sensory apparatus; finally, there are the "tertiary" or "figural qualities", qualities that involve the subject, without however being subjective or related to the single perception.[189] For example, the joy transmitted by cold colours, or the melancholy of an autumn landscape, as well as the power of columns or the fragility of a hut.[190] That are experiences linked to our feelings, which involve the empathic relationship between world, the physical body and the emotional dimension.[191]

It is important to underline how the environments in which we live stimulate or not stimulate creative responses, through motor impulses and sensory faculties, but also by stimulating imagination and memory, the ability to predict and decide, welcoming the body involved as an active subject.[192]

Wölfflin in his doctoral thesis *Psychologie der Architektur* underlined the strength of architecture in transmitting an emotional response to the body, understanding that the affinity we feel with architectural forms passes right through our body, preceding any representation that we can deduct from an analysis of the built structures.[193] According to

[188] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 32.
[189] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 36.
[190] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 37.
[191] *Ibidem.*
[192] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 40.
[193] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 68.

Wölfflin, architecture, like any work of art, speaks to our body and conditions us by stimulating different postures.[194]

Even before the discovery of mirror neurons, the ability of internally feeling the forms of architecture or the surrounding environment can be framed within *simulation theory* which, developed during the 1980s, attributed the understanding of others to a process of imitation and imagination.[195]

Simulation theory […] represents today, despite the different versions that have been proposed […] the most updated form of traditional empathic understanding […]. A legitimate object of study of cognitive science, the empathic understanding presupposed by it, presenting itself as a form of knowledge alternative to that based on laws or causal correlations, is considered a prelinguistic, pretheoretical and instinctive epistemic procedure inherent in the cognitive architecture and, in the most recent [...], as a neurocerebral activity, common to humans and animals, which evolved over the course of phylogenesis.[196]

It is therefore no coincidence that empathy, rediscovered with simulation theory, developed following the success of studies on mirror neurons.

Developments in cognitive neuroscience have allowed us to understand that the boundary between what is considered "real" and the imaginary/imagined world is not clear.[197] Seeing and imagining of seeing, experiencing an emotion and imagining it, are based on the activation of partly identical brain circuits, in which, as in a mirror, we recognize ourself and the others; in this reciprocity, the original and founding way of our empathic understanding acts at the basis of our existence.[198]

Empathic understanding means putting yourself in the other person's shoes and also implies moral thinking which, present above all in the face of moods and constant sad

[194] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 68.
[195] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 69.
[196] Rainone A., *La riscoperta dell'empatia. Attribuzioni intenzionali e comprensione nella filosofia analitica*, Napoli, Bibliopolis, 2005, p. 17 (my translation).
[197] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 78.
[198] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 79.

events, is particularly important today, in the era of globalization and the web,[199] "occupying the intermediate space between "I" and "we" which seems empty in the current society torn between unbridled individualism and conflicts between faiths and cultures".[200] Empathy designs the space of the relationship on the lived experience of otherness. It is an experience that brings into play fundamental functions in the relationship with the space-world.[201]

The entry of another person into our experience, as well as the immersion of the body in built (or natural) environments, is never a neutral act, limited to giving spatial or presence coordinates.[202] If we are able to perceive the body becoming an agent in space, the experience transforms itself into something significant, changes are felt on a physiological and cognitive level: breathing lengthens or shortens, muscle tension, posture and facial expression change.[203] "It is no longer just the body that is in the space, but the space that is in the body [and] as happens in dance, [it is] in the body [...] that the paths and spaces intersect".[204]

When images, atmospheres, shapes, words, signs, analogies, comparisons, memories converge, the *empathy of spaces*[205] emerges, based on our experiences and capable of involving and showing our imagination, memory, and conceptual capacity.[206]

Also the coding models of neurological activity, mentioned in the first chapter, play an interesting role in this field, as they can be activated not only in response to the actions of other people, but also thanks to the movement, shape and arrangement of inanimate objects, as well as the built environment around us.[207]

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[199] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 111.
[200] Boella L., *Empatie. L'esperienza empatica nella società del conflitto*, Milano, Raffaello Cortina Editore, 2018, p. 35.
[201] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 114.
[202] *Ibidem.*
[203] *Ibidem.*
[204] Bianchetti C., *Corpi tra spazio e progetto,* Milano-Udine, Mimesis, 2020, p. 46.
[205] Reference to Mallgrave H. F., *Architecture and Embodiment. The Implications of the New Sciences and Humanities for Design*, Abingdon-New York, Routledge 2013 (trans. it. *L'empatia degli spazi. Architettura e neuroscienze*, Milano, Raffaello Cortina Editore, 2015).
[206] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 116.
[207] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 158.

The fact that a human being tends to animate and simulate the world in which he/she lives recalls the question raised by Wölfflin and cited above: "how it is that architectural Forms are able to express emotions and moods."[208]

Faced with this question, a great help is given by the architectural psychology which has the role to delineate and describe the emotions evoked by architecture through its various elements and techniques.[209] The effects of those emotions are called *impressions*, and those are considered *expressions* of objects, and so the same initial question can be posed in this way: "How can architectural Forms be expressions?"[210] The answers that have been given over time have started both from the subjective side and from the objective side.

Wölfflin initially introduced the widely recognized theory that elucidates the emotional resonance of a form through the muscular sensation (*Muskelgefühl*) of the eye as it traces a line.[211] Our emotional responses to a curved line significantly differ from those evoked by a zigzag pattern;[212] why does this happen? In the first case, the movement of the eye, unconsciously, re-design the line and this is easier in one case than it is in the other.[213] When the eye moves without constraints it moves in an exactly straight line in both vertical and horizontal directions, but when it moves in any diagonal direction it follows an arc.[214] This would explain our pleasure for the curvy line and our dislike of the zigzag; the beauty of a form is a function of its suitability for our eye.[215]

The theory may seem reasonable in its presentation, but it falls short when subjected to the essential test of practical experience.[216] "One asks oneself how much of a form's actual impression is explained by the muscle sense of the eye."[217] The error seems to be the assumption that, given that the eye perceives physical forms, its optical characteristics are fundamental.[218] So, it is possible to affirm that: "Physical forms only have

[208] Wölfflin H., *Prolegomena to a Psychology of Architecture,* German text, and English translation by Michael Selzer (1886), KeepAhead Books Colorado Springs, 2017, p. 4.
[209] *Ibidem.*
[210] Wölfflin H., *Prolegomena to a Psychology of Architecture,* German text, and English translation by Michael Selzer (1886), KeepAhead Books Colorado Springs, 2017, p. 5.
[211] *Ibidem.*
[212] *Ibidem.*
[213] *Ibidem.*
[214] *Ibidem.*
[215] *Ibidem.*
[216] Wölfflin H., *Prolegomena to a Psychology of Architecture,* German text, and English translation by Michael Selzer (1886), KeepAhead Books Colorado Springs, 2017, p. 6.
[217] *Ibidem.*
[218] *Ibidem.*

characteristics because we ourselves have physical form. If we were beings who only perceived things visually, an aesthetic judgement of the physical world would always be denied us."[219] We attribute mechanical meanings to all, in fact there is no oblique line that we don't perceive as rising and no irregular triangle that we don't perceive as without balance.[220] Consequently, architectural structures are not only geometric, but they have the effect of massive forms (*Massenformen*).[221]

Forms acquire significance for us through our recognition of them as expressions of sentient (*fühlend*) soul, and unconsciously, we animate (*beseelen*) every object; this is an original instinct of humans.[222] We project the image of ourselves into everything around us and we perceive the material world through the categories that we have in common with it.[223] The entire human component, naturally, can only be expressed through what is human, while architecture cannot express specific emotions that manifest themself in particular organs.[224] "Its object remains *the great existential feelings*, the emotions that posit the stable and constant condition of the body."[225] The anthropomorphic conception of these three-dimensional structures in modern aesthetics is known as symbolizing.[226]

The physical affect that we experience when we observe an architectural work is evident and consists in our involuntarily seek to simulate the forms through our physical organization: in other words, we judge the existential feeling of architectural forms by our physical responses to them.[227] "Powerful columns arouse us with nervous energy, our breathing responds to the width or the narrowness of a three-dimensional space. We are energized as if we were the supporting columns and breathe as deeply and fully as if our chest were as broad as this hall. Asymmetry often induces in us a feeling of physical pain, as if one of our limbs were missing, or injured, and in the same way we feel discomfort at the sight of a disturbed equilibrium, and so on. Everyone will recall similar instances in his own experience. And when Goethe sometimes says that one should be able to sense

[219] Wölfflin H., *Prolegomena to a Psychology of Architecture*, German text, and English translation by Michael Selzer (1886), KeepAhead Books Colorado Springs, 2017, p. 7.
[220] *Ibidem.*
[221] Wölfflin H., *Prolegomena to a Psychology of Architecture*, German text, and English translation by Michael Selzer (1886), KeepAhead Books Colorado Springs, 2017, p. 8.
[222] *Ibidem.*
[223] *Ibidem.*
[224] Wölfflin H., *Prolegomena to a Psychology of Architecture*, German text, and English translation by Michael Selzer (1886), KeepAhead Books Colorado Springs, 2017, p. 9.
[225] *Ibidem.*
[226] *Ibidem.*
[227] Wölfflin H., *Prolegomena to a Psychology of Architecture*, German text, and English translation by Michael Selzer (1886), KeepAhead Books Colorado Springs, 2017, p. 11.

the effect of a beautiful room even if led through it blindfolded, he was expressing nothing other than the same thought: that the impression made by architecture, far from being something like a «visual tallying», essentially consists of an unmediated bodily feeling."[228]

2.2 Empathetic design principles and strategies

We find ourselves in a historical era in which the thought of memory is very present and inevitable: a thought that reflects on the past, re-elaborates it, preserves it, but could also hide it or, to some extent, "lose" it in its transmission.[229] Starting from the more or less truthful representation we give of our past, we build our present and future identity.[230]

Empathic process can prove to be an excellent antidote to objectification and distancing from certain events.[231] This is because by calling into question our subjectivity, it allows for an elaboration that acts in the depths of our being, making us emotionally involved and more sensitive.[232] Traumas manage to produce a certain sense of community which does not only concern the survivors, but also all the simple spectators who are directly involved and become "actors", consciously and/or unconsciously.[233]

The architectural goal to pursue in order to recount the traumas of the past would be to tell, show the pain to activate empathy and through this try to develop an individual, social, political and cultural conscience towards the past and its tragedies.[234]

It should be underlined that empathy and identification are not the same thing: in identification we appropriate the identity of others; in the empathic act the other remains

[228] Wölfflin H., *Prolegomena to a Psychology of Architecture,* German text, and English translation by Michael Selzer (1886), KeepAhead Books Colorado Springs, 2017, p. 12.
[229] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 183.
[230] *Ibidem.*
[231] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 185.
[232] *Ibidem.*
[233] *Ibidem.*
[234] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 186.

in his otherness and it is the mutual relationship that gives rise to a relationship between our different perspectives, bringing into play distances and affinities.[235]

During the design of an empathetic space, we witness the overcoming of a linguistic, logical-formal approach, typical of structuralism and post-structuralism, in favour of the return to the concrete "lived experience", as an immediate and indispensable connection with the things of the world.[236] It is necessary to develop a particular design sensitivity to translate the experience of a space characterized by the human dimension into architecture.[237]

By creating spaces capable of stimulating free imagination, in order to reach full perception, architecture can rediscover its own constitutive principle: not an immobile principle, stabilized between forms, materials and strategies; but a mobile principle capable of renewing itself every time between conflicts and transformations, to give rise to a more "authentic" expression, capable of welcoming differences.[238]

Empathy, as Laura Boella reminds us, is: "an act that puts us in contact with what is outside of us"[239] and in this relationship there is a limit due to the real possibility of accessing the inner life of the other.[240] There is an asymmetry between experiences, a different intensity; a difference that is also a distance and it is this that we need to pay attention to because "«too much» empathy and «little» empathy both create problems".[241] There may be "an emotional overinvestment that is difficult to handle, to which one reacts by distracting oneself, distancing oneself, feeling guilty for one's own impotence"[242] as occurs in *empathic suffering*[243] which can lead to indifference, may develop a saturation,

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[235] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 187.
[236] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 117.
[237] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 118.
[238] *Ibidem.*
[239] Boella L., *Empatie. L'esperienza empatica nella società del conflitto*, Milano, Raffaello Cortina Editore, 2018, p. 117 (my translation).
[240] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 187.
[241] Boella L., *Empatie. L'esperienza empatica nella società del conflitto*, Milano, Raffaello Cortina Editore, 2018, p. 126 (my translation).
[242] Boella L., *Empatie. L'esperienza empatica nella società del conflitto*, Milano, Raffaello Cortina Editore, 2018, pp. 126-127 (my translation).
[243] This is what is called *personal distress* (Batson C. D., *The Altruism Question: Towards a Social-Psychological Answer*, New York, Erlbaum, Hillsdale, 1991) or *empathic overarousal* (Hoffman M. L., *Empathy and Moral Development: Implications for Caring and Justice*, New York, Cambridge University Press, 2000).

and memory can unconsciously block our natural propensity towards the other.[244] It is therefore essential to know the "fragility of empathy".[245] The question of the "right distance" or "protective distance" has always been part of the reflection on empathy.[246]

Art can offer us some distance from pain and horror, without suppressing sadness, but changing our view of the world.[247] However, to succeed in this task, architectural space must resonate in us and, at least for a moment, prevail over any other predetermined meaning.[248]

The inseparability of emotion and cognition, speaking of empathy, is what everything is based on because it is precisely in action and experience that our relationship with the space-world is embodied: a relationship that can stimulate the ability to understand and respond poetically to given situations.[249] Lived experience is so important because it allows us to shape the space so that other individuals can confirm their existence as human beings,[250] as if there were an imperceptible network of actions waiting to be stimulated by the perceived environment: the space of relationality, fundamental for triggering the empathic experience.[251]

The relationships between neuroscience and architecture concern both the side of the designer and that of the user. Some research focuses on the integration of neuroscience in the design process, such as that carried out by Eve Edelstein,[252] neuro-architect co-founder of ANFA,[253] who identifies seven fundamental principles to design: a) fair design; b) flexible design; c) the simple and intuitive design; d) perceivable information; e) error tolerance; f) the efficient and g) comfortable use of the design.[254] Other research

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[244] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 188.
[245] Boella L., *Empatie. L'esperienza empatica nella società del conflitto*, Milano, Raffaello Cortina Editore, 2018, p. 126 (my translation).
[246] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 188.
[247] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 190.
[248] *Ibidem.*
[249] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 120.
[250] Plummer H., *The Experience of Architecture*, London, Thames & Hudson, 2016, p. 18.
[251] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 125.
[252] Cf. Edelstein E., *Translation Design: The Intersection of Neuroscience and Architecture*, Master of architecture thesis, San Diego, New School of Architecture and Design, 2006.
[253] Academy of Neuroscience for Architecture, https://anfarch.org/.
[254] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 123.

focuses, however, mainly on the effects that a designed space produces on users, with particular attention to *healthcare architecture*[255] and *biophilic architecture*,[256] both concerned with improving physical, mental and behavioural well-being through the spaces experienced by individuals.[257]

Design decisions can thus be categorized based on their potential to enhance physical health and safety, mental functionality, emotional well-being, and social interactions.[258] This classification stems from a deeper understanding of the multifaceted interactions among the environment, body, and mind, both consciously and unconsciously.[259]

As articulated by Neutra in his fundamental text *Survival through design* (1954), where he anticipated many of the neuroscientific arguments influencing architecture: "There is no pure reason, just as there is no pure beauty. Emotion most naturally tinges every mind operation, be it a mathematical task or creative design."[260] He goes on considering: "What the various senses bring in is by a practical lifetime's experience worked into a space concept, studded with diversified meaningful associations. […] The sense of gravity, for example, naturally and strongly contributes to our awareness of the *above* and the *below*, of the *upward* and *downward* in space. […] Our nervous apparatus does not register anything that we could call space without these meanings and emotional overtones sounding in. Up and down, right and left, forward and backward, far and near, are not geometrical terms. If we really want to fit the architecture of constructed environment to life and so put it a physiological basis, we must decisively step beyond and outside the abstractions of Euclidean geometry."[261] That is, Neutra continues: "We may conveniently term space in its own original nature physiological space", original space, sensitive to human well-being and sensations, capable of reuniting man with nature.[262]

[255] Cf. Boekel A., *Architecture for Healthcare*, Mulgrave, Images Publishing, 2008.
[256] Cf. Wilson E. O., *Biophilia: The Human Bond with Other Species*, Cambridge, Harvard University Press, 1984; Kellert S. R., *Nature by Design: The Practice of Biophilic Design*, New Haven, Yale University Press, 2018.
[257] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 123.
[258] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 123.
[259] *Ibidem.*
[260] Neutra R., *Survival Through Design,* New York, Oxford University Press, 1954, p. 129.
[261] Neutra R., *Survival Through Design,* New York, Oxford University Press, 1954, pp. 157-158.
[262] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 126.

