

The emotional power of architecture.

Every detail Matters

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Abstract

It is well known that materials in architecture are essential for structural purposes. In my opinion, the use of materials is not only about meeting constructive criteria. It is also about creating a look and feel to a design or space. This article examines the relationship between the physical and spiritual realms in architecture.

The results of interviews with nine people reveal how people experience the material and immaterial worlds in Design.

In particular, the context and appearance of an object plays a major role in the experience of Architecture. Every detail affects how Architecture is experienced.

Keywords: Material, Senses, Experience(s), Architecture, Immaterial, Appearance, Characteristics

1. Materiality in Architecture

Today's architects have access to a wider range of materials when designing architecture. The designer must consider various design parameters when selecting materials from such a vast array. Basic challenges in material selection include the examination of aspects linked to ecological, economic, and technological properties. (Ashby & Johnson ; 2002). The architect considers performance elements such as the material's durability or compressive strength.

They know how essential materials are in that process, not only for purely technical or practical reasons, but also for the influence these materials can have on the end user and how an architectural structure may be experienced. The architect may have in mind a certain ambiance that will be represented in the materials, such as a 'formal' feel for a lawyer's office or a 'trendy' vibe for a lounge bar. Furthermore this could be, for example, the feeling someone experiences when a certain material is touched or the way the light falls through a window, creating a warm and light atmosphere. (Culvahouse, 1989). So, the materials used not only determine structural potential, but also the character of the architecture. Materials play in architecture, and it becomes evident that selecting materials for architecture is not just about meeting structural criteria, but also about considering the material's look and sensory behavior. (Ashby & Johnson ; 2002)

These material-perception interactions change throughout time, between cultures and individuals, and in various usage circumstances. They can determine long-term positive or negative associations with materials and the artifacts that they embody in the long run. Our environment has a lot of information at its disposal to make sense of the world in a direct way. Gibson (1966) indicates that sensation is perception, you'll get exactly what you see.

In my opinion we deserve architecture made for all the senses and should be more focused on the elements we experience rather than what we see because the eye works together with the other senses (Pallasmaa, 2005).

Every material selection method, in general, seeks to meet a straightforward demand by identifying the optimum material for a certain application (Fernandez ; 2006). It's crucial to understand what factors come into play when designers choose materials in order to determine what the "best" material is for a specific purpose. The main aim of this paper is to explore what the connection is between architecture and the material and immaterial worlds through the human senses?

Material perception is the exploration of how we perceive the materials that objects are made of. When we see a nice wool sweater, for example, we may think it is soft and comfortable, yet a brick weighs more and feels harder. In material perception, information collected through various sensory modalities appears to be intimately connected, as in these examples cited above. Immaterial perception deals with the atmosphere created by an ensemble. The context and feeling that is transferred to the visitor. The appearance and sensory properties of the material are linked together.

2. The senses

If we want to design for materials experiences, we need to first understand sensory modalities.

The five senses work together to play an important part in people's everyday lives. Every instant of the day, our senses receive many stimuli. The human body delivers

eleven million bits per second messages to the brain through our senses. (Markowsky, 2017).

The conscious mind, on the other hand, can only handle fifty bits each second. Colors are visible, scents are detectable and sounds are audible. This happens unknowingly most of the time, yet it still has an impact on us. (Gibson, 1979) This also applies to architectural "viewing": a place or building is not only seen, but also smelt, felt, heard, and sometimes even tasted.

(Figure 1) shows how Architecture is perceived. Most of the time through Vision, Sound and Tactility. According to Mecanoo, Architecture must appeal to all the senses. Architecture is about combining all the individual elements into a single concept. What counts in the end is the arrangement of form and emotion (Houben, 2017).

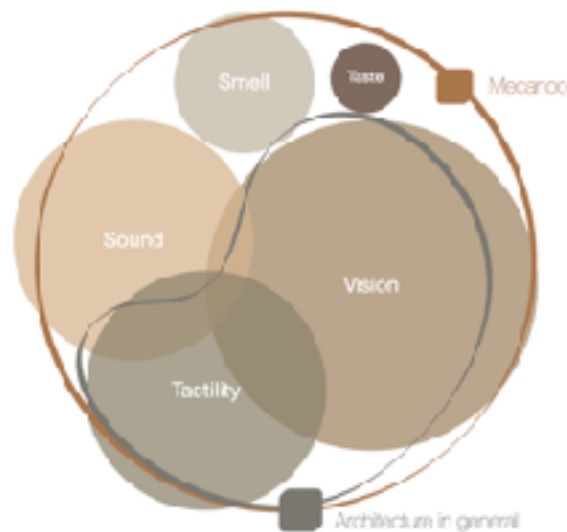


Figure 1. Interpretation of perceiving Architecture through the human senses.
Source: Selfmade Diagram. University of Technology Delft, October 2021.