The forty-seven essays written by Neutra address a great variety of questions including that according to which design choices should not arise from the aesthetic preferences of the designer, but follow individual health and the demands of society.[263] According to Neutra, designers must try to limit the "damages" of designing and the use of polluting materials, so as not to incur genetic mutations caused by the nervous stress of the built urban environment.[264] He wrote: "It is in this more complex world, as we see it in the light of current organic research, that the coming designer must operate, not in the pure aesthetics of a bygone brand of speculation."[265]

Neutra's book, at the time, was interpreted as a criticism of functionalism,[266] but it is more correct to understand it as "to honor the functions within our skin and the innermost life."[267] He was convinced that the architectural experience was first of all physiological and emotional.[268]

Neutra observes that great art needs "The shock of intensive emotion linked to the experience of a single strong stimulation".[269] He goes on: "positive vital experiences can come and be fixed by way of shock, and this the designer must never forget. In fact, great art could never do without sudden impact. One intense delight, like one of mortifying anguish, may become an almost unbeatable competitor to many earlier or later experiences of the mild habitual kind."[270] The architect concludes by stating that: "it is the emotional intensity and accent which seem to fix memory indelibly, and to account for its effectiveness in subsequent attitudes and motivations."[271]

Faced with this difficult task: "The designer, the architect, has appeared to us as a manipulator of stimuli and expert of their workings on the human organism. His technique is really with the organic matter of brains and nerves".[272]

Trying to recover a new depth based on experience, the architect's vision cannot be a "view from outside", a physical-optical relationship that maintains distance, objective and

[263] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 172.
[264] *Ibidem.*
[265] Neutra R., *Survival Through Design,* New York, Oxford University Press, 1954, p. 118.
[266] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 172.
[267] Neutra R., *Survival Through Design,* New York, Oxford University Press, 1954, p. 107.
[268] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 174.
[269] Neutra R., *Survival Through Design,* New York, Oxford University Press, 1954, p. 228.
[270] Neutra R., *Survival Through Design,* New York, Oxford University Press, 1954, p. 229.
[271] Neutra R., *Survival Through Design,* New York, Oxford University Press, 1954, p. 230.
[272] *Ibidem.*

analytical, but rather must try to be a more intimate and pragmatic vision, based on bodily sensations, emotions and projected towards social sharing.[273]

What was missing from the theories of *Einfühlung* at the beginning of the 20th century was a scientific basis to explain our "feeling" and our way of empathizing with the forms of the built environment.[274] Today we have technologies that allow us to obtain real-time images of the functioning of our brain, allowing us to identify the functions of the different areas more and more easily.[275]

Architecture requires that materials and shapes are intimately connected to the body and that we try to anticipate movement within it.[276] Our movements within the architecture and around the three-dimensional forms activate our senses.[277] Architecture becomes the means to understand, through the body's neuronal mechanisms, the emotional value of the surrounding ambient.[278] In essence, architects must simulate the experience of being within a space through the body during the design process. By anticipating how people will move, perceive, and feel within the built environment, architects can create spaces that are not only aesthetically pleasing but also functional and conducive to human well-being. Materials and shapes used in architecture can have a significant impact on how the built environment is experienced by individuals. Likewise, the shapes and forms of buildings can influence the way people perceive and interact with their surroundings. In fact, Buildings, as Wöfflin highlights, have their own physiognomy, which is also why we tend to animate them.[279]

Meticulous attention to every design detail plays a crucial role in shaping the overall effectiveness of the architectural project.

Let's try to focus on some project elements. For example, on the topic of **space**, there are two different lines of research that can help us understand better architecture through empathy: the way we perceive and orient ourselves in space and the way we move in space, the latter uses the discovery of neurons mirror to deepen the spatial experience.[280]

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[273] Gregory P., *Per un'architettura empatica – prospettive, concetti, questioni,* Roma, Carocci Editore, 2023, p. 133.
[274] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 174.
[275] *Ibidem.*
[276] *Ibidem.*
[277] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 181.
[278] *Ibidem*.
[279] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 180.
[280] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 191.

The involvement of mirror neurons suggests that the experience of particular movements has a strong influence on neuronal processing during the perception phase.[281] We all experience spaces in a motoric way, and we can all remember a memorable and perhaps universal sensation in some of these.[282] And it is perhaps the suggestion of universality that can partly explain why some impressions of spaces remain particularly vivid in the memory.[283] The experience of an architectural space begins and ends with the motor activity of the human body.[284]

Form is also a topic that seems to arise for neuroscientific investigation,[285] and one we can focus on. The search for "good form" has always proven elusive, in architecture but also in the arts, demonstrating its variability and adaptability to the context in which it is sought and observed.[286]

A first important distinction that can be made, directly connected to the question of perception at neutral level, is the one proposed by Rudolf Arnheim[287] between *shape* and *form*.[288] Shape is how a physical object appears to the nervous system; while form deals with a more subjective dimension.[289] According to Arnheim, *form* transcends the practical function of objects, finding in the *shape* the visual qualities of strength, fragility, accuracy and thus the object symbolically becomes an image of the human condition.[290]

This concept resonates deeply with insights from the Gestalt school[291] of psychology, a branch of 20th-century psychological aesthetics.[292] The Gestaltists demonstrated that humans actively construct their world, shaping their perceptions by emphasizing or discarding certain components over others.[293] This active engagement with the

[281] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 194.
[282] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 197.
[283] *Ibidem.*
[284] *Ibidem.*
[285] *Ibidem.*
[286] *Ibidem.*
[287] Rudolf Arnheim (1904-2007) was a German American psychologist, film theorist and art critic. Among the major representatives of Gestaltpsychologie, he dealt in depth with the relationship between perception and art. He also underlined the structuring, formative and creative character of the act of seeing (from *Arnheim Rudolf* in treccani.it).
[288] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 197.
[289] *Ibidem.*
[290] Arnheim R.., *Arte e percezione visiva,* Milano, Feltrinelli, 2005, p. 93.
[291] Arose in Germany in the second decade of the 20th century. According to Gestalt, perceptive phenomena cannot be explained on the basis of a juxtaposition or addition of single elementary units (sensations), but rather globally in their organization into structures (Gestalten) according to well-defined laws (from *Gestalttheorie* in treccani.it).
[292] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 198.
[293] *Ibidem.*

environment underscores the profound influence of psychological factors on architectural design, highlighting the importance of understanding how individuals perceive and interact with built spaces down to the smallest detail.[294] The Gestalt also emphasizes that we experience the world holistically, as beings in an environmental field and not with a limited set of sensory impressions.[295] We perceive the world and react to it as complex beings, our perception continually changes, adapting to environmental conditions.[296] This holistic understanding underscores the dynamic nature of human perception and the importance of designing spaces that accommodate this fluidity, ensuring that architectural environments resonate with users on multiple levels.

Arnheim derived much of his work from Gestalt principles.[297] In one study he was able to understand that man tends to "read" the world through pre-existing visual concepts or visual categories.[298] He also emphasized that our strongest sensory metaphors are those rooted in the most basic perceptual sensations.[299]

In the most recent studies, it is emerging that architecture is able to offer an experience of form different from other arts thanks to the possibility of movement around and through combinations of forms.[300] We don't perceive buildings in a static way, like paintings, because the shapes themselves are less important than the complex, the rhythm, the balance of the complex.[301]

Another project element on which we can focus and that covers a crucial role are the **materials**. The first thing that neuroscience tells us is that man relates to the world through the senses that react to certain stimuli coming from the environment.[302] Brain visualization studies have shown that we come into contact with any material we see through an embodied act of tactile simulation.[303] Essentially, as soon as we see, we can already feel the contact with the hand.[304] This underscores the importance of materials not only visually but also sensorially. The choice of materials and the context in which

[294] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 198.
[295] *Ibidem.*
[296] *Ibidem*.
[297] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 200.
[298] *Ibidem.*
[299] *Ibidem.*
[300] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 201.
[301] *Ibidem.*
[302] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 182.
[303] *Ibidem.*
[304] *Ibidem.*

we want to insert them defines much of the architectural experience.[305] For instance, choosing materials with interesting textures or ones that produce specific sounds can significantly impact users' experience in the space. Incorporating materials that can be sensed through touch or sound not only enriches users' sensory experience but also helps define the identity and purpose of the architectural space. Ultimately, materials are not just physical elements but vehicles for conveying emotions, creating connections, and shaping perception of the surrounding space.

The last characteristics I should focus on are **light** and **colour** because they are directly linked to the materials.

With materials, **light** plays a fundamental role.[306] The qualities of this medium allow materials to be transformed.[307] Today there is very high attention to the sensorial qualities of natural light, unlike the periods of postmodernism and deconstructivism.[308] In addition to influencing the quality of materials, light structures the atmosphere and how the environment is experienced.[309] Neutra wrote: "In «interiors» and in our urban existence, light and colour call for a more informed watchfulness than eyes have needed for a life outside in unhampered nature".[310]

And I believe that just like light, **shadow** is also a crucial element in architectural design. It is the interaction between light and shadow that gives depth, dimension, and dynamism to spaces. Shadows not only define the shape and texture of materials, but also create visual interest and drama. By manipulating shadow, it is possible to emphasize certain architectural features or to evoke specific moods within a space.

Colour, on the other hand, has immense power in influencing human perception and emotions. It has the ability to evoke feelings of warmth, calm, excitement or even melancholy. In architecture, colour is used strategically to reinforce design concepts, create a visual hierarchy, and evoke desired atmospheres.[311] Colour choices for both interior and exterior spaces can have a significant impact on how people perceive and interact with their environment.[312] Additionally, colours interact with light in fascinating

[305] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 183.
[306] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 204.
[307] *Ibidem.*
[308] *Ibidem.*
[309] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 206.
[310] Neutra R., *Survival Through Design,* New York, Oxford University Press, 1954, p. 192.
[311] Revell DeLong M., Martinson B., *Color and Design,* New York, Bloomsbury Publishing, 2012, p. 5.
[312] *Ibidem.*

ways, with different hues appearing differently under varying lighting conditions. Understanding the nuances of colour and its interaction with light is therefore fundamental for architects to create harmonious and engaging architectural compositions.

Neurological understanding in this area is still in its infancy, but we can find several examples that show us how the atmosphere could be considered more seriously.[313] Guiding the visitor's awareness, in any case, remains a fundamental task for the designer.[314]

2.3 Theories of empathy in the architectural field

A century before Wölfflin, Immanuel Kant questioned how artistic forms are judged beautiful. Kant's exploration led him to introduce the concept of *Zweckmäß*, or purposiveness, in our perception of the world, which we unconsciously apply to art.[315] It's important to note that I'm interpreting Kant's concept rather than directly quoting his text. Moreover, a further distinction must be made between harmony and appropriateness to purpose. This distinction clarifies that harmony is linked to the judgment of beauty, rather than the sublime. Kant's concept of *Zweckmäß* suggests that our perception of beauty in art is inherently tied to a sense of harmony, where the form of the artwork aligns with our unconscious sense of purposefulness in the world.[316] Therefore, the more a construction possesses this harmony between its parts, the more it can be considered beautiful.[317]

According to Mallgrave, Kant suggests that art should be judged above all for its form, if a higher value is then added to this (spiritual for example), the work of art will be even "greater".[318] For Kant the most important factor in aesthetic judgment is that it remains disinterested and not corrupted by desire.[319] It's important to note that I cannot directly engage with Kant's Critique of Judgment but rather consider more recent reflections that also encompass architecture. This acknowledgment underscores the interpretation of

[313] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 206.
[314] Neutra R., *Survival Through Design,* New York, Oxford University Press, 1954, p. 241.
[315] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 159.
[316] *Ibidem.*
[317] *Ibidem.*
[318] *Ibidem.*
[319] *Ibidem*.

Kant's ideas within the context of contemporary scholarship, particularly concerning architecture.

There is a significant transition from the analysis of the artistic form to the understanding of the emotions connected to it. This transition reflects a shift from form-centered aesthetic evaluation to consideration of the emotional experiences evoked by the artwork. As already explored in the first chapter, Kant emphasizes form as a key element in aesthetic judgment. However, through the contributions of later scholars such as Robert Vischer, we begin to understand how aesthetic perception is intrinsically linked to our ability to empathize with the work of art. This transition represents a significant evolution in the way we conceive and evaluate art and architecture, as we increasingly recognize the fundamental role of emotions in our aesthetic experience.

Indeed, it will be Robert Vischer himself, mentioned in the previous chapter, who in 1873, in his book "On the optical sense of form" tried to elaborate the theories of the idealists and the subsequent ones of the physiologists, arriving at the concept of *Einfühlung.*[320] Literally, for Vischer, this term indicated the way in which the nervous system worked to *feel inside* or simulate something, generally translated as "empathy".[321]

The premise from which Vischer started was that when we perceive, we simulate on a neurological level the environment that surrounds us.[322] And since every perceptive act involves our entire body, every mental act that is performed is reflected in some neuronal changes.[323]

In the perceptive process we can also recognize a succession of physiological phases: first the sensory impressions and then the motor responses caused by internal stimuli.[324] The first impression, the pre-reflective response, lasts a very brief moment: the encounter between environment and subject.[325] This first impression is then enriched by conscious reflection on the phenomena that emerge.[326]

[320] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 160.
[321] *Ibidem.*
[322] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 159.
[323] Vischer F.T., Vischer R., *Simbolo e Forma*, edited by Pinotti A., Torino, Aragno, 2003, pp. 38-39.
[324] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 160.
[325] De Matteis F., *Vita nello spazio - sull'esperienza affettiva dell'architettura,* Milano, Mimesis Edizioni, 2019, p. 65.
[326] *Ibidem.*

When emotions come into play, the initial sensations intensify until they become real feelings and reach the feeling of empathy (*Einfühlung*), the moment in which the subject merges with the object.[327] Empathy cannot therefore be described as a light feeling, but more as an emotional phenomenon that demonstrates our great relationship with the world.[328]

The continuous emotional interaction between subject and environment is part of the evolutionary process of human adaptation.[329] In architectural contexts, the physical movement of the subject is frequently related to another phenomenon, closely linked to embodied simulation.[330] Even if they are immobile, architectural forms can suggest movement, which we apprehend as such.[331] The subject who passes through the environment acquires knowledge of the space as it appears in that exact moment and, at the same time, predicts, through a form of simulation, what could happen.[332]

The movement of the physical subject in the environment leads to a progressive unveiling of the horizon, punctuated by different encounters which lead to a modification of spatial perception.[333] Our millions of sense receptors then determine the actual extent of the designer's work on us.[334]

The history of architecture continues to leave us with an immense archive of ways of building, based on different mechanisms and systems of reference, but the result will always be a transformation of the environment within which a subject will move.[335] As we engage with these spaces, our interpretation evolves, contingent upon myriad relationships and factors.[336] Consequently, architecture cannot be viewed as separate from

[327] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 160.
[328] *Ibidem.*
[329] De Matteis F., *Vita nello spazio - sull'esperienza affettiva dell'architettura,* Milano, Mimesis Edizioni, 2019, p. 65.
[330] De Matteis F., *Vita nello spazio - sull'esperienza affettiva dell'architettura,* Milano, Mimesis Edizioni, 2019, p. 77.
[331] De Matteis F., *Vita nello spazio - sull'esperienza affettiva dell'architettura,* Milano, Mimesis Edizioni, 2019, p. 78.
[332] De Matteis F., *Vita nello spazio - sull'esperienza affettiva dell'architettura,* Milano, Mimesis Edizioni, 2019, p. 79.
[333] De Matteis F., *Vita nello spazio - sull'esperienza affettiva dell'architettura,* Milano, Mimesis Edizioni, 2019, p. 105.
[334] Neutra R., *Survival Through Design,* New York, Oxford University Press, 1954, p. 197.
[335] De Matteis F., *Vita nello spazio - sull'esperienza affettiva dell'architettura,* Milano, Mimesis Edizioni, 2019, p. 185.
[336] *Ibidem.*

ourselves, as we are inherently intertwined with our surroundings.[337] It is imperative that our built environment harmonizes with its surroundings, prioritizing a physiological space conducive to neurological well-being.[338]

The evolution of architectural theory has shed light on the intricate relationship between human perception and the built environment. After Wölfflin, another important name to mention again is that of Theodore Lipps. They have contributed valuable insights into how we engage with architectural forms on both a sensory and emotional level. Lipps proposed that we immerse ourselves entirely in the objects of our contemplation, transcending mere sensory perception.[339] In the realm of architecture, Lipps suggests that empathy manifests as a visceral experience; we synchronize with buildings, attuning to their rhythm as living entities.[340] For instance, upon entering a voluminous room, we expand our chest in response to the surrounding space, facilitating easier breathing.[341] This holistic perspective underscores the dynamic relationship between architecture and human experience, emphasizing the importance of designing spaces that resonate with our innate physiological and psychological needs. And it was precisely these ideas of Lipps that achieved success in Germany in the first decade of the 20th century.[342]

[337] De Matteis F., *Vita nello spazio - sull'esperienza affettiva dell'architettura,* Milano, Mimesis Edizioni, 2019, p. 186.
[338] Neutra R., Survival Through Design, New York, Oxford University Press, 1954, p. 166.
[339] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 164.
[340] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 165.
[341] *Ibidem.*
[342] Mallgrave H. F., *L'Empatia degli spazi,* Milano, Raffaello Cortina Editore, 2015, p. 167.