The design of architecture has always been dominated by the eye (figure 1). This has been happening since ancient Greece. Because we, humans, are visually dominant beings (Hutmacher, 2019). Sight is seen as dominant over the other senses (Pallasmaa, 2005). As an example, from the Bachelors to the present day, during a design process I was asked by professors and fellow students "what will a design look like?" and never what perception will this design choice occur for the ultimate consumer. The first thing done is to observe ; the lines, shapes, colors, materials and planar arrangement of a design attract attention first and then the other senses follow. For example, by using linear elements, the designer can guide the user how he wishes. This is because lines are found visually appealing and are followed by the eye (Koorstra, 2017). Today the principle of how something looks is focused on aesthetics, a body of rules relating to the physical world and the perception of beauty. The philosopher Alexander Gottlieb Baumgarten coined the word aesthetics in 1750 (Wessell, 1972). However according to Baumgarten, aesthetics is the science of sensory perception with all the senses and not only on the visual. The non-visible aspects have a significant impact on our mental state (Neumann, 2013). As previously said, the brain is continually processing information. The majority of what we see will stay hidden from our conscious selves, but our brains will nonetheless perceive and analyze these information.

When someone enters a building, they may believe they are just inside a structure. However, being surrounded by pictures for an extended length of time can change how

we view and comprehend space. The more time you spend looking at something, the more details you'll notice through the different senses.

Architecture represents something the designer wants to show us and it affects us.

In fact, a building could be considered as a metaphysical tool. Every architectural perspective is multi-sensory. The eye, ear, nose, and skin all measure the quality of space, substance, and size. (Pallasmaa, 2005) As a result, the impression of a design can impact whether or not individuals feel comfortable.

A study by Lee, an industrial designer showed that the perfect experience of a design or object can only be created if all five senses are stimulated as much as possible and will therefore be better experienced (Figure 2).

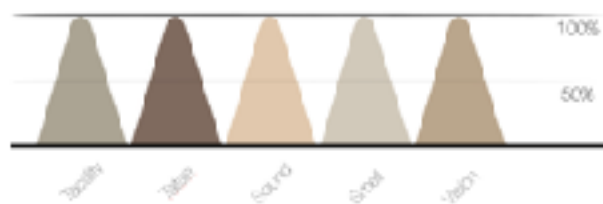


Figure 2. Own interpretation of the study by Jinsop. Lee, Jinsop. Ontwerpen voor alle vijf de zintuigen. <https://www.passbrains.com/post/multi-sensory-experience-five-senses-theory.html>
Source: Selfmade Diagram. University of Technology Delft, October 2021.

Colors can be used to enhance people's emotions and feelings. All colors give a different response to feelings. Color and emotion often go hand in hand with a favorite color (Adams & Osgood, 1973).

Also tactile elements play a major role in the atmosphere of a space. Objects can often be deformed, moved and felt. Because of this strong interaction, our sense of touch is an important aspect in the built environment (Hoeven, 2010). A door handle can be seen as shaking the hand of a building (Pallasmaa, 2005). And so there is physical contact between the user and a building. Different materials can have a different impact on the senses through touch. These differ for example by walking on them. Walking on gravel gives a different feeling than walking on carpet. This type of touch, when a person needs to take an action is considered active touch. Active touch provides information for orientation and passive touch about the atmosphere in the room (Herssens, Heylighen 2011). Changes or movements in an environment can be felt passively, such as temperature change or differences in height. The human body becomes involved in the experience in architecture. When a door is opened, the body feels the weight of this door. Space is dimensioned according to our arm length (Pallasmaa, 2005). Pierre Jeanneret, developed the Modulor system in 1948, its purpose was to tune a space according to the human size. So that the balance between humans and a space does not deviate from what is considered comfortable.

So, the aspects that affect user experience or sensory stimulation are the creation of space, appearance and texture. There is no need to process an experience, as the information we receive about size, shape and distance. These details are stored directly in the brain. Architecture is the art of reconciliation between ourselves and the world, and this mediation takes place through the senses (Pallasmaa, 2005).

3. Method: Interview

A structured interview with several people was performed to answer the research question. For this quantitative research method, the interviewer (Tom Jaring) developed a set of questions (see appendix n° 01). The interview was split up in to three different categories to distinguish the material and immaterial world: 1. Material samples - 2. Exteriors - 3. Interiors. For each categorie, physical samples of material or images were displayed. The use of these photographs and samples were the same in each interview.

The interviews began with a brief general introduction about the connection of materials in architecture and a story about my own fascination. Three of the nine interviewees have a background in design or Architecture. The interview lasted about a half an hour for each interviewee. The interviews took place in 2021 and 2022 in different locations. This took place in a private setting. All interviews were recorded. The interviewees gave verbal consent for this to the interviewer prior to the meeting. The language used was Dutch, except for two, interviewees (1) and (3), were conducted in French. Due to the COVID-19 Pandemic, 2 out of 9 interviews (4 & 9) were held via an online videoconference. Because of the importance of the texture of each sample, the interviewer described the relief to interviewees 4 and 9, because of the impossibility for them to touch the samples.

To decrease the risk of influence of the interviewer on the interviewees, the focus was on the interviewees answers. The notes and the recordings taken during the interviews were summarized afterwards by the interviewer to find similarities between the different interviews.

Figure 3: Interviewees and their background

Interviewee	Profesion	Design or Architectural background
1	Interior Designer	Yes
2	TuDelft Student Master of Architecture, Urbanism and Building Sciences	Yes
3	BIM designer	Yes
4	Notary	No
5	Rayonmanager cleaning company	No
6	Retail Manager	No
7	Student - High School	No
8	Student - Bachelor Psychology	No
9	Military Firefighter	No

4. Results

The respondents discussed the samples, interiors, and exteriors in a variety of ways.

Those surveyed without a background in design or architecture answered the questions more from an aesthetic perspective. However, commonalities were discovered in the given answers between the designers and non designers. Some of them (1, 5 and 6) were more speakable about the tactility than the appearance of the exterior or interior. Others answered the questions from the perspective as a whole context, especially for the images of the exteriors and interiors. Some answers were given because of a preference for a material or scene.

During several interviews, the materials shown were compared to the use of these or similar materials in their own house or in projects the interviewees knew or had ever visited.

The results from the interviews will be described in terms of the three categories mentioned in the method description.

4.1. Material samples

Material is a type of medium. It conveys ideas, beliefs, and approaches; compel us to think, feel, and act in specific ways; and enables and improves functionality and utility.

When touching an object ; in fact a material is touched, we are surrounded by different materials in all kind of ways. This is the first observation made during the interviews. All interviewees refers to the material samples with their own experience of materials and personal preferences. All cited the terms or synonyms of color, the grain and the looks of the samples.

What is striking is that consciously or unconsciously throughout several interviews samples were moved and placed with other samples to create a color palette.

Sample n°6 was pointed out because of its appearance, the color does not fit in the common tone present on the other samples. Interviewee (1): “The blue color gives me the sense of serenity, this piece of material reminds me of the sea”. The color seems to be important as one of a first aspects mentioned. Colors, like a form and space, can be viewed as an objective characteristic of an object or in this case a sensory event. The individu preferred a specific sample because of a characteristic of the material. A true sensation instead of an abstraction is created.

Tactility occupies a unique position in the experience of the showed samples. During the interviews, a sample with an embossed surface was held and admired longer than a sample with a smooth surface. This was even mentioned in interviews (1) and (2). The coarse texture of the material can be felt in samples n°5 and n°24: “when touching the samples, I feel a pleasant and rough material to touch”. Sample n°18 is a burned wooden segment. When touching, incinerated material remains on the skin. Becoming one with something causes a person to have a preference for a material.

“History and time are visible on the fragment n°5” cited (3). Interviewee (2) said that when he sees and touches this material, he has an association with World War II because of the burned effect. (9) observed the cracks on material n°18, since he is a firefighter, he explained it reminds him of a burned down building.

Interviewee (2) mentioned a house at Kadoelenweg in Amsterdam is partially made of sample n°18. When passing by, this person admired the house and found it a non standard appearance of a building.

(6) explains sample n°23 is a fragment of brickwork ; it reminds him to a traditional dutch terrace house. A personal historical déjà vu is created and has set the interviewee in his own past. He did not like the environment where he was living. For him a negative experience has occurred.

Several individuals recognize specific domains in the samples. (7) mentioned: “the nature is present in all the materials on the table” and (8): “the antiquity is visible on sample n°5.” Sample n°5 is highlighted, the interviewee (5) associates "The drawing visible in the marble resembles with the leaves that have been lying on the ground for some time in autumn.” Sample n°4 has a similar tone as sample n°5 but is not described in detail as sample n°5.

Sample n°17 is a part of a wooden board, n°5 is a sample of marble, however both samples are associated with nature. These are both extracted from nature, it is immediately visible for the interviewees.

Touch and temperature seems to be going hand in hand. Interviewee (7) describes sample n°5 as a bark of a tree but explains it feels cold when touching. Interviewee 6 explains when touching it feels warm and associates it with life.

Making use of their own language and ideas all interviewees mentioned the color and texture of the samples. Beside the characteristics of the materials, associations were made with the past and with nature. Also associations were made between objects in daily life and the appearance of the material.

Personal variations in how people experience or think about the given content do not appear to be significant. In fact it seems that a color or texture can makes a difference why a sample is preferred or not by someone.