3. Case study: Libeskind's Jewish Museum in Berlin

3.1 Overview and historical context

The case study presented in this paper is the Jewish Museum of Berlin, designed by Daniel Libeskind. The architect is an international figure, known for his ability to evoke cultural memory in his projects.[343] Libeskind was born in Lód'z, Poland, in 1946 and then immigrated to the United States with the family.[344] He went to Israel where he performed and studied as a musician before dedicating his passion to architecture.[345] In 1989, after winning the competition for the Jewish Museum, he moved to Berlin, where he opened his new studio.[346]

Characteristic of Libeskind's architectural thought is his vision of *architecture as a language* for telling the stories of the human soul.[347] For Libeskind, architecture must free itself from traditionalist preconceptions, it must become the language of creativity and knowledge, the expression of a new humanism.[348] We need to abandon the idea of architecture as an individual expression.[349] According to Libeskind, architecture has a soul, like man, it lives and breathes.[350] And just like a living being, architecture is born and grows, it expands trying to change people's way of living.[351]

Defining architecture as a language, for Libeskind, means trying to express the phenomena of our world by spatializing time.[352] We observe time passing, day after day, and we observe it as an abstract entity and try to translate it: by painting, writing, playing and designing, architecture can give it a physical representation.[353]

[343] Schneider B., *Daniel Libeskind, Jewish Museum Berlin - Between the lines*, Munich, Prestel, 1999, p. 60.
[344] From *Daniel Libeskind* in treccani.it (consulted on 20/12/2023).
[345] *Daniel Libeskind*, Studio Libeskind, https://libeskind.com/people/daniel-libeskind/ (consulted on 11/11/2023).
[346] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 43.
[347] *Ibidem.*
[348] *Ibidem.*
[349] *Ibidem.*
[350] *Ibidem.*
[351] *Ibidem.*
[352] *Ibidem.*
[353] *Ibidem.*

Architecture, for Libeskind, is therefore also a language of the time, the representation of our today, of contemporary forms and materials; it reflects our experience in certain historical circumstances and will continue to speak to those who come.[354]

In 1989, when, for the architect Berlin was not only a physical place, "but also something in mind, something belonging to a past which never was present",[355] Libeskind won the international competition announced by the West Berlin Senate for the "Extension of the Berlin Museum with a Jewish Museum Department".[356] A museum for all citizens, to allow them to discover their common heritage and hope.[357]

The aim of the competition was to expand the old museum that was dedicated to the history of the city of Berlin and to create a space for a Jewish Museum.[358] It's important to note that the project of the Museum was created a year before the Berlin Wall came down.[359] At that time, no museums in Germany were dedicated to the history of the German Jewish, other than the small exhibition section already present in the Berlin Museum.[360] This Jewish section was dedicated to the role of German Jewry during the history of Berlin.[361]

The origins of the Jewish Museum can be traced back to 1907 when, upon the death of Albert Wolf, a jeweller from Dresden, an extensive collection of coins, medals and portraits is bequeathed to the Jewish community of Berlin.[362] The important collection was made visible to the public only after 1917.[363] Once entrusted to Mr. Moritz Stern, the community librarian, the collection continues to grow and evolve.[364] In 1930 the direction

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[354] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 21.
[355] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism*, Munich, Prestel, 1991, p. 63.
[356] *Jewish Museum Berlin*, Studio Libeskind, https://libeskind.com/work/jewish-museum-berlin/#:~:text=Daniel%20Libeskind's%20design%2C%20which%20was,integrated%20into%20the%20consciousness%20and (consulted on 11/11/2023).
[357] Libeskind D., *Between the Lines: Extension to the Berlin Museum*, with the Jewish Museum. *Assemblage*, n. 12 (1990), p. 48, https://doi.org/10.2307/3171115.
[358] *Jewish Museum Berlin*, Studio Libeskind, https://libeskind.com/work/jewish-museum-berlin/#:~:text=Daniel%20Libeskind's%20design%2C%20which%20was,integrated%20into%20the%20consciousness%20and (consulted on 11/11/2023).
[359] *Ibidem.*
[360] *Daniel Libeskind | The Jewish Museum Berlin – part 1,* Studio Libeskind, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-berlin/ (consulted on 11/11/2023).
[361] Huyssen A., *The Voids of Berlin*, in *Critical Inquiry*, vol. 24, n. 1 (1997), p. 76, http://www.jstor.org/stable/1344159.
[362] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino,* Torino, Testo & immagine, 1998, p. 18.
[363] *Ibidem.*
[364] *Ibidem.*

of the community passed to Karl Schwarz and, also thanks to the lively cultural context, the works of art multiplied quickly.[365]

The results achieved by the community and its heritage push a well-known collector, Salli Kirschstein, to promote and support the creation of a "Gesellschaft der Freunde des Jüdischen Museums" with the objectives of: promoting relations between the Jewish community and the rest of Berlin's citizens, promoting cohesion within the community itself, helping Jewish artists; the guiding belief of the project was that every form of anti-Seism arises from ignorance of the history and culture of Judaism.[366]

In 1932 the Bauhaus arrived in Berlin and its director was Mies van der Rohe; these were very rich years for Berlin culture, Berlin became one of the most important European laboratories of modernity.[367]

On 24 January 1933 the Jüdisches Museum was inaugurated in the new rooms on Oranienburgstrasse, but right from the start it suffered strong criticism.[368] For instance the director of the Berliner Kunstbibliothek, Curt Glaser, observed that it made no sense to exhibit works by Jewish artists in a museum dedicated to them, unless they were specifically Jewish-themed works.[369]

Meanwhile, on the horizon, the first disturbing signs are arriving after Hitler was granted ever greater powers.[370] It is 1938 and the terrible "Night of Crystals" occurred on the night between 9 and 10 November. In the morning, the Jüdisches Museum is suddenly closed, without explanation, and the collections confiscated. The bond between Jews and Berlin had been definitively severed.[371]

The post-war period saw some of the Jewish survivors return to Berlin; the Jewish community gradually tried to reorganize itself, but in 1953 it was forced again to divide between east and west; this division was definitively sanctioned in 1961 by the construction of the wall.[372]

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[365] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 18.
[366] *Ibidem.*
[367] *Ibidem.*
[368] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 19.
[369] *Ibidem.*
[370] *Ibidem.*
[371] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 26.
[372] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 30.

In 1958, demolition work began on the remaining ruins of the Oranienburgstrasse synagogue in East Berlin.[373] The president of the local Jewish community suggested creating a new museum which was founded in 1962 thanks to some supporters.[374] In 1969 the new museum was housed in the Kollegienhaus, a baroque building destroyed during the war and quite faithfully rebuilt.[375] In 1989 the competition for the expansion of the old museum was announced.[376]

The original project of the contest, to create an addition adjacent to one of the oldest baroque palace, the Kollegienhaus (that housed the Berlin Chamber Court before becoming a museum[377]), and so the concept of an "integration" between the Berlin Museum and the Jewish Museum, was totally changed by Libeskind.[378] Libeskind himself wrote: "The notion of an original point of departure, which presupposes a past, is in itself doubtful, because the past has never been experienced as being present."[379] This is an architectural and functional paradox of what has been closed and opened, stable or added, what is Baroque and what is Modern.[380]

His project was profoundly inspired by Judaism and by the repercussions of the Holocaust; as we can read on the page dedicated to the Jewish Museum on the website of his architecture Studio, Libeskind based himself on three insights: "it is impossible to understand the history of Berlin without understanding the enormous contributions made by its Jewish citizens; the meaning of the Holocaust must be integrated into the consciousness and memory of the city of Berlin; and, finally, for its future, the City of Berlin and the country of Germany must acknowledge the erasure of Jewish life in its history."[381] Far from the "integrative concept" Libeskind created a completely

[373] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino,* Torino, Testo & immagine, 1998, p. 30.
[374] *Ibidem.*
[375] *Ibidem.*
[376] *Ibidem.*
[377] Huyssen A., *The Voids of Berlin*, in *Critical Inquiry*, vol. 24, n. 1 (1997), p. 77, http://www.jstor.org/stable/1344159.
[378] *Jewish Museum Berlin*, Studio Libeskind, https://libeskind.com/work/jewish-museum-berlin/#:~:text=Daniel%20Libeskind's%20design%2C%20which%20was,integrated%20into%20the%20consciousness%20and (consulted on 11/11/2023).
[379] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism,* Munich, Prestel, 1991, p. 63.
[380] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism,* Munich, Prestel, 1991, p. 69.
[381] *Jewish Museum Berlin*, Studio Libeskind, https://libeskind.com/work/jewish-museum-berlin/#:~:text=Daniel%20Libeskind's%20design%2C%20which%20was,integrated%20into%20the%20consciousness%20and (consulted on 11/11/2023).

independent Jewish Museum, dedicated to the 2000-year long history of the Jews in German-speaking countries.[382]

Libeskind sustains that his architectural project begins from an irrational idea, the *irrational as a nonbeginning*, while what dominates and prevails in the world, and that often kills, is done in the name of Reason.[383] He believes that the ideology, the science, the history of the time have become undone in order to become understandable, intellectually but also spiritually, losing their exclusively rational side.[384]

For the architect, the fragments of history are to be experienced, as an absence of something that is no longer there. Libeskind wrote: "The absolute event of history is the Holocaust and the incineration of the avant-garde of humanity in its own history. This event of history, with its concentration camps and annihilation, is, I believe, the burn-out of meaningful development of the city of Berlin and of humanity. It is not only on the physical level that I would like to demonstrate that there is a possibility but also on other levels; because absence shatters each place while bestowing a gift of that which no architecture can give a gift given by no one, for no one; the preservation of the sacrifice, the offering, which guards over future meaning. That is what architecture, the arts, and the sciences are vested with: the responsibility of a nightwatch over meaning which is not there and over meaning which might have, nobody knows, been given. So out of the disaster, out of history, rises what is not historical. And out of what is terribly remote, there comes the intimate whisper."[385] Daniel Libeskind's statement contemplates the profound historical and cultural repercussions of the Holocaust, presenting a nuanced perspective on the role of architecture in the aftermath of this devastating event. The quote underscores several key themes, including sacrifice, emptiness, history, and the role of art. I think that Libeskind contends that architecture, art, and sciences bear the responsibility of preserving the sacrifice, not merely as an act of remembrance but as a homage to those who endured the Holocaust. This concept of sacrifice becomes a linchpin, a crucial element in ensuring the perpetuation of memory for future generations.

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[382] *Jewish Museum Berlin*, Studio Libeskind, https://libeskind.com/work/jewish-museum-berlin/#:~:text=Daniel%20Libeskind's%20design%2C%20which%20was,integrated%20into%20the%20consciousness%20and (consulted on 11/11/2023).

[383] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism*, Munich, Prestel, 1991, p. 63.

[384] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism*, Munich, Prestel, 1991, p. 71.

[385] *Ibidem.*

The quote also mentions the notion of emptiness, stemming from the tragedy, which obliterates every place. Paradoxically, Libeskind suggests that something meaningful can emerge from this void, something that architecture can safeguard. This could be seen as the void left by those lost during the Holocaust, and how art, in its various forms, can filling this gap and providing a means to keep the essence of what is absent alive. For the architect, architecture, art, and sciences become tools through which we can confront and understand the Holocaust and its role in the history.

The history of a city is inevitably linked with the people who lived and live in it, that shape the city with their creativity and projects, but also failures and disasters.[386] The history of Berlin is primarily the history of its people, and streets and stones are the documents thereof.[387] Is interesting to give a look at the shape that Berlin took caused by the forces and pressures of the beginning of the twenty-first century; someone might not be convinced of the shape looking at the architectural ensemble of the period.[388]

Daniel Libeskind was one of the few architect that understood the nature of the empty space in the city.[389] I think that Libeskind's understanding of empty space in the city transcends the conventional architectural framework. It becomes a strategic and thoughtful element that contributes to the city's narrative, offering a profound and dynamic dimension to urban planning. Through his vision, empty spaces evolve from overlooked gaps to vital components that shape the character, history, and identity of a city. I believe that Libeskind's approach challenges the conventional perception of emptiness as mere absence, transforming it into a space pregnant with possibility.

In the light of the Libeskind's architectural project, also the historical void left by the Nazi destruction of the Jewish life and culture in Berlin took form, with the architecture of memory.[390] I think that clearly the themes of emptiness and memory take on a profound and exceptional resonance when explored in the context of the Holocaust, and they are intertwined.

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[386] Libeskind D., *Extension to the Berlin Museum with Jewish Museum department*, Berlin, Ernst & Sohn, 1992, p. 13.
[387] *Ibidem.*
[388] Huyssen A., *The Voids of Berlin*, in *Critical Inquiry*, vol. 24, n. 1 (1997), p. 72, http://www.jstor.org/stable/1344159.
[389] *Ibidem.*
[390] Huyssen A., *The Voids of Berlin*, in *Critical Inquiry*, vol. 24, n. 1 (1997), p. 75, http://www.jstor.org/stable/1344159.

The extreme nature of the Holocaust amplifies the meaning of empty spaces that are charged with gravity and silent witnesses of the past. Libeskind's understanding of these spaces goes further, for him they become vessels for the preservation of memory, bearing the weight of historical atrocities and the responsibility to ensure that such events are never forgotten. Furthermore, Libeskind's vision suggests that these empty spaces lead us to ask how architecture and memory can merge to create spaces that, although devoid of physical presence, are overflowing with historical and moral meaning.

The architecture of memory raises the topic of the identity of Berlin and the German nation. The Jewish Museum attempts to highlight the memory and the relationship that people have with it, all this using the spatial organization.[391]

The design idea for the particular planimetry of the museum derives from a previous project by Libeskind: the "*Line of Fire"* installation, at the Palace of Nations in Geneva, which became the prototype for the Jewish Museum.[392]

Line of Fire was characterized by a zigzagging shape, Libeskind then transformed his intuition into the museum project.[393]

[391] Huyssen A., *The Voids of Berlin*, in *Critical Inquiry*, vol. 24, n. 1 (1997), p. 75, http://www.jstor.org/stable/1344159.
[392] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 27.
[393] *Ibidem.*

Studio Libeskind – Line of Fire, center for contemporary art, Geneva, https://libeskind.com/publishing/line-of-fire-3/ (consulted on 27/01/2024).