4.2. Exteriors

Some interviewees started the conversation on the showed exteriors from the appearance and others from the used materials. Aspects as shape, materiality, color and atmosphere are mentioned. Together they noticed a difference between the showed Architecture.

A difference between contemporary and authentic architecture is ascertained. Exterior n°1 is not perceived the same way exterior n°6 is experienced. As (1) is an interior designer, it triggers her to know how the interior is shaped for exterior n°1. "The facade fragments on exterior n°1 from the church have been worked into a new face for the building. The separation of old and modern is clearly visible and each part have a different impact on how it feels when admiring or probably when touching, She would like to know if the interior is restored the same way as the exterior”. Exterior n°1 and n°5 are given as example by (2) as a beautiful exterior, he says where old and modern architecture are going hand in hand is the best architecture.

After construction the future of buildings depends how it is maintained by it occupants. (3) cited “ the future of todays buildings will depends on the innovation and the history of it”.

Exterior n°6 is perceived as unpleasant by (6), the question is raised why a building in nature had to have this appearance. (6) had expected a building of natural material in this environment.

Simple forms can be created by abstracting complex shapes. A shape's many qualities transmit various moods and meanings. Changing the qualities of a form changes our perception of it and makes us feel differently about it. Shapes are a tool for conveying

information. The way the facade is built up, this is in fact a shape, is mentioned. This gives architecture a character. (6) indicates that he sees exterior n°2 as stacked Lego® blocks. The division of the facade seems to be the cause of this. However according to (6) the chosen material does not fit for this layout. Lines are visible in the horizontal and vertical direction. Instead, one direction had to be chosen by the architect according to (6). Exterior n°4 contains open and closed forms. (2) indicates that the exterior appears to have slowly crumbled over time. A certain history of the building created while the building has only been designed in 2010. Also the shape and material property reminds the interviewees of something we experienced or have seen; For interviewee (9), exterior n°3 is associated with the second world war bunkers and a sports hall of a school.

Conventional materials were chosen over non-traditional items. Exterior n°11 is mentioned (2) because of the traditional use of stone as a facade material. Also at the background a mountain is visible, this correlation is appreciated. The building stands in an environment with the same appearance. This refers to *genius loci*.

The characteristic the most mentioned is the use of materiality in its environment. Natural materials or hand made reflect their own history, age and origin. In contrast, materials that are machine do this less. Probably because of this a preference for certain exteriors is given. Overall exteriors made from natural materials in their own environment are preferred by the interviewees.

4.3. Interiors

The interior and its usefulness for habitation are the emphasis of interior architecture. The aspects cited by the interviewees are distinguished in three different categories: the atmosphere of the interior, the visible materials and a preference.

An interior contains a soul. The environment is something that can be the better experienced when the person is present in the space. However, the essence has been mentioned relatively often, (1) and (5) talked about the soul and (2) and (3) indicated that they experienced a warm aura when seeing n°1, 4 and 11. Some have more of a personality than soul. It has to do with the fact that the physical transcends itself, so the soul is an overlap between the physical and the spiritual. The interiors cited are made of warm and natural materials. This is possibly why the soul is named because one has a certain feeling about it that someone also experiences when getting to know a human being.

When a full view of an interior is visible compared to a fragment, the interior is more appreciated. Interviewee (7) explains that he is confused when seeing interior n°9. Therefore, it is not clear where this is and what function this space provides. It seems that context plays a large role in how something is perceived.

The use of traditional building materials is preferred to the use of non-traditional materials. (4) The mentioned interior n°10 is strange compared to interior n°4. The wall of n°4 is made of fabric, which is not common as a building material, the columns of n°10 are made of marble, a logical use of the material. The materials chosen are tailored to their appearance and functionality. The quote "*Form follows function*" by L. Sullivan is named by (2). When using traditional materials such as terracotta (interior n°11), it is more about the feeling created rather the function.

Some of those surveyed mentioned the intensity of light in an interior. (7) finds room n°1 and n°9 a nice room for an interior that has no living function because of "the dark atmosphere". In contrast, room n°2 and n°11 is qualified for a living environment: (8)

“The purity of the light and vegetation make this a pleasant space to live in”. (1) “The warmth atmosphere present suits the function of the interior”. A correlation of the light reflection and the atmosphere has been found. As for the exterior, the atmosphere created is the main aspect mentioned. The material characteristics creates the spirit of an interior.

5. Conclusion

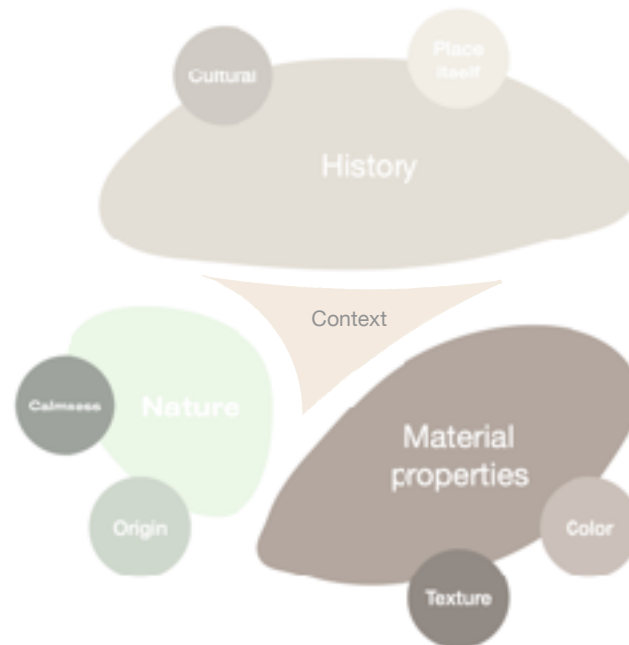


Figure 4. Four categories and sub categories found on similarities.
Source: Selfmade Diagram. University of Technology Delft, January 2022.

The main purpose of this article is to explore the relationship between architecture, the material and immaterial worlds, as seen through the eyes of humans. The material and immaterial worlds are recognizable by the interviewees. Points such as appearance, material features and atmosphere were mentioned.

Three different categories emerged from the interviewees' responses (Figure 4). The context in which the architecture is located plays a major role in the perception.

An overarching category relates to material properties and three-dimensional aspects. When a sample is shown only as a physical element, characteristics of material are only aspects that can be experienced. These are mainly the structure and color of the sample. Orchestration of similarity, association, structure, color and temperature influence the aesthetics of the material seen. The immaterial world is not specified. Therefore, it is not visible. However, materials are imagined in a desired context by some interviewees.

The history of the material or building and antiquity are mentioned. The use of materials can be used to take the viewer back to the time in which the building was designed or to another era. Personal association plays a role. An event is evocative when seeing or feeling an object.

Natural materials reflect their own character, age and origin. Materials that are machine or hand made, on the other hand, do less so. Preference was therefore given to those

materials and spaces in which natural materials were used. Color, lines and structure that resemble an element from nature is recognized and associated.

The exterior and interior are admired in the same way: as one space. However, when seeing an interior, the soul of a space is spoken of. The immaterial world is knowable to the interviewees. The atmosphere that is created, the purpose of the visit and the function have a correlation with each other.

The connection between the three categories is the context. This gives the aesthetics a perception of architecture. Materiality and the generated environment both have a rhythmic relationship. Material without a specific context is experienced less and in a different way than architecture in its total environment.

Through the eyes of the interviewees, there appears to be a relationship between material use and the intangible aspects. Without material and context there is no soul visible but without soul a material can be experienced. It's remarkable how people respond differently to the same content in various contexts. Sample n°2, exterior n°4 and 9 and interior n°11 consist all of terracotta. The thoughts were not the same on what they saw. This shows context has an influence on the experience.

In fact an architectural work is perceived as a whole and integrated material embodied and spiritual essence, not as a list of simple pictures. It provides pleasant shapes and surfaces shaped for the touch of the eye and the other senses, but it also encompasses and integrates cognitive and emotional structures, enhancing the coherence and significance of our existential experience.

6. Discussion

This was the first time I interviewed people on a specific topic. I, the interviewer, realized that the quality of questioning and finding aspects in the answers improved with each interview. This may have influenced the initial responses.

After summarizing the interviews, it became clear that some interviewees went in the subjective direction, while others dealt with the questions in a more objective manner.

Some focused on their individual preferences. Others focused on facts and characteristics.

One disadvantage of interviewing is that respondents may not be able to reveal all their thoughts on the subject. People differ in their understanding of an issue, their ability to communicate ideas, and their biases. Some of the interviewees specialized in design. As a result, they used a certain vocabulary that other people may not have. Others had a lesser knowledge of the subject. As a result, certain answers were used when a slight similarity was still found.

Several results are supported by sources. Such as colors can be used to enhance people's emotions and feelings. All colors give a different response to feelings. Color and emotion often go hand in hand with a favorite color (Adams & Osgood, 1973). The color blue was chosen by one of the interviewees because of its association with the sea and serenity. According to D. Ballast (2002), the color blue is associated with safety and comfort. Which corresponds to the answer given during an interview.

The materials and images shown were chosen by the interviewer. These were selected in advance for hue and image. This material does not contain any flared properties. The

material samples all have the same hue. The scale of the Architecture shown is approximately the same. This may have influenced the outcome of the study.

Should there be a follow-up to this research the following suggestions are made:

Showing architecture with a different scale. Such as images with a skyscraper to a tiny house. The more scales used, the better the difference can be indicated. Showing samples with a wider range of shades and relief, so that they are more different from each other in material properties.