Libeskind worked on his project on the Jewish Museum between 1989 and 2001, designing spaces born from his idea of architecture rich in meaning.[394] The continuous intersections of the lines create the "rhythm" of the building, they communicate something.[395] I think that the intricate interplay of lines in the floor plan of the Jewish Museum in Berlin, is a deliberate and symbolic expression of the complex narratives and histories associated with Jewish identity, history, and the profound impact of the Holocaust. The zigzagging and intersecting lines form a chaotic pattern that creates an

[394] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 27.
[395] *Ibidem.*

immediate visual disorientation. This deliberate fragmentation, for me, represents the disruptions and fractures in Jewish history, particularly emphasizing the dislocation caused by the Holocaust. The use of the lines by Libeskind can be interpreted not only as architectural technique but as a language to convey the tumultuous and complex experiences of the Jewish people.

The design of this museum is influenced by historical events both in its initial phase and at its conclusion: it was born at the end of the twentieth century, almost simultaneously with the demolition of the Berlin Wall, with the end of the Cold War and the beginning of European reunification; and ends with one of the most tragic events in history and the beginning of the democratic wars towards the Islamic world.[396]

Daniel Libeskind will find himself the architect with the task of recounting these historical events in the future, with the task of giving voice to architecture, to ensure that everyone knows, and no one forgets. Libeskind tries to convince and demonstrate the value of memory as a constitutive element of Berlin.[397]

With his vision Libeskind brought new and challenging perspectives to the role of the Jewish Museum in contemporary society.[398] To the architect was presented with the challenge of how to work with an existing and historical building to create something completely new and different, in order to reflects the local community's visions and to give honour to the Jewish experience.[399] As Daniel himself stated: "Museums are being built to regenerate themselves. Museums today represent a public discourse, a public activity, and a public attraction. They perform the considerable function in a secular world. Museums are the places where people are mirrored in artifacts that testify to their existence."[400]

On 10 September 2001 the Jewish Museum of Berlin was inaugurated.[401]

[396] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 28.
[397] *Ibidem.*
[398] Libeskind D., Schwarzer M., Young J. E., *Daniel Libeskind and the Contemporary Jewish Museum: New Jewish Architecture from Berlin to San Francisco,* New York, Rizzoli, 2008, p. 35.
[399] Libeskind D., Schwarzer M., Young J. E., *Daniel Libeskind and the Contemporary Jewish Museum: New Jewish Architecture from Berlin to San Francisco,* New York, Rizzoli, 2008, p. 36.
[400] Libeskind D., Schwarzer M., Young J. E., *Daniel Libeskind and the Contemporary Jewish Museum: New Jewish Architecture from Berlin to San Francisco,* New York, Rizzoli, 2008, p. 37.
[401] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 28.

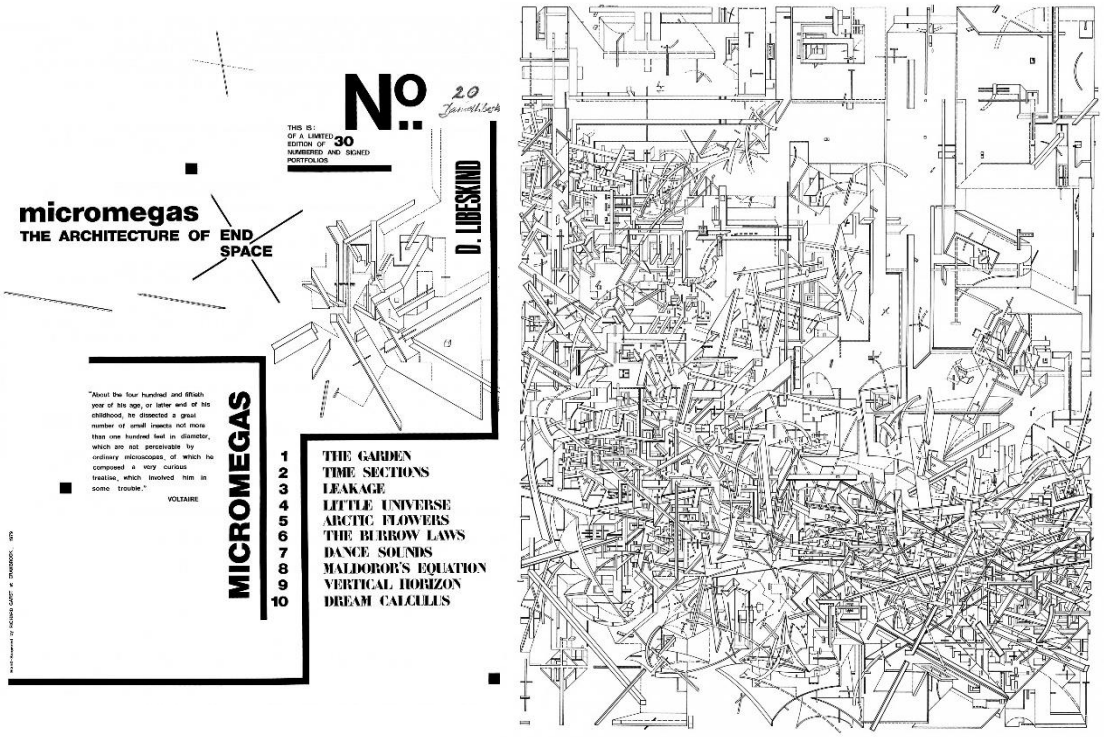
3.2 Architectural design and spatial experience

For Libeskind, architectural and design drawing is an important creative act, without particular practical or theoretical purposes.[402] He uses drawing to try to broaden knowledge, to try to reveal and highlight the invisible reality that is created between all the lines drawn on the paper.[403] For Libeskind, drawing is the shadow of a physical object, it is a free form of questioning of space and of the desires that arise in the attempt to understand forms.[404] I think that as a shadow is a representation of a physical object's presence, a drawing serves as a visual manifestation of the architect's conception of a structure or space. The act of drawing becomes a translation of ideas into a tangible, visual language, offering insights into the architect's imaginative process. The drawing can be interpreted as a liberating and creative medium, in which the sketching process itself becomes a means of investigation and discovery.

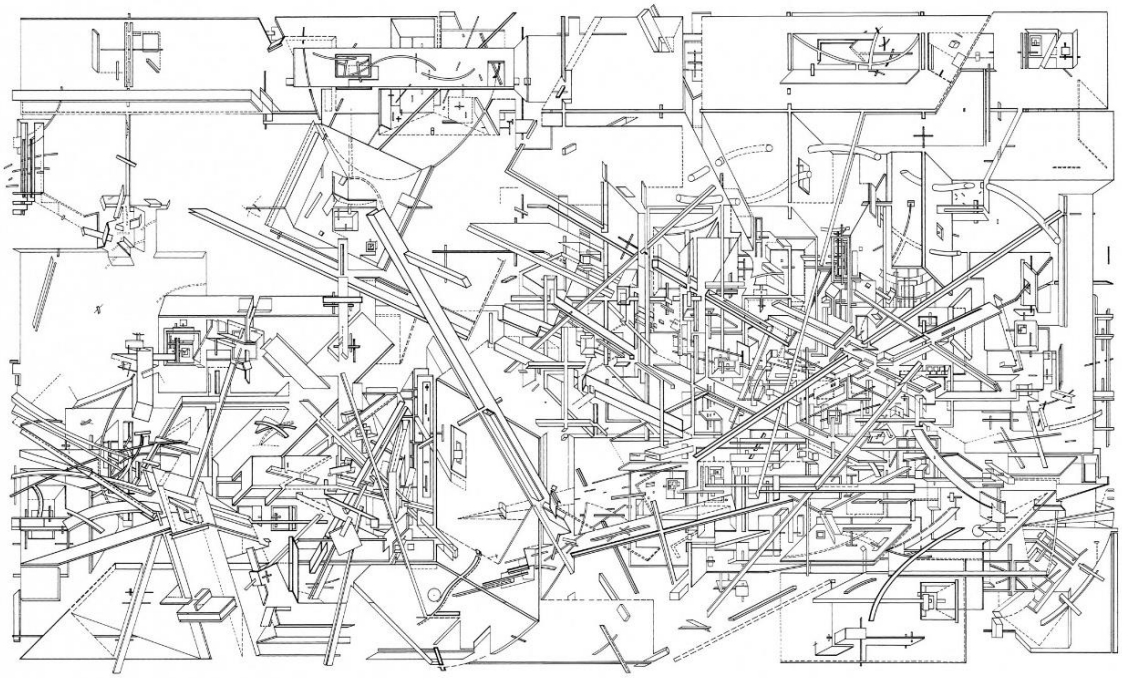
In contrast to contemporary architecture committed to finding new forms through the information revolution, always using new computer tools, Libeskind presents, with his drawings, architecture as a lifestyle and, like a Homeric character, goes in search of boundaries of his knowledge, with drawings and projects that are not born virtually, are not aseptic or only technical, but are made to feel emotions, the memory and meaning of things, perceive the spiritual and cultural aspirations that they evoke, and which are often still unknown to us.[405]

I would say that for Libeskind drawing is not just a technical skill or a means to an end, but more of a nuanced and expressive process, a dynamic exploration of space, attempts to understand and articulate forms. It is indeed interesting to mention the series of drawings entitled "*Micromegas*" produced by the architect, this series is characterized by the infinity of spaces created without the use of pre-established equipment of Cartesian grids or reference axes.[406]

[402] Libeskind D., Schwarzer M., Young J. E., *Daniel Libeskind and the Contemporary Jewish Museum: New Jewish Architecture from Berlin to San Francisco*, New York, Rizzoli, 2008, p. 37.
[403] Terragni A., *Daniel Libeskind*, Pero (MI), 24ORE Cultura, 2012, p. 25.
[404] *Ibidem.*
[405] *Ibidem.*
[406] *Ibidem.*



Studio Libeskind, *Micromegas – drawings*, https://libeskind.com/work/micromegas/ (consulted on 27/01/2024).



Studio Libeskind, *Micromegas – drawings*, https://libeskind.com/work/micromegas/ (consulted on 27/01/2024).

To our eyes a dense concentration of lines appears, which almost seem to have impressive and very different speeds and accelerations, these are the projection onto the sheet of imaginary spaces that are around us, in times, places and dimensions that we do not yet know, but of which ones we can experience.[407]

Libeskind entitled his project of the Jewish Museum "*Between the Lines*", if we look at the museum's map we can understand why.

All being trying to find out the addresses of some famous Berliners, born or adopted, like Kleist, Heine, Mies van der Rohe, Schönberg, Walter Benjamin, all lived around the site of Lindenstraße, Germans and Jews, all Berliners, "people who formed the culture we know as "Berlin".[408] The connection between the addresses where the city's emblems lived created a kind of distorted hexagonal form.[409]

From this framework Libeskind takes inspiration, he wrote: "I did not want to begin with a grid, or with a square or a module, but I had to start somewhere in the nowhere. This rather irrational set of lines forms a nexus that links up certain anonymous places in Berlin, both East and West. But it is also a series of connections between unreal places and real people. That is one dimension; let's call it the *architectonic dimension*, the irrational invisible matrix, of the project."[410]

The second dimension of the project is a musical one.[411] Libeskind has long been fascinated by Schönberg's[412] unfinished opera "Moses and Aaron".[413] The composer writes the title of the work composed of twelve letters, forming a twelve-tone system.[414] What interested particularly the architect was the fact that Schönberg started the work in Berlin between 1930 and 1932, shortly before being forced to emigrate to the United

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[407] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 25.
[408] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism,* Munich, Prestel, 1991, p. 64.
[409] *Ibidem.*
[410] *Ibidem.*
[411] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism,* Munich, Prestel, 1991, p. 65.
[412] Schönberg Arnold (1874-1951) was a musician with a restless spirit, he approached the most innovative cultural environments. In 1901 he went to Berlin, where he devoted himself to teaching; in 1933, pushed by the Nazi government, he moved to the United States. In 1940 he took American citizenship; in 1944 he retired from teaching. Schönberg is associated with the development of a set of rules, to which he gave the name of twelve-tone (1921), which was widely spread, establishing itself as one of the main composition systems of the twentieth century. The last work to which the musician dedicated himself was the opera Moses und Aron, which he began in 1930 and never finished (from *Schönberg Arnold* in treccani.it).
[413] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism,* Munich, Prestel, 1991, p. 65.
[414] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino,* Torino, Testo & immagine, 1998, p. 51.

States in 1933, and then he was unable to complete it.[415] "Schönberg was an assimilated Jew who had converted to Protestantism in 1898, eventually returning to his Jewish faith in 1933, and, of interest to Libeskind and his cultural "topography" of Berlin, he had worked as a professor of music near the Berlin Museum."[416]

The libretto of the opera was derived from the Book of Exodus and explores the ideological conflict between the two protagonists, Moses and his brother Aaron, the *revealed truth*, unimaginable, and the *popular truth*, the one communicated to everyone.[417] Moses is granted, by God, the ability to comprehend the "idea" but the gift of speech is withheld, while Aaron does not grasp the "idea" but is able to communicate and move the masses.[418] The dialogue between Aaron and Moses is a dialogue between the mouthpiece of the people of Israel and the one who understands that there is nothing to show to people.[419]

In relation to the Jewish Museum Berlin, Libeskind explains: "*Moses und Aron* was written at this time and around this space. It is not coincidental that the sound came to him right here in Kreuzberg and in Berlin-Mitte. His music is emblematic in every way of what happens to the sound - the conversation between Moses and Aron - which is broken off. Aron speaks on behalf of the people; he is the master of the people's truths; he wants simple and clear answers. Moses, on the other hand, is hardly able to endure the absence of the Word. At the end of this break there is the call for the Word. And what is very interesting musically is that there is no more singing in this opera... The voice is alone with the orchestra playing one single note - sixty or seventy instruments play one note and then they stop. And the voice calls out; it does not sing; on the contrary, it literally calls out for the Word and for the truth of that absent Word. I think that this is not only a poignantly unsurpassed and unsurpassable 20th century musical experience, but it also possesses an architectural dimension. It represents a dimension of the kind of topography which was created by the devastation of humanity."[420]

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[415] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 51.
[416] Koenig W. K., *The Art of interruption: a comparison of works by Daniel Libeskind, Gerhard Richter, Ilya Kabakov*, The Ohio State University, 2004, p. 83.
[417] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 51.
[418] Koenig W. K., *The Art of interruption: a comparison of works by Daniel Libeskind, Gerhard Richter, Ilya Kabakov*, The Ohio State University, 2004, p. 84.
[419] Libeskind D., *Between the Lines*, in *Architecture in Transition – Between Deconstruction and New Modernism*, Munich, Prestel, 1991, p. 63.
[420] Libeskind D., *Jewish Museum Berlin*, Barcelona, Ediciones Polìgrafa, 2011, pp. 24-25.