The study was conducted with individuals from the circle of family and friends. This could influence the results. Due to possibly having the same interests. In the future, a larger group with different backgrounds will be desirable.

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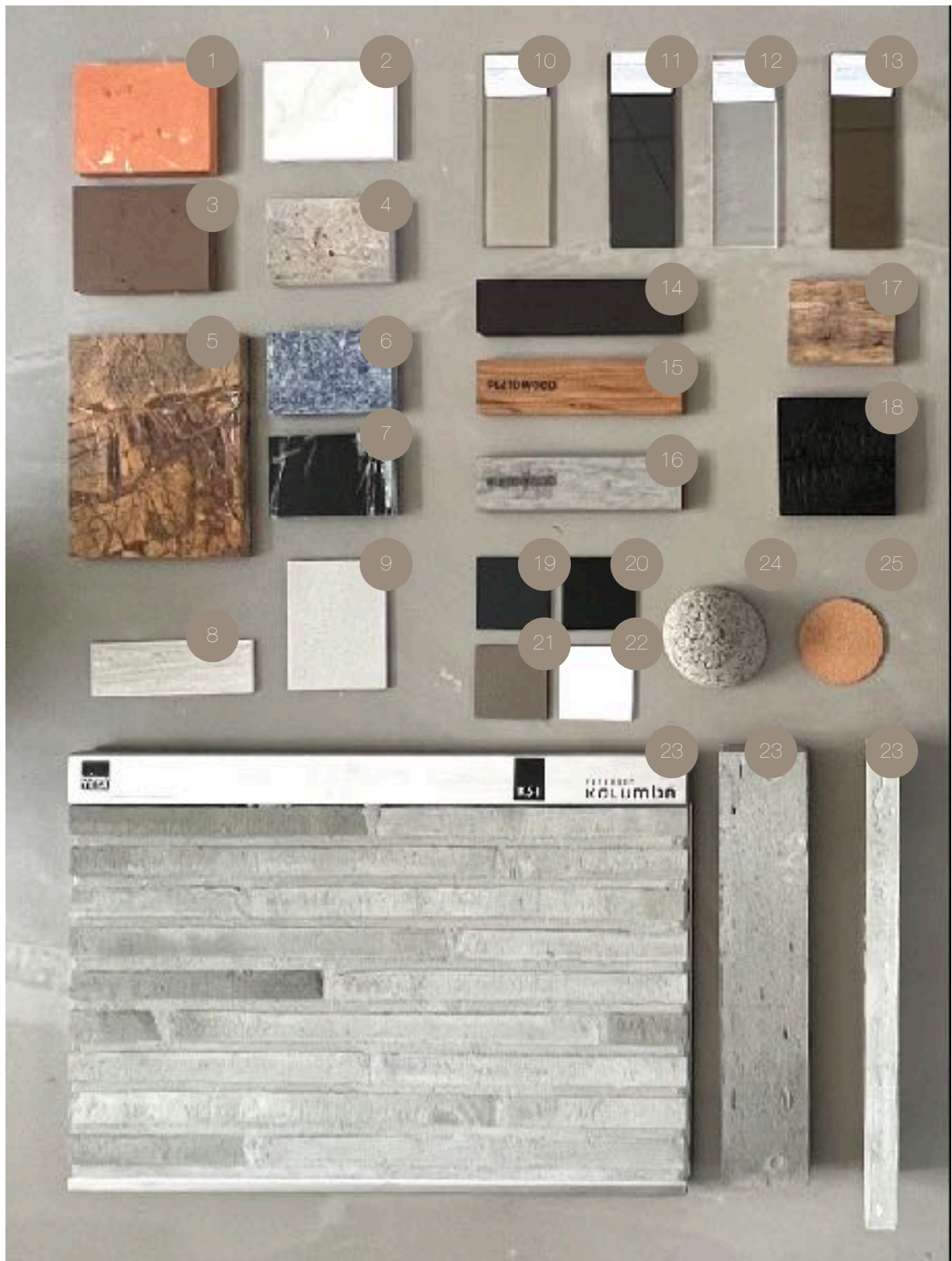
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Appendix

N°01: Questions asked to the interviewees

Perspective	Question
Material samples	Which sample do you like the most and why?
	With this sample, what associations do you make?
	Having seen and felt this material for what architectural element would you consider it suitable? Facade, floor, interior wall or as a decorative element?
	What emotions come to mind when you see and touch this sample?
	What do you feel when touching?
	What sample do you think can be used to express fear, pain, empathy, confusion, calmness?
Exterior	Which exterior do you like the most and why?
	Do you think here a dialogue with history is visible?
	What emotions come to mind when you see this exterior.
Interior	Which interior do you like the most and why?
	Would you feel comfortable being in this space?
	What emotions come to mind when you see this interior.

Nº02: Material samples



Sample number	Material	Texture	Color	Supplier
1	Terracotta brown-orange	● ○ ○ ○	●	Fern living
2	Ceramic white mable	○ ○ ○ ○	●	Laminam
3	Terracotta moca	● ○ ○ ○	●	Fern living
4	Cedarstone Monaco marble light brown	● ○ ○ ○	●	Marmertafel
5	Marmble light brown	● ● ● ○	●	Marmoles y Granitos Chisvert
6	Azul Bahia granite blue	● ● ○ ○	●	Marmertafel
7	Belvedere granite black	● ○ ○ ○	●	Marmertafel
8	Ceramic white	● ○ ○ ○	●	Neolith
9	Dekton Ceramic grey	● ○ ○ ○	●	Cosentino
10	Glass transparent	○ ○ ○ ○	○	Glazz®
11	Glass anthracite tinted	○ ○ ○ ○	●	Glazz®
12	Glass satin	○ ○ ○ ○	○	Glazz®
13	Glass bronze tinted	○ ○ ○ ○	●	Glazz®
14	Fraké P05 Burned Wood Oil black	● ● ○ ○	●	Platowood®
15	Pinewood P05 untreated brown	● ● ○ ○	●	Platowood®
16	Pinewood P05 Weathered Color Oil grey	● ● ○ ○	●	Platowood®
17	Normandy Barnwood light brown	● ● ● ○	●	Plancker
18	Shou Sugi Ban black	● ● ● ○	●	Plancker
19	Meteon® Lumen Oblique black	● ● ○ ○	●	Trespa®
20	Meteon® Lumen black	○ ○ ○ ○	●	Trespa®
21	Meteon® Lumen Oblique beige	● ● ○ ○	●	Trespa®
22	Meteon® Lumen white	○ ○ ○ ○	○	Trespa®
23	Brickwork K51 Kolumba grey	● ● ● ●	●	Petersen tegl
24	Concrete grey	● ● ● ●	●	Homemade
25	Cork brown	● ● ○ ○	●	-

○ ○ ○ ○ Silky
 ● ○ ○ ○ Fine grained
 ● ● ○ ○ Undulated
 ● ● ● ○ Deep relief
 ● ● ● ● Rocky