Libeskind sought to architecturally complete Schoenberg's opera which ends at the end of the second act with Moses addressing the absence of speech. The architect tried to address the absence of the deportees and missing persons using a technique similar to "interruption": the voids inside the museum.[421]

After the musical dimension and the architectural one with the pattern of lines connecting invisibles, the third element is a book, it's the textual dimension.[422] As we already said the plan of the Museum takes inspiration from the union of the addresses of some famous Berliners who lived around the site of Lindenstraße; this was possible because Libeskind decided to write to the Federal Information Office in Bonn and asked for books that contained the names of all the Jewish people who were deported from Berlin. They send him two-volume set: "like a giant, black telephone-book, with nothing in it but names in alphabetical order, an amazing publication. Just names, dates of birth, dates of deportation, and places in different parts of Europe where millions of Jews were exterminated by Germans."[423] Since the project was in Berlin, he looked for the names of Berliners.[424]

The building itself should be a representation of the complex history, the sharped angles and the geometries want to demonstrate the different narrations inside.[425] The building seems to have the shape of a bolt of lightning, a hard and violent sign, which abruptly changes direction several times, it has an uncontrollable geometry, as is the history of man, full of continuous and painful fractures.[426]

The plan is based on two lines, one straight with constant section, broken into pieces and the other one zigzagging with variable section, complex that continued indefinitely.[427]

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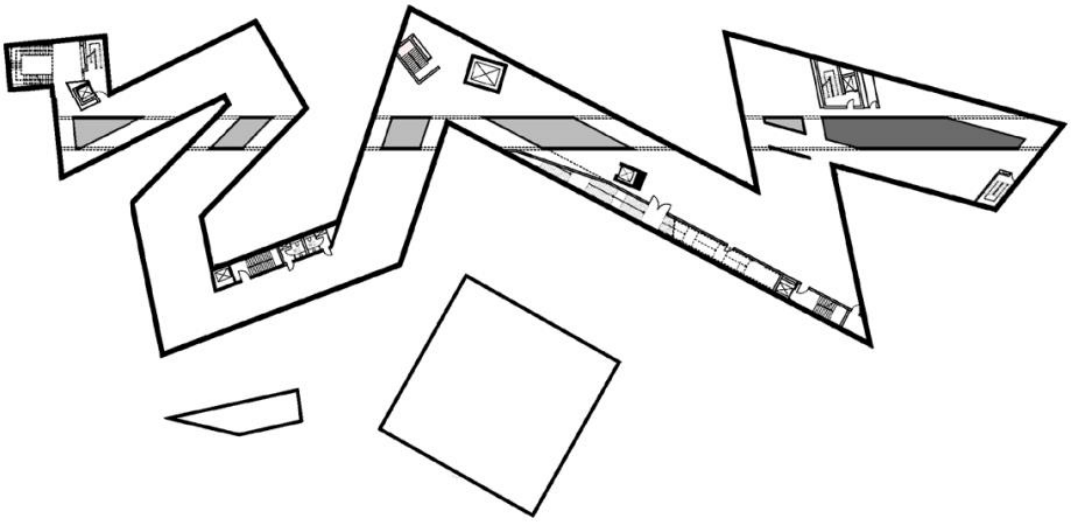
[421] Koenig W. K., *The Art of interruption: a comparison of works by Daniel Libeskind, Gerhard Richter, Ilya Kabakov*, The Ohio State University, 2004, p. 84.
[422] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism,* Munich, Prestel, 1991, p. 66.
[423] *Ibidem.*
[424] *Ibidem.*
[425] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino,* Torino, Testo & immagine, 1998, p. 50.
[426] *Ibidem.*
[427] Terragni A., *Daniel Libeskin,* Pero (MI), 24ORE Cultura, 2012, p. 40.



Tanović S., *Experiences between the lines*, TU Delft Repositories, p. 12, PDF, https://repository. tudelft.nl/islandora/object/uuid:5621ca18-e85c-4918-afd9-ef5d3c1300bf/datastream/OB J/download.

These two lines develop through a definite dialogue, but they also fall apart and become disengaged.[428] Libeskind sustains that fragmentation is part of the coherence of the ensemble, the history is fragmented to become accessible, functionally, and intellectually.[429] I think that in Libeskind's vision, fragmentation goes beyond the aesthetics of the building, but can serve as a means of making history more accessible to visitors. By breaking the narrative into distinct elements or moments, each fragment becomes an entry point for exploration, allowing for a deeper understanding of the historical context. I believe this is particularly interesting especially when dealing with complex and traumatic events such as the Holocaust, where different perspectives and layers resist easy unification into a single narrative. Furthermore, functionally, different sections or fragments of the building can serve specific purposes, creating a dynamic and versatile environment, which encourages visitors to interact with the architecture, stimulating thought and reflection.

[428] Libeskind D., Schwarzer M., Young J. E., *Daniel Libeskind and the Contemporary Jewish Musum: New Jewish Architecture from Berlin to San Francisco,* New York, Rizzoli, 2008, p. 49.
[429] Libeskind D., *Between the Lines: Extension to the Berlin Museum*, with the Jewish Museum. *Assemblage*, n. 12 (1990), p. 49, https://doi.org/10.2307/3171115.

The lines cross each other five times and in the intersections are located some "Voids", vertical bare-concrete spaces, almost empty, not heated, according to Libeskind: "an emblem where the not visible has made itself apparent as a void, an invisible…The idea is very simple: to build the museum around a void that runs through it, a void that is to be experienced by the public."[430]

Tanović S., *Experiences between the lines*, TU Delft Repositories, The Void, p. 12, PDF, https://repository.tudelft.nl/islandora/object/uuid:5621ca18-e85c-4918-afd9-ef5d3c1300bf/datastream/OBJ/download.

Describing further the relationship between these two lines, Libeskind wrote: "[…] it is really between two lines of thought […]. There are the two lines of contemporary dichotomy, the lines which create the rift between faith and action, between political belief and architectural response. These lines develop themselves, because they have a logic. They also fall apart: you cannot keep them together because they become completely disengaged; there is no way to keep them mutually intertwined. Therefore, the lines show themselves as separated, so that the void, which has been centrally running through what is continuous, materializes itself outside as what has been ruined, or rather as the remnant or residue of independent structure. I call this the "voided void", a void which has itself been voided, a deconstruction which has itself been deconstructed.

[430] Libeskind D., *Between the Lines,* in *Daniel Libeskind: Extension to the Berlin Museum with Jewish Museum department*, Berlin, Ernst & Sohn, 1992, p. 63.

Fragmentation and displacement mark the coherence of the ensemble in this type of operation, because the thing has come undone in order to become accessible, both functionally and intellectually."[431] I believe that this comment by Libeskind delves very deeply into the contemporary dichotomy that exists between faith and action, political belief and architectural response. I think his observation highlights the separation of these lines that turns into what Libeskind calls the "*voided void"*, a concept that represents not just an absence but a deconstruction that has itself been deconstructed. The fragmented nature of the architectural response becomes an excellent means of making the void tangible, externalizing the ruptures and disengagement that exist within the dichotomy.

Libeskind introduces the theme of the invisible during the design phase, precisely to try to make people reflect on the idea of architecture as a language.[432] For him, physical and architectural space are two different dimensions; the relationship with the built environment is influenced by our adaptation to the environment which allows us to feel certain sensations.[433] I believe that obviously the human experience within physical spaces is largely sensorial, influenced by elements such as light, sound and structure. Libeskind within physical spaces recognizes the emotional and symbolic weight they carry, but also the cultural and historical one. However, through architecture we can create spaces that inspire, provoke thought and contribute to the cultural and intellectual fabric of a place, we can go beyond sensory input.

Even the temporal dimension, if you think about it, can be a point of differentiation. Physical spaces exist in the present and are subject to immediate adaptation, while architectural spaces aspire to resist time, bringing with them historical resonance and a sense of continuity that transcends the immediate. I believe that for Libeskind, therefore, the distinction between physical space and architectural space does not reside only in the tangible aspects but at the level of emotions, symbolism, intellect, and philosophy. Architectural spaces, in his vision, become vessels for narrative, cultural representation and profound human experiences that resonate far beyond the immediate functionality of a place.

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[431] Libeskind D., *Between the Lines*, in *Architecture in Transition – Between Deconstruction and New Modernism*, Munich, Prestel, 1991, p. 70.
[432] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 22.
[433] *Ibidem.*

Invisibility derives from the function and purpose of a place, it is *the character* of the architectural space around us that generates perceptions, a communication process is activated within which infinite emotions, signs and experiences pass.[434] Just as a piece of music can arouse precise emotions, so can architecture, if you are willing to listen. Each space has its own structure, voice, and tone.[435]

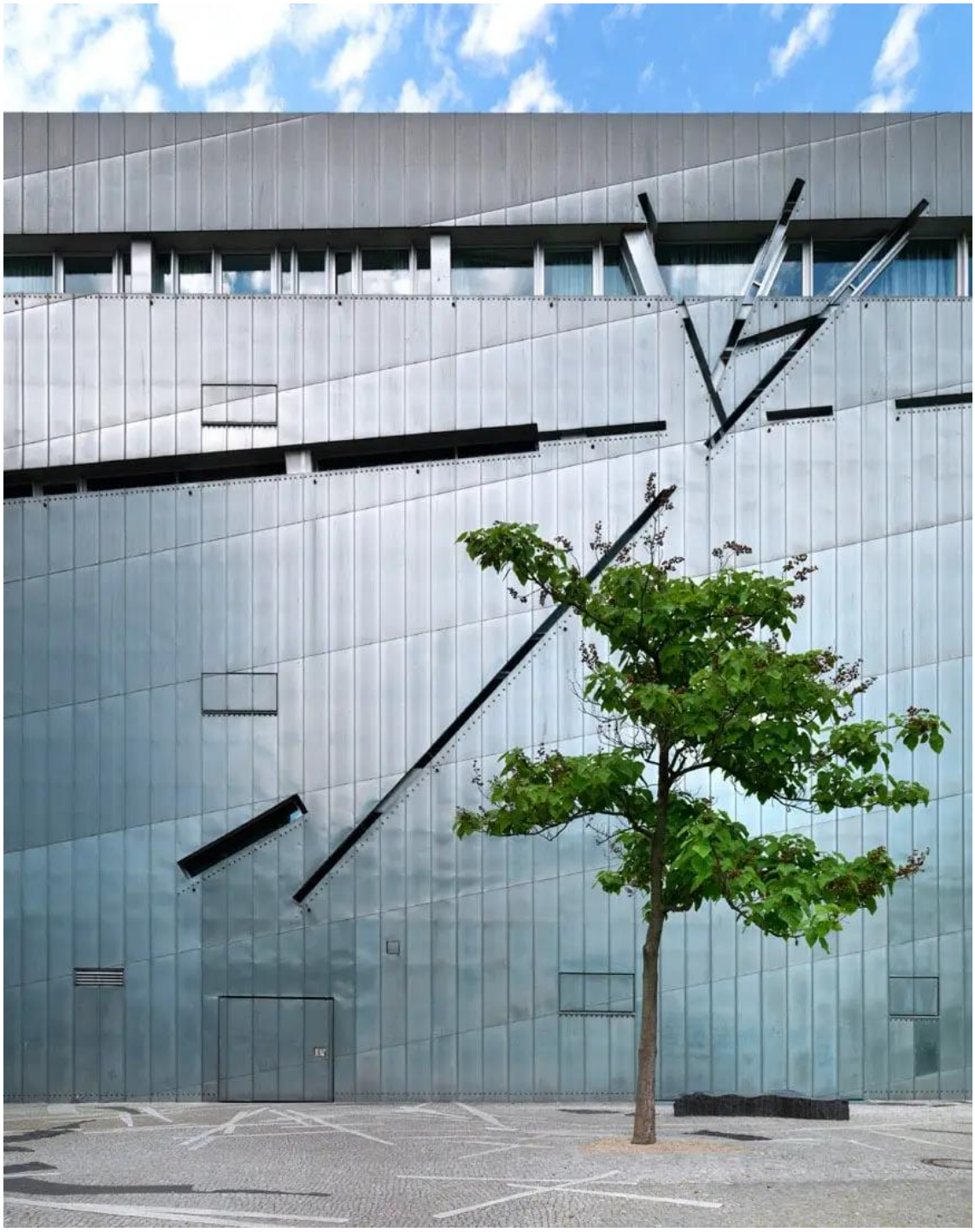
The relationship between full and empty cannot be measured with theoretical canons, but on the intensity of their proportion, in their ability to define boundaries in space and make surfaces and lack clearly visible.[436] I believe that in the dynamic relationship between full and empty spaces, for Daniel Libeskind, the crucial point lies in proportion. Rather than relying on numerical parameters, Libeskind prefers to move in the intensity of proportions in order to obtain a spatial composition of great impact. For example, the perimeter walls of the Jewish Museum in Berlin, with their distorted and broken shape, seem in perfect harmony with the museum. Walls are not perceived as simple physical barriers; I remember experiencing it myself. The wall perimeter contributes to the narrative and the idea of fragmentation that permeates the entire building; the perimeter of the museum can be interpreted as a sort of symbolic border, which conveys a strong sense of inaccessibility, isolating and separating.

One of the numerous voids, that are created inside the building, is called *Memory Void*: the space is several meters deep and three stories highland, and it host the impressive artwork "Shalechet" (Fallen Leaves), installation by the Israeli artist Menashe Kadishman.[437] Covering the floor there are over ten thousand circular open-mouthed faces cut from steel plates, of different dimension, the terror in the faces of the victims is almost palpable.[438] When walking over them, stepping on these suffering faces, they create a lot of unpleasant noise echoed by the bare concrete walls.[439]

[434] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 22.
[435] *Ibidem.*
[436] *Ibidem.*
[437] Tanović S., *Experiences between the lines*, TU Delft Repositories, p. 19, PDF, https://repository.tudelft.nl/islandora/object/uuid:5621ca18-e85c-4918-afd9-ef5d3c1300bf/datastream/OB J/download.
[438] *Daniel Libeskind | The Jewish Museum Berlin – part 2*, Studio Libeskind, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-part2/ (consult on 28/01/2024).
[439] Tanović S., *Experiences between the lines*, TU Delft Repositories, p. 19, PDF, https://repository.tudelft.nl/islandora/object/uuid:5621ca18-e85c-4918-afd9-ef5d3c1300bf/datastream/OB J/download.

inexhibit, *Daniel Libeskind | The Jewish Museum Berlin – part 2*, The void with the "Shalechet", https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-part2/ (consulted on 28/01/2024).

The exterior of the structure is screened with a covering of zinc-titanium sheets, modular in size and interrupted by cuts which are narrow windows, all different, which create a supposedly random design, but actually inspired by an old map of Berlin.[440]



inexhibit, *Daniel Libeskind | The Jewish Museum Berlin – part 2*, A close-up of the building façade, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-part2/ (consulted on 28/01/2024).

[440] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 58.

Studio Libeskind, *Jewish Museum Berlin*, https://libeskind.com/work/jewish-museum-berlin/#:~:text=Daniel%20Libeskind's%20design%2C%20which%20was,integrated%20into%20the%20consciousness%20and (consulted on 28/01/2024).

This effect makes it difficult to identify the floor levels and room positions from the outside by looking at the façade.[441] Libeskind used various cladding materials: metal, glass, and mosaics; the use of illumination is not casual, it was thought of in a special way.[442] The lighting on the facade, as can be seen from the photo above, plays a significant role during the evening or night hours. Light can be shaped to make the building stand out in the surrounding city, underlining its presence and cultural role.

The façade presents itself as a rich luminous surface designed to create tension, with his texture and denaturalisation.[443] The glossy surface of the facade helps to reflect the light which is perceived in different ways during the different hours of the day, emphasizing the dynamics between light and shadow.

[441] *Daniel Libeskind | The Jewish Museum Berlin – part 2*, Studio Libeskind, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-part2/ (consulted on 11/11/2023).
[442] Libeskind D., *Between the Lines: Extension to the Berlin Museum*, with the Jewish Museum. *Assemblage*, *12*, 1990, p. 51, https://doi.org/10.2307/3171115.
[443] *Ibidem.*

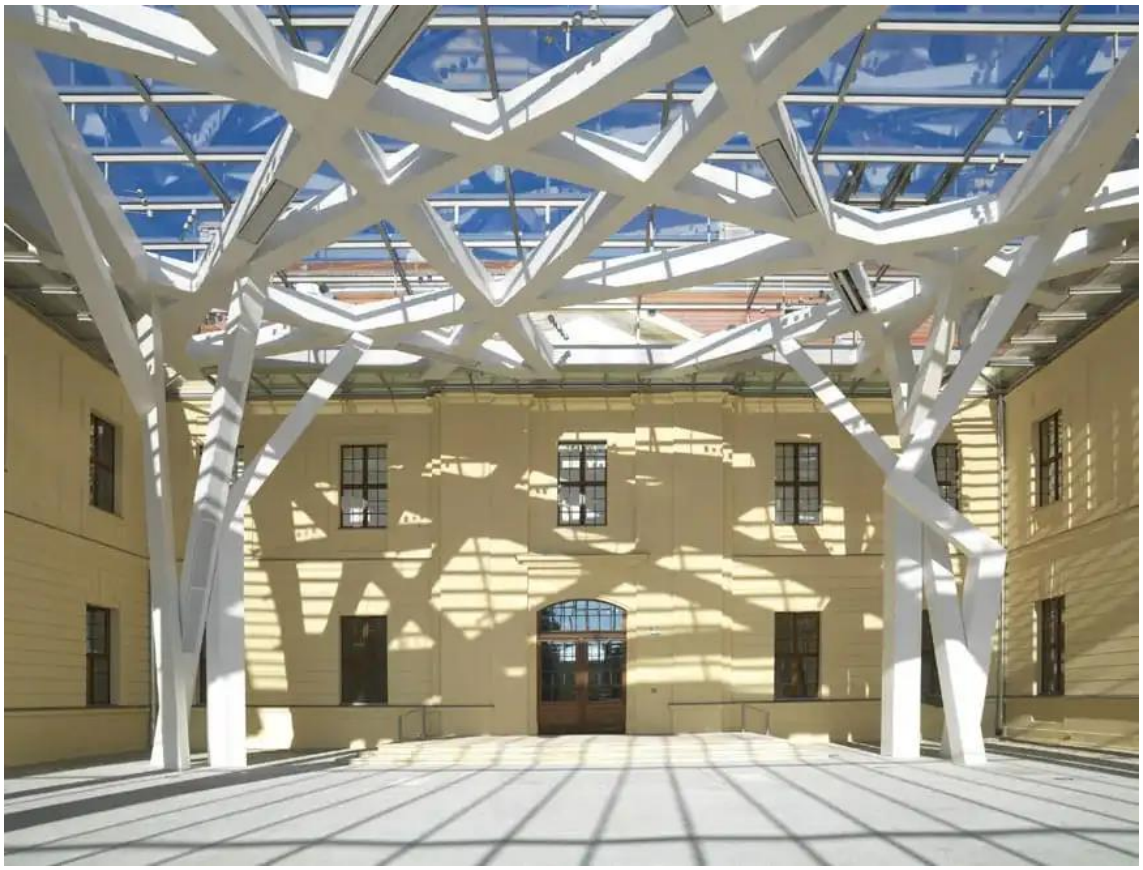
The Museum hosts the permanent exhibition of Kenneth C. Gorbey and Nigel Cox, entitled "Two Millennia of German Jewish History".[444] The exhibition explains the history of the Jewish in Germany, starting from Roman time till our days.[445] Along this narration, the buildings also house some temporary exhibitions and some site-specific artworks, such as the "Shalchet" previously cited.[446]

In the Kollegienhaus court, in 2004, the Jewish Museum commissioned to the Studio of Libeskind to design a 670 square metres of transparent structure with multifunctional purpose, a space that would provide additional room to the museum's services.[447] The materials chosen in the design phase were steel and glass, he takes inspiration from the "Sukkah", the "Jewish booths.[448]

inexhibit, *Daniel Libeskind | The Jewish Museum Berlin – part 2*, A close-up of the building façade, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-part2/ (consulted on 28/01/2024).

[444] *Daniel Libeskind | The Jewish Museum Berlin – part 2*, Studio Libeskind, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-part2/ (consulted on 11/11/2023).
[445] *Ibidem.*
[446] *Ibidem.*
[447] Libeskind D., *Jewish Museum Berlin*, Barcelona, Ediciones Polìgrafa, 2011, p. 75.
[448] *Daniel Libeskind | The Jewish Museum Berlin – part 2*, Studio Libeskind, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-part2/ (consulted on 11/11/2023).

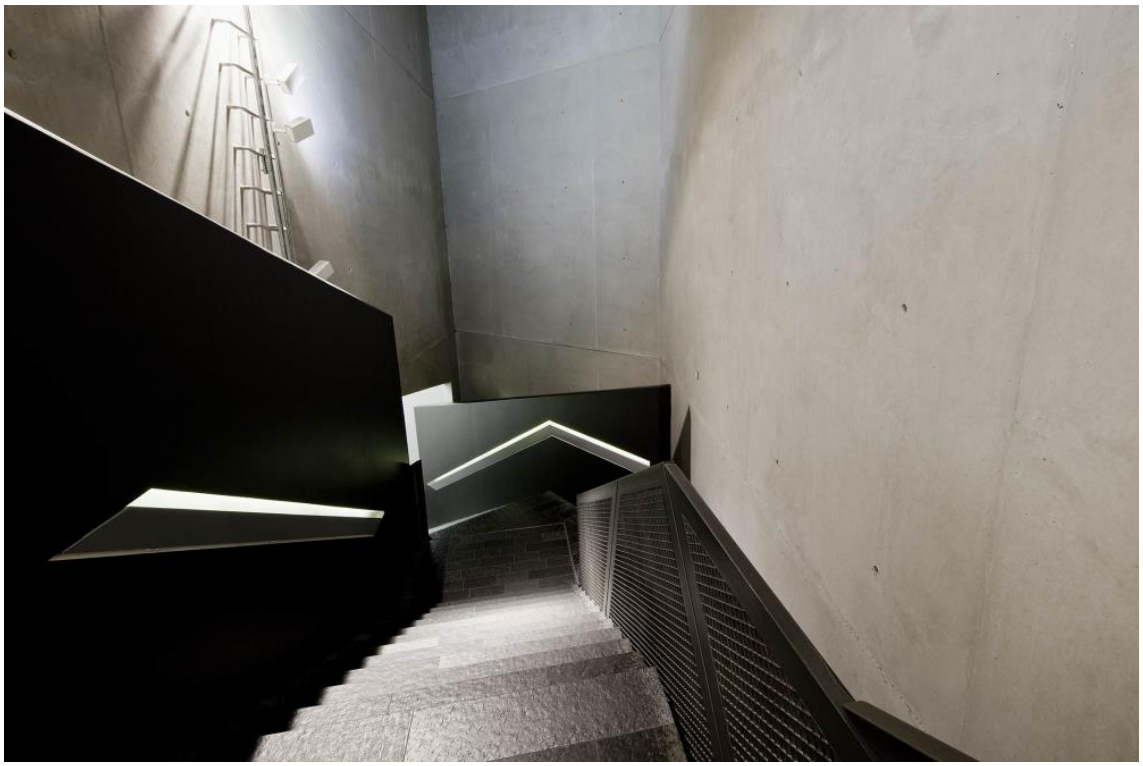
Libeskind's idea in the glass courtyards, that was completed in 2007, was to create a continuity between the new zone of Jewish Museum and the Kollegienhaus building dating back to 1735.[449] Continuity can be interpreted symbolically, representing the coexistence of different historical and cultural periods. The use of glass in the courtyards creates a visual transparency that allows the visitor to perceive both areas, the new and the historic, simultaneously, helping to establish a visual dialogue intended to highlight the coexistence of two historical periods.



inexhibit, *Daniel Libeskind | The Jewish Museum Berlin – part 2*, A close-up of the building façade, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-part2/ (consulted on 28/01/2024).

Entering from the entrance located in the Kollegienhaus, visitors must descend to an underground basement level, across a vast, empty concrete space that "swallows".[450]

[449] Libeskind D., *Jewish Museum Berlin*, Barcelona, Ediciones Polìgrafa, 2011, p. 75.
[450] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 59.

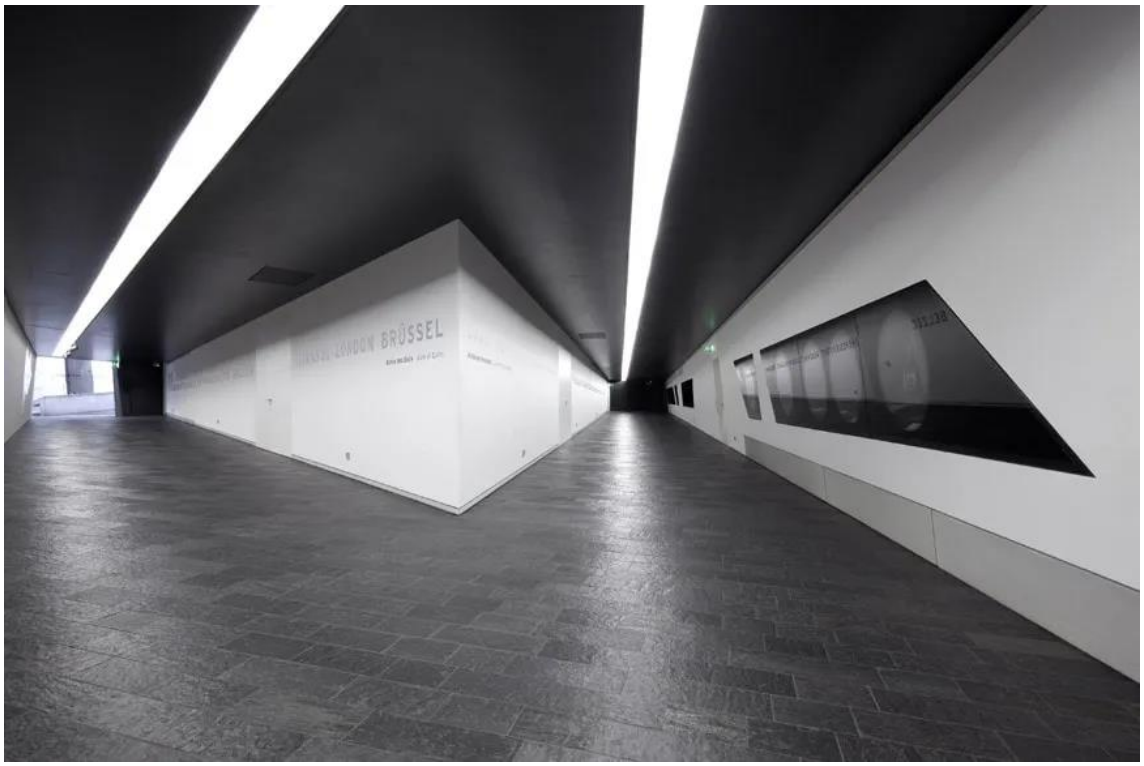


Jüdisches Museum Berlin, *The Libeskind building*, The staircase, https://www.jmberlin.de/en/libeskind-building (consulted on 28/01/2024).

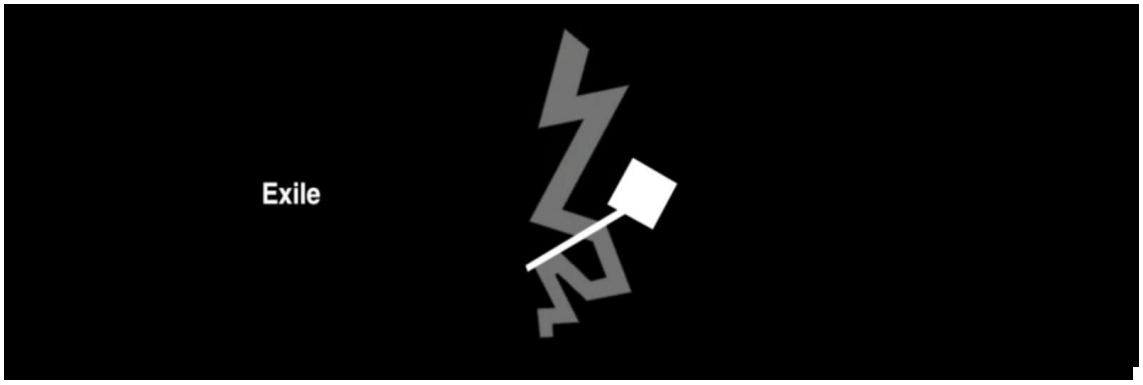
From this point, a passage links the old and the new buildings, serving as their sole connection, creating the illusion of no apparent connection between the two structures despite their profound interconnectedness.[451] The underground connection seems to represent the autonomy of the buildings on the surface, while binding them even more in depth; as if one had to go through a processional rite before entering the museum.[452]

At this point, three possible intersecting paths open up for the visitor.[453] Three different underground axes, each expressing a specific theme, connect the descending point with different parts of the complex.[454]

[451] *Daniel Libeskind | The Jewish Museum Berlin – part 1*, Studio Libeskind, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-berlin/ (consulted on 11/11/2023).
[452] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 59.
[453] *Ibidem.*
[454] *Daniel Libeskind | The Jewish Museum Berlin – part 1*, Studio Libeskind, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-berlin/ (consulted on 11/11/2023).



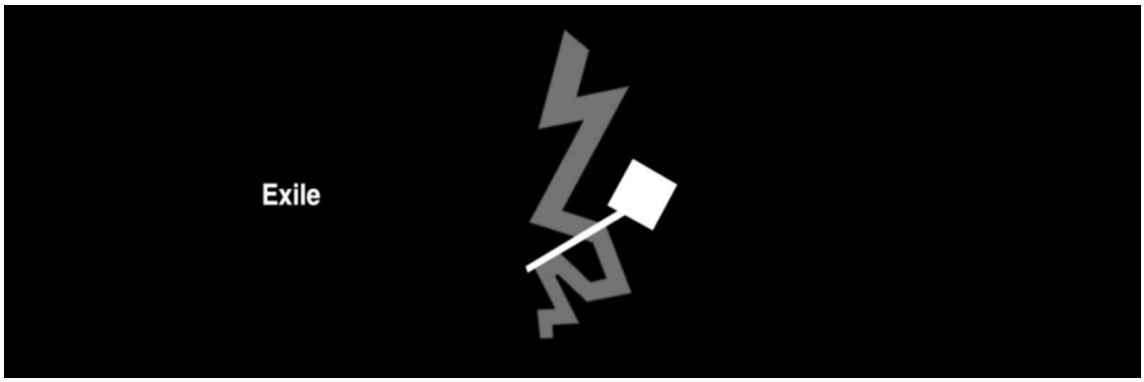
inexhibit, *Daniel Libeskind | The Jewish Museum Berlin – part 1*, The "Axis of Exile" and the "Axis of Holocaust, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-berlin/ (consulted the 18/01/2024).



A.C. Souhrada, *Daniel Libeskind's Jewish Museum - Berlin*, YouTube, 07/12/2016, https://www.youtube.com/watch?v=pHlatz0bCUU (consulted on 24/12/2023).

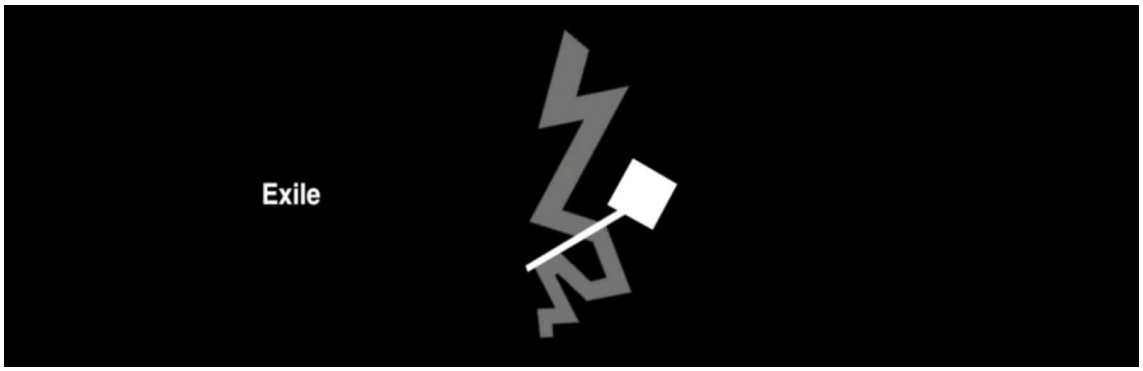
The "Axis of Continuity", facing east, which guides visitors to the exhibition galleries.[455] This route is dedicated to the unbroken flow of history, in an ascending way (from the underground to the upper floors), from the roots of man to his uncertain future.[456]

[455] *Daniel Libeskind | The Jewish Museum Berlin – part 1*, Studio Libeskind, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-berlin/ (consulted on 11/11/2023).
[456] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 61.



A.C. Souhrada, *Daniel Libeskind's Jewish Museum - Berlin*, YouTube, 07/12/2016, https://www.youtube.com/watch?v=pHlatz0bCUU (consulted on 24/12/2023).

The "Axis of Emigration", facing south-east, representing those compelled to depart from Germany, leads to both natural light and the Garden of Exile and Emigration, where an arrangement of inclined concrete boxes contains a cluster of willow oaks.[457] Each container tilts at a 12° angle from the vertical, replicating the disorienting and precarious sensations experienced by the exiles.[458]



A.C. Souhrada, *Daniel Libeskind's Jewish Museum - Berlin*, YouTube, 07/12/2016, https://www.youtube.com/watch?v=pHlatz0bCUU (consulted on 24/12/2023).

The third axis, facing south, leads to the dark, the death, where the Holocaust tower stands, the *Voided Void*;[459] alongside this path are glass display cases housing personal items that once belonged to individuals victimised by the Nazis.[460]

[457] *Daniel Libeskind | The Jewish Museum Berlin – part 1*, Studio Libeskind, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-berlin/ (consulted on 11/11/2023).
[458] *Ibidem.*
[459] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 61.
[460] *Daniel Libeskind | The Jewish Museum Berlin – part 1*, Studio Libeskind, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-berlin/ (consulted on 11/11/2023).

A.C. Souhrada, *Daniel Libeskind's Jewish Museum - Berlin*, YouTube, 07/12/2016, https://www.youtube.com/watch?v=pHlatz0bCUU (consulted on 24/12/2023).

These last two paths, however, want to symbolically represent the possibilities actually offered by the twentieth century: the garden of exile (Palestine) or execution.[461] These three diverging axes ultimately intersect, thus symbolising the interconnectedness of the different narratives of German Jews.[462]

The "Garden of Exile and Emigration", mentioned previously, is dedicated to the Romantic poet and composer E.T.A. Hoffmann, who worked as a lawyer in the Kollegienhaus, and so it takes on a double meaning: of reason and of human rights.[463] The garden, with a square plan, presents itself with infinite harshness. The perception that the garden is inclined is destabilizing, the aim is to also destabilize mentally, leading one to question every certainty.[464] Daniel Libeskind wrote: "The 'upside down' garden (the Garden of Exile and Emigration) presents a 7x7 titled square. The columns contain earth and an underground irrigation system which permits willow oak to emerge and bind together at the top. Forty-eight of these columns are filled with the earth of Berlin and stand for 1948 – the formation of the State of Israel. The one central column contains the earth of Jerusalem and stands for Berlin itself."[465]

[461] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 61.

[462] *Daniel Libeskind | The Jewish Museum Berlin – part 1*, Studio Libeskind, https://www.inexhibit.com/case-studies/daniel-libeskind-jewish-museum-berlin/ (consulted on 11/11/2023).

[463] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino*, Torino, Testo & immagine, 1998, p. 54.

[464] *Ibidem.*

[465] Schneider B., *Daniel Libeskind, Jewish Museum Berlin - Between the lines*, Munich, Prestel, 1999, p. 40.

Jüdisches Museum Berlin, *Architecture of the Jewish Museum of Berlin,* Garden of Exile, https://www.jmberlin.de/en/press-images-architecture-jewish-museum-berlin (consulted on 28/01/2024).

The garden can be accessed through a glass door, this is the only way leading outside, evoking the idea of exile as the only way to freedom.[466] The columns which are perpendicular to the sloping pavement, produce an effect as if the surrounding buildings totter; what remains and what falls seems uncertain and there is nothing around that could provide orientation and security with a common level.[467]

[466] Schneider B., *Daniel Libeskind, Jewish Museum Berlin - Between the lines,* Munich, Prestel, 1999, p. 50.
[467] *Ibidem.*

Studio Libeskind, *Jewish Museum Berlin*, https://libeskind.com/work/jewish-museum-berlin/#:~:text=Daniel%20Libeskind's%20design%2C%20which%20was,integrated%20into%20the%20consciousness%20and (consulted on 28/01/2024).

The Holocaust tower, instead, is a dark and cold space, a distressing place where you can meditate, far from the noise and distractions of the city.[468] It is a place that leaves you without hope and tries to remember that Jewish history is intrinsic to Berlin's history.[469] The suspended passages host small thematic collections, to confirm an unconventional approach to design.[470]

With its 30 connecting bridges, 7000 square metres of permanent exhibition space, 450 square meters of temporary exhibition space and 4000 square metres of storage, office and auditorium, the Jewish Museum occupies three times the space of the Berlin Museum.[471] The Jewish extension to the Berlin Museum has become the perfect place where the world can come to understand Berlin's own past.[472]

[468] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino,* Torino, Testo & immagine, 1998, p. 54.
[469] *Ibidem.*
[470] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino,* Torino, Testo & immagine, 1998, p. 56.
[471] Libeskind D., Schwarzer M., Young J. E., *Daniel Libeskind and the Contemporary Jewish Museum: New Jewish Architecture from Berlin to San Francisco,* New York, Rizzoli, 2008, p. 50.
[472] Libeskind D., Schwarzer M., Young J. E., *Daniel Libeskind and the Contemporary Jewish Museum: New Jewish Architecture from Berlin to San Francisco,* New York, Rizzoli, 2008, p. 51.

Jüdisches Museum Berlin, *The Axes and the Holocaust Tower*, Inside the Holocaust Tower, https://www.jmberlin.de/en/libeskind-building#media-60187 (consulted on 28/01/2024).

Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino,* Torino, Testo & immagine, 1998, p. 53.

Libeskind's project is truly and literally "A voyage into the substance of a city and its architecture entails a realignment of arbitrary points, disconnected lines and names out of place along the axis of Universal hope."[473]

[473] Libeskind D., *Three projects, Berlin "City Edge" Competition 1987,* in *Deconstruction Omnibus Volume,* by Papadakis A., Cooke C., Benjamin A., London, Academy Editions, 1989, p. 197.

3.3 Exhibitions and narrative strategies

The exhibition approach chosen by Libeskind takes inspiration from biblical hermeneutics: the idea of presenting the permanent collections not in a definitive way, but as a work in progress, following a sequence metaphorically connected to the chapters of "*Einbahnstrasse*"[474] by Walter Benjamin, in which the author describes the Berlin apocalypse.[475] Benjamin's philosophical excursion into the urban reality of a metropolis, triggered by numerous factors as the architecture and consumption, were incorporated by Libeskind into his memorial space.[476] The continuous sequence of sections along zigzag, corresponds to the fragmentary structure that characterizes Benjamin's works, as well as in *Einbahnstrasse*: a collection of fragments, aphorisms, and short poetic prose, where the writings are arranged in a non-linear way, reflecting the associative thinking style and fragmentary structure.[477] The Museum does not follow a conventional formula of organization, the central dimension of the building is revealed only in time.[478]

About narrative strategies, it is interesting reflecting on the possibility of the existence of and "Jewish architecture", as suggested by the historian James E. Yong.[479] The architect Bruno Zevi can help us to better understand: "Beneath the differences in the intentions [of modern architecture], the authentic reality comes to light, breaking the chains of classicistic slavery with its fetishes of dogmas, principles, rules, symmetries, assonances, harmonious accords, and repressive monumentalism. Modern architecture, with its pulsating territorial and urban tensions, incorporates a prophetic component, at any rate, a capacity for hope. Jewish novelists often allude to prophecy as a lost value. Jewish architects, on the other hand, implement their plans with Messianic force. They cultivate their Jewishness in a reserved area. But the ideal, the Jewish fight for the emancipation of the "other", exerts a force, even in architecture."[480] The expression: "territorial and urban tensions", suggests a dynamic and vital connection with the surrounding context, indicating that modern architecture is not static but constantly evolving. Zevi's quote

[474] Benjamin W., *Einbahnstrasse,* Berlin, Rowohlt, 1928.
[475] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino,* Torino, Testo & immagine, 1998, p. 56.
[476] Libeskind D., *Jewish Museum Berlin,* Barcelona, Ediciones Polìgrafa, 2011, p. 12.
[477] *Ibidem.*
[478] Libeskind D., *Jewish Museum Berlin,* Barcelona, Ediciones Polìgrafa, 2011, p. 29.
[479] Libeskind D., Schwarzer M., Young J. E., *Daniel Libeskind and the Contemporary Jewish Museum: New Jewish Architecture from Berlin to San Francisco,* New York, Rizzoli, 2008, p. 45.
[480] Zevi B., *Ebraismo e architettura,* Firenze, Editrice La Giuntina, 1993, p. 83. Translation in "Libeskind D., Schwarzer M., Young J. E., *Daniel Libeskind and the Contemporary Jewish Museum: New Jewish Architecture from Berlin to San Francisco,* New York, Rizzoli, 2008, p. 46.

offers a passionate and idealistic vision of modern architecture, with particular attention to its social impact and the cultural forces that shape it. Zevi notes that Jewish architects implement their designs with messianic force. This reference to messiahship could be interpreted as a deep and passionate commitment to pursuing ideals, including the struggle for the emancipation of others.

Libeskind seems to ask if architecture can represent un-meaning and the search for meaning as well as can be representative of historical meaning.[481]

Libeskind has a fascinating conception of time, I feel I can affirm this, after having read these words: "I want to try to explain something about time — not only historical time, time in architecture, but also the time we are now living in. I came to the conclusion a while ago that when one is looking at time, looking at history, nothing seems to have taken place. One realizes that when one is looking at time, time is not playing along, time is not visible, so to speak, because one is looking for it. But then the minute you do not look for time you are transformed by it: suddenly it just happens overnight, so to speak, or between the drawings, or in between the works, that one has been completely transformed."[482] I think that contemplating time offers a deeper insight into its elusive nature. This perspective challenges us to reconsider our relationship with time, inviting us to embrace its fluidity and the transformative potential it holds, even when it escapes our conscious awareness. The Jewish Museum in Berlin can be seen as a response to post-Holocaust time and memory. The way Libeskind considers time in relation to architecture is showcased in the way the building dialogues with the past and present. Libeskind considers time not only as a linear element, but as a complex and layered construct that can be explored and interpreted through architecture. His projects seem to challenge traditional conceptions of history and time, inviting viewers to reflect.

Libeskind, furthermore, explained that he wanted to create a museum not only for the citizens of the present, but also for the one of the past and of the future: "Since they all are Berliners, were Berliners, and will be Berliners, they should also find in it a shared

[481] Libeskind D., Schwarzer M., Young J. E., *Daniel Libeskind and the Contemporary Jewish Museum: New Jewish Architecture from Berlin to San Francisco,* New York, Rizzoli, 2008, p. 49.
[482] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism,* Munich, Prestel, 1991, p. 63.

hope, which is something created in individual desire."[483] This quote shows us Daniel Libeskind's intention to create a space that is outside of the present time, involving both citizens of the past and those of the future. I think that Libeskind conceives of the museum as a place of shared hope, where the community, regardless of the era, can find a collective bond, a desire created within the context of individuality. The architect thought a path of the museum with the aim of discouraging a passive visit from the public. The objective wasn't to simulate a culture, but to involve the spectator to decide how, where, and what to do in a museum of the emblematic history of Berlin.[484] Thus, Libeskind tried to give voice to the common fate of Jews and not, to Berliners and not; a fate between being and something totally different.[485] He wrote: "So it is not only about space, not only an existential continuum, but also something completely other than text, completely other than construction, completely other than knowledge. It is not only about existence but also about inexistence. It seems to me that modern philosophy is really not an existential philosophy at all. Although it starts with existential philosophy and continues towards what seems to be modelled after a philosophy of something, it finally disappears and is reduced to a philosophy of exile, a philosophy of deprivation. You can say it is "inexistential" philosophy, and this perhaps is also one of the definitions of Modernism and Postmodernism."[486] Here Libeskind introduces the concept of "inexistence", underlining that the museum does not simply represent existence, but also incorporates elements of absence and deprivation. Starting from existentialist philosophy, the architect seems to underline how modernity leads to a philosophy that focuses on exile and deprivation. "Inexistential" philosophy, for Libeskind, could be one of the definitions of Modernism and Postmodernism.

The narrative strategy of Libeskind's project was to inspire poetry and music, but also it "should give a home to the ordered - disordered, the welcome - unwelcome, the chosen - not chosen, the vocal which is silent."[487] The architect wanted to across divisions and create a spiritual site, not just an architectural building. The narration was to enlighten the precariousness of Berlin's destiny, the past fatality of the German-Jewish cultural

[483] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism,* Munich, Prestel, 1991, p. 66.
[484] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism,* Munich, Prestel, 1991, pp. 66-67.
[485] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism,* Munich, Prestel, 1991, p. 67.
[486] *Ibidem.*
[487] *Ibidem.*

symbiosis.[488] The presence of Jewish nowadays in Berlin is completely incomparable with the one in the twenties and thirties. Libeskind wanted to brought visibility the German Jewish and German cultural tradition with the scope to create hope, showing which cannot be seen and perhaps has never been observed enough.[489] That is, I believe that Libeskind tried to represent the complexity of Jewish and German identity. The museum explores facets of Jewish identity in the context of Germany, challenging stereotypes and promoting a deeper understanding of multiple cultural and historical nuances. "The project seeks to reconnect this trace of history to Berlin and Berlin to its own eradicated history, which should not be camouflaged, disowned, or forgotten. I sought to reopen the meaning which seems to be only implicit in Berlin and to make it visible, to make it apparent, not to try to hide it or to disown it. So I took the great figures in the drama - or rather, the great figures in the drama of Berlin took me. Those who acted as the bearers of the once imminent hope and the bearers of a great anguish, of a great pathos: these I tried to graft into the building and the site."[490]

An important role is covered by the void, the invisible appeared as a void.[491] The idea of Libeskind was "to build the museum around a void that runs through it, a void that is to be experienced by the public. Physically, very little remains of the Jewish presence in Berlin—small things, documents, archive materials, evocative of an absence rather than a presence. I thought therefore that this "void" that runs centrally through the contemporary culture of Berlin should be made visible, accessible."[492] The intersections run from the bottom to the top of the building and are an inaccessible space to the public, they are something that exists but cannot be practised.[493] The intersections are visible from small bridges crossing the museum building at every level; the view seems to be over an abyss extending above and below who observe.[494] In the transition between the zigzag line and the straight one several changes can be perceived: the materials, the tactile and acoustic sensations.[495] These changes can give rise to a strong feeling of

[488] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism*, Munich, Prestel, 1991, p. 68.
[489] *Ibidem.*
[490] *Ibidem.*
[491] *Ibidem.*
[492] *Ibidem.*
[493] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 40, http://www.jstor.org/stable/1344159.
[494] Huyssen A., *The Voids of Berlin*, in *Critical Inquiry*, vol. 24, n. 1 (1997), p. 78, http://www.jstor.org/stable/1344159.
[495] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 40.

expropriation[496] of one's own experience.[497] The visitor of the zigzagging line crosses the spaces unconsciously, because when he encounters the intersections he doesn't notice a foreign presence, but perceives the changes in the space he is traveling through; the void fractures his experience in the museum.[498] These fractures have the conceptual function of a spine for the building, carrying the meaning of absence but also of a broken history, without continuity, the one of the Jews in Germany but also the linked history of Germany itself.[499] The crime against humanity presents itself as an obligation through which it is necessary to pass to understand where we come from.[500] Facing and understanding tragedies is, in my opinion, an ethical and moral responsibility. I believe that to evolve as a society and individuals, we must openly face the dark side of our history rather than ignore or minimize it. This is the reason why I think this type of narrative is incomparable to one made of objects installed in the museal exhibition spaces.

The architecture of the museum could be defined as "architecture of the invisible", of the *in between*, of being in the middle between the lines, between the solids and the voids; a perfect and complicated mechanism of proportions.[501] It is precisely the invisible spaces of the museum that help bring out the memory, the memory of the Holocaust, in the visitor.[502] But not only that, these spaces want to bring out awareness of all those tragedies in which humanity has suffered through war, terrorism, and injustice.[503]

The solids and voids have their own precise proportion, a clear and precise presence, but at the centre of the building the invisible dominates through which we want to evoke

[496] Martin Heidegger introduced the concept of "appropriating" and "expropriating" as part of his phenomenological analysis of being.
Heidegger uses the term *Ereignis* to refer to the appropriating element. *Ereignis* is an experience of being an opening in which human beings actively participate in the process of revealing being.
The expropriating element, *Enteignis*, represents the side of being in which objects are separated from being, the process of detachment. Expropriation indicates the nature of human finitude and the surrounding world.
Heidegger suggests these two aspects, although seemingly opposite, are interconnected in the human condition and contribute to our understanding of reality.
[497] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 41.
[498] *Ibidem.*
[499] Huyssen A., *The Voids of Berlin*, in *Critical Inquiry*, vol. 24, n. 1 (1997), p. 79, http://www.jstor.org/stable/1344159.
[500] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 41.
[501] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 27.
[502] *Ibidem.*
[503] *Ibidem.*

stories that become tangible for everyone thanks to the contrast of the solidity of the construction.[504]

Libeskind found himself faced with two different types of voids: the one of the urban spaces, caused by the destructions of the war; and one that wants to be consciously built in an architectural space.[505] Both of them contribute to maintain memory.

A question that might arise spontaneously is: how can memory be part of architecture? Libeskind responds by imagining that the Jewish Museum represented a memory of the events of the twentieth century.[506] The closure of the internal voids, the strong verticality of the walls that envelop the visitor, the faces on the ground, like leaves fallen from a tree, are all elements of this Memory.[507]

To conclude this part, an interesting topic is presented by Huyssen Andres who wrote about the danger of monumentality, he wrote: "the very articulation of this museal space demonstrates the architect's awareness of the danger monumentality: huge as the expansion is, the spectator can never see or experience it as a whole. Both the void inside and the building as perceived from the outside elude the totalizing gaze upon which monumental effects are predicted. Spatial monumentality is undercut by the inevitably temporal apprehension of the building."[508]

3.4 User experience and emotional engagement

For Libeskind, emotions cover an important role. In an interview of 6 years ago found on You Tube,[509] he spoke about emotions and the relation with architecture. He explains how we expect emotions in the theatre and not always in our daily routine. He describes that in the 20th century people try to say that architecture is an abstraction and has nothing to do with emotion, it is a cool thing cut out to be a neutralized space. Libeskind disagrees

[504] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 27.
[505] Huyssen A., *The Voids of Berlin*, in *Critical Inquiry*, vol. 24, n. 1 (1997), p. 80, http://www.jstor.org/stable/1344159.
[506] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 26.
[507] *Ibidem.*
[508] Huyssen A., *The Voids of Berlin*, in *Critical Inquiry*, vol. 24, n. 1 (1997), p. 80, http://www.jstor.org/stable/1344159.
[509] Out of Sync - Art in Focus, *Daniel Libeskind | Emotion in Architecture*, YouTube, 17/12/2016, https://www.youtube.com/watch?v=j64YQdrE5CU (consulted on 24/12/2023).

with such a view, he never appeals this neutralized space, because, by the way, the neutralized space is full of emotion, but emotion that he doesn't like: "I don't believe in just glass and neutrality and nice white boxes."[510] For the architect emotion is complex, emotion is taking you to another space, emotion is also self-reflection: "Why do you not like this picture? Why do you love this one?"[511] I believe it is clear that Libeskind rejects the notion of neutralized spaces because, although empty, he recognizes them as spaces that are not devoid of emotion. Libeskind sees emotion as a force that can transport individuals to another space. This goes beyond the physical dimensions of architecture but concerns the psychological and emotional impact of spatial design. It could be interpreted that Libeskind sees emotion as a tool for self-reflection, to question one's emotional responses to different aspects of architecture. This self-reflexive aspect adds a layer of intellectual engagement to the emotional experience of the space.

He said: "Soul is kind of a building, and I try to say that there is no story without emotion because I believe architecture is a storytelling profession, there is a story with emotion, that is what makes us human, that is why we still read thousand-year-old documents because they bring us emotion. The emotion formed the spiritual world, it's the soul. I think emotion is important, it is something that is not connected with architecture today. Everything is symbolic, everything is emotional, there is nothing that has let me nothing, even a zero has an emotional meaning. The great mater of purity tries to separate them, but they failed, we saw the tragic events of the 20th century."[512] Libeskind affirms that there is no story without emotion. He underscores the idea that the emotional component is integral to the narratives we create and experience. This perspective elevates architecture beyond mere functionality to a realm where it becomes a vessel for the expression of human feelings and experiences. Linking emotion to what makes us human, Libeskind suggests that the ability to feel and connect emotionally is a defining aspect of the human experience.

With this idea of the role of emotions, the Jewish Museum tries to deal with both visible and invisible context of Berlin, seeking to engage visitors without sentimentality and ready-made answers by creating spaces of encounter, memory, and hope.[513]

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[510] Out of Sync - Art in Focus, *Daniel Libeskind | Emotion in Architecture*, YouTube, 17/12/2016, https://www.youtube.com/watch?v=j64YQdrE5CU (consulted on 24/12/2023).
[511] *Ibidem.*
[512] *Ibidem.*
[513] Libeskind D., *Jewish Museum Berlin*, Barcelona, Ediciones Polìgrafa, 2011, p. 15.

I was fortunate to visit the Museum in 2018: the experience was particularly intense, there was a special energy. Every space told some pieces of the Jewish history. The narration inside wasn't just made by artifacts behind glass; but spoke about challenges, victories, and lives of people who had endured some of humanity's darkest moments.

The installation "Fallen Leaves" (or "Shalekhet") in the exhibition space, it is one of those that remains most impressed in the minds and hearts of visitors: "The faces, cast in cold, unyielding metal, were a poignant reminder of the lives they represented. Walking on them seemed like a physical link to people who had travelled similar pathways throughout history. With each step, the reverberation of sound beneath my feet resonated as an echo of the voices that once filled these spaces — a haunting, collective memory of these lost lives."[514]

Another crucial space is the "Holocaust Tower": "I was struck by its eerie calm and darkness. The Holocaust Tower is a nearly sensory-deprivation experience, with only a small gap at the top let in a sliver of light. The space is a heartbreaking memorial to the Holocaust's terrible tragedies, generating a sense of solitude and misery that leaves an indelible impact on the mind and soul."[515]

I remember that in the tall concrete room an eerie noise fades in and out from a small slit in the ceiling. I was pervaded by a feeling of loss and isolation sitting on the floor, surrounded by people in silent introspection. This room seems to be created exactly to allow to reflect on the devastation of which humans are capable.

Stepping in "The Garden of Exhile" the sensations were numerous and conflicting: I felt a sort of liberation by stepping out into the open air and leaving the concrete behind me, but at the same time walking around the pillars an anxiety arrived. Looking at the sky and perceiving the disorientation between the columns and their different slopes, it seemed possible to understand the instability displaced during the Holocaust.

[514] Navigating Emotions: A Personal Journey Through Daniel Libeskind's Jewish Museum in Berlin, https://medium.com/@VaultOfVisions/navigating-emotions-a-personal-journey-through-daniel-libeskinds-jewish-museum-in-berlin-1236d013b20 (consulted on 21/11/2023).
[515] *Ibidem.*

The visit in the Jewish Museum was more that, it was an emotional journey through history, identity, and humanity. The museum became a way to the past, and a motivation to remember, honour, and respect.

In an interview[516] Libeskind himself explained: "It's an experience and some of it is foreboding, some of it is inspiring, some of it is full of light, some of it is full of dark, some of it is disorienting, some of it is orienting, so, yes, that was my intent in creating a building that tells the story, that was my idea, it wasn't just that you build an abstract series of walls and windows but I wanted to tell a narrative, a complex narrative. By the way I was highly criticized, people said "this is ridiculous, architecture should not be telling a story, you should give us walls and windows and doors" but I said no, architecture, just like any art whether it's painting or a piece of music or film, should tell you a story."[517] And, when they ask him "Who was the story being told to?",[518] he responded: "I was speaking to the young person who was just born, just coming of age and able to enter in a building and think about what the city around and the country and what Europe looks like today. I was speaking to a new audience, an audience that didn't pre-exists a museum because there was no such museum before in any case so I had to invent the imaginary quote user, and what was that user, it was somebody who wasn't even around me at that time, somebody who will be coming later."[519] And I can personally say that the architect achieved his goal; during my visit to the Jewish museum I remember feeling totally involved in the visit, as if I were the true recipient of the narrative, even though luckily I didn't experience anything of the tragedy.

3.5 The thoughts of Daniel Libeskind

For Libeskind, architecture is nothing but a sculpture to which plumbing has been added; art and architecture are strongly linked.[520] For the architect, architecture is and will continue to be a cultural, communication and invention factor.[521] Architecture is a very

[516] Articulate with Jim Cotter, *Daniel Libeskind Talks about the Jewish Museum in Berlin,* YouTube, 26/11/2019, https://www.youtube.com/watch?v=ZHINWxcv16c (consulted on 27/12/2023).
[517] *Ibidem.*
[518] *Ibidem.*
[519] *Ibidem.*
[520] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 108.
[521] *Ibidem.*

real and current art, it must respond to very precise themes and, according to the architect, it should also convey specific emotions.[522]

Libeskind openly maintains that his project is not "deconstructivist", he goes so far as to maintain that deconstructionism exists only in philosophy, but that it cannot exist in architecture since it "builds".[523] For Libeskind, architecture is characterized by the impossibility of interpreting the world, it remains immobile, it does not change.[524]

Libeskind's intent is to be able to create a new space, which has never existed, except in the mind and spirit. For him, architecture must be based on this, not so much on concrete, but on the story told through it.[525] So everything that has been done can be destroyed and can be improved, this must guide the architect and create hope: the future can be better.[526] Architecture must lead us to think big. For Libeskind, architects should imagine spatial landscapes that have never existed before, coming from the imagination of the creator.[527]

Furthermore, Libeskind strongly believes in expressiveness and the emotions that arise; he doesn't want to stop at neutral, expressive spaces cannot be neutral.[528] Libeskind believes that the essence of architecture is expressiveness, the expression of the city and our space.[529] The role of the expressive space is also to disturb and disturb, it must be able to lead us into the abyss of History.[530]

As already observed, for Libeskind a fundamental role is played by memory, it is necessary to guide us and remind us of where we want to go.[531] Without memory there would be no stories to tell, no identity in the city, no place to return to.[532] According to the architect, the city should be full of vibrations, sounds, languages; architecture can create vibrant and pluralistic spaces.[533]

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[522] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 111.
[523] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 110.
[524] *Ibidem.*
[525] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 112.
[526] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 113.
[527] Libeskind D., *Jewish Museum Berlin,* Barcelona, Ediciones Polìgrafa, 2011, p. 12.
[528] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 113.
[529] *Ibidem.*
[530] *Ibidem.*
[531] *Ibidem.*
[532] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 114.
[533] *Ibidem.*

Since music is very precise and structured, Libeskind believes that it has a relationship with architecture, he said: "I believe that one should create architecture like music, communicating through emotion, directly to the soul. Like music, architecture is both concrete and elusive. In both fields the "composition" is played out in space and time. There is a great weight and mass of material involved in architecture, but when a building truly tells a story, the techniques with which it was created truly disappear."[534] However, this is such a broad and complex topic that it is not possible to delve into it further in this paper.

It is well known that the architect Libeskind, when he designs building, doesn't just think about the aesthetics, but also about the sound of the building.[535] When they ask him which is the sound of the Jewish Museum of Berlin he responded: "One can hear fragments of silence of the echoes on the visitor's footsteps which are part of my response to Schoenberg's incomplete opera *Moses and Aaron.* The museum also generates its own unexpected musical resonance by the different acoustical conditions: in the Holocaust Tower, the Memory Void, the bridges and the Sackler Staircase."[536]

During the act of designing, and in particular during the drawing phase, Libeskind considers the basic design as a series of areas that can be oriented in infinite ways and never as a unicum, but as a continuous sequence.[537] Each drawing in the design phase is an elaboration of the previous one, a detail or a simplification. Good drawings, those done well, for Libeskind must be able to express the same architectural experience already in the design phase.[538] The design of the Museum, as an iconic museum, had to have a meaning, pose questions and challenging the public.[539]

A relevant element to say about experience is that it is never self-sufficient, but always depends on others and the context.[540] The great expectation that one often wants to obtain from an experience is to be able to fix everything that is not supported by the walls and incorporated into the space, but architecture is the means, not the final element.[541] It is

[534] Libeskind D., *Jewish Museum Berlin,* Barcelona, Ediciones Polìgrafa, 2011, p. 21.
[535] *Ibidem.*
[536] *Ibidem.*
[537] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 116.
[538] *Ibidem.*
[539] Libeskind D., *Jewish Museum Berlin,* Barcelona, Ediciones Polìgrafa, 2011, p. 31.
[540] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 117.
[541] *Ibidem.*

difficult for us to fully understand the concept of architecture, but access to it comes precisely through experience.[542] Numerous arguments have been written and explored in depth in this regard, but unfortunately I cannot analyze them in this paper.

The architect claims that it is faith that guides architecture because ultimately every historical question is a question of faith.[543] Libeskind's design dimension is based on the irrational, he wrote: "to speak about architecture (or to speak about Berlin and about the contemporary situation) is to speak about the paradigm of the irrational. […] it occurs to me that not only is everyone a Berliner, but after the tragic and disastrous consequences of the Holocaust and its impact on Modernity everyone is also a survivor. Everyone who witnessed these ultimate events is also a survivor, so one cannot die the death of a victim anymore."[544]

Designing for Libeskind means dedicating a long time to reflection to identify the distinctive element of each of his works and to be able to reconcile all the other elements. History must interact with the project.[545]

[542] Terragni A., *Daniel Libeskind,* Pero (MI), 24ORE Cultura, 2012, p. 117.
[543] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino,* Torino, Testo & immagine, 1998, p. 46.
[544] Libeskind D., *Between the Lines,* in *Architecture in Transition – Between Deconstruction and New Modernism,* Munich, Prestel, 1991, p. 63.
[545] Sacchi L., *Daniel Libeskind: Museo ebraico, Berlino,* Torino, Testo & immagine, 1998, p. 46.

Conclusions

In this thesis, I tried to embark on a comprehensive exploration of the intricate relationship between empathy and aesthetic perception, with a specific focus on its manifestation within the domain of architecture.

In the first chapter, throughout the research process, I delved into the multifaceted nature of empathy, examining its cognitive, emotional, and behavioural dimensions. By analysing the conceptualization of empathy and its profound connection to aesthetics, I aimed to highlight the mechanisms that facilitate empathetic engagement with architectural forms and spaces, for cultivation rich and profound aesthetic experiences.

The second chapter tried to illuminate the indispensable role of empathy in the process of architectural design, focusing on how architects can leverage empathy to craft spaces that resonate deeply with individuals on an emotional level. By analysing empathetic design principles and strategies, I tried to uncover the importance of comprehensively understanding the perspectives and needs of users to sculpt environments that facilitate genuine connections and experiences, transcending mere functionality and visual appeal.

Exploring the subjective perception of aesthetics within empathetic architecture underscored the intricate interplay between empathy, subjective interpretation, and aesthetic appreciation. Through this way, I came to appreciate that empathetic architecture not only attends to practical and visual considerations but also prioritizes emotional resonance, thereby elevating the overall experience for users and fostering enduring connections with the built environment.

The case study of Libeskind's Jewish Museum in Berlin served as a real-world illustration of these theoretical constructs in action. By understanding the museum's architectural design, spatial experience, exhibitions, and narrative strategies, it was possible to testify how empathy was intricately interwoven into every facet of the museum's conception. The profound emotional engagement and transformative user experiences within the museum vividly underscored the efficacy of empathy as a guiding principle in architectural design, serving as a testament to its capacity to transcend physical structures and touch the very essence of human existence.

Furthermore, gaining insight into Daniel Libeskind's philosophical underpinnings and intentions behind the museum's design provided invaluable perspectives on the profound role of empathy in shaping architectural masterpieces. His unwavering emphasis on evoking visceral emotional responses and fostering profound connections with visitors exemplifies the transformative potential of empathetic architecture as a medium for social, cultural, and existential exploration.

In conclusion, in this thesis I tried to understand the pivotal role of empathy in aesthetic perception but has also underscored its transformative potential within the realm of architecture. By recognizing empathy as a powerful and indispensable tool for creating spaces filled with meaning, emotion, and resonance, architects are empowered to transcend the boundaries of conventional design paradigms and embark on a journey towards crafting environments that not only delight the senses but also enrich the human experience in profound and enduring ways.

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