N°03: Exteriors and details of the used materials



1



2



3



4



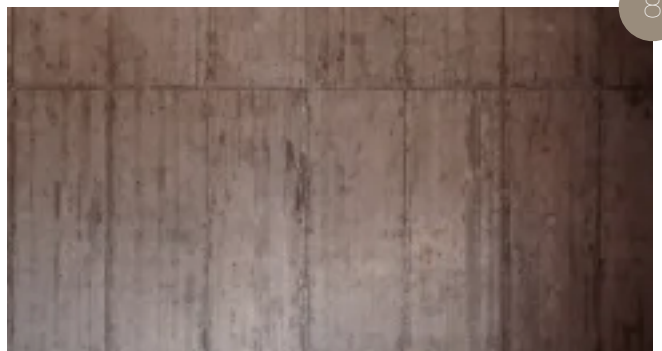
5



6



7



8



9



10



11

N°04: Interiors and details of the used materials



1



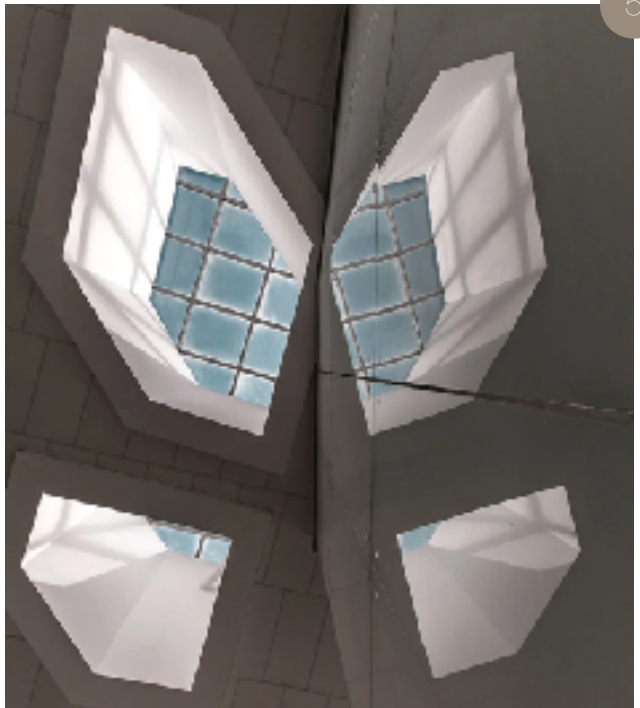
2



3



4



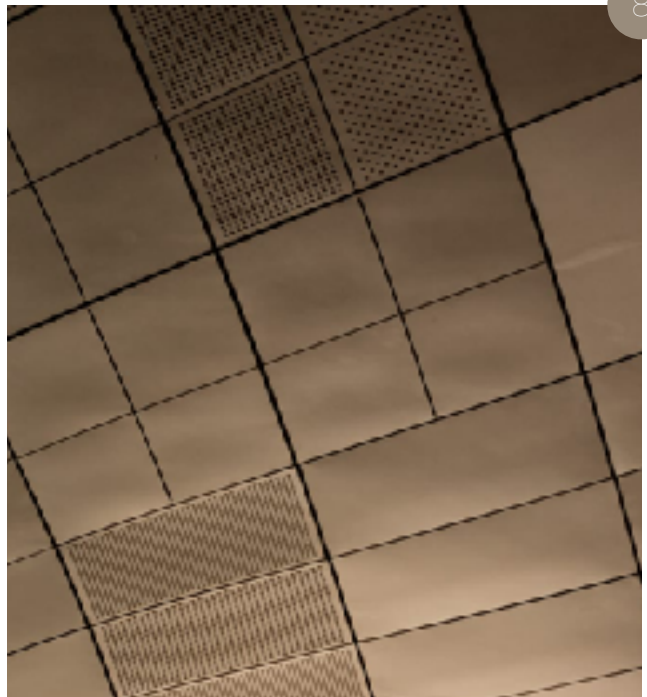
5



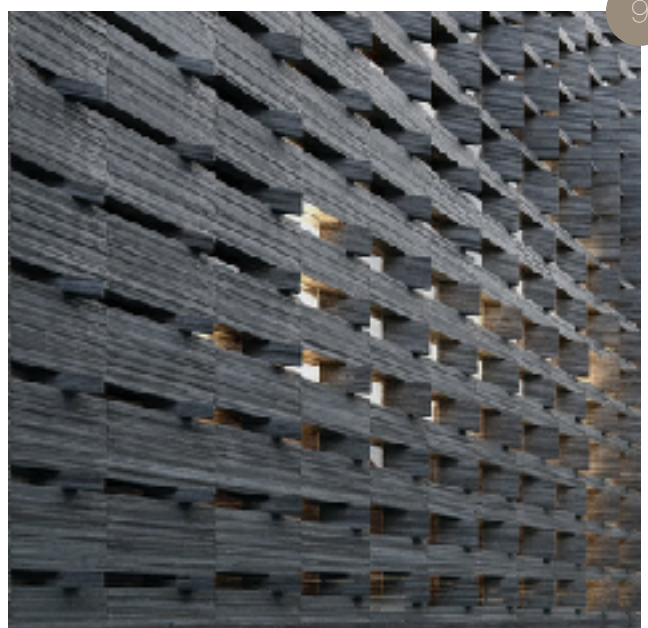
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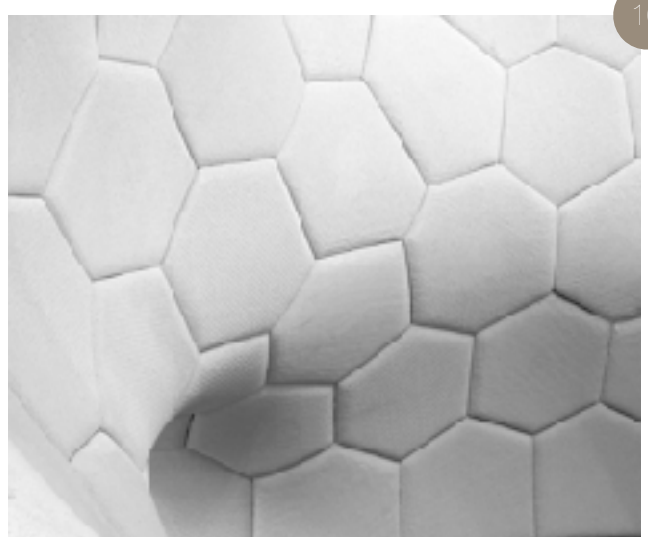
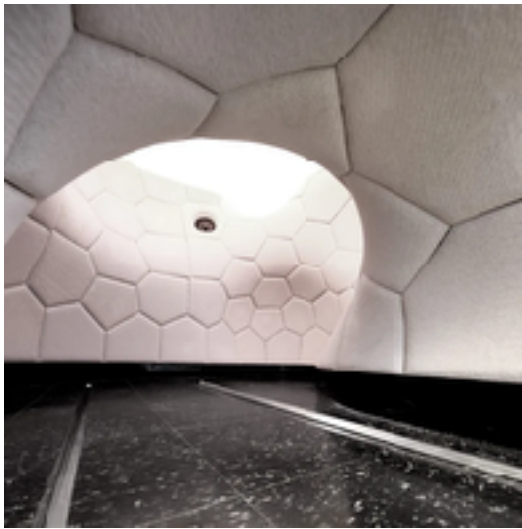
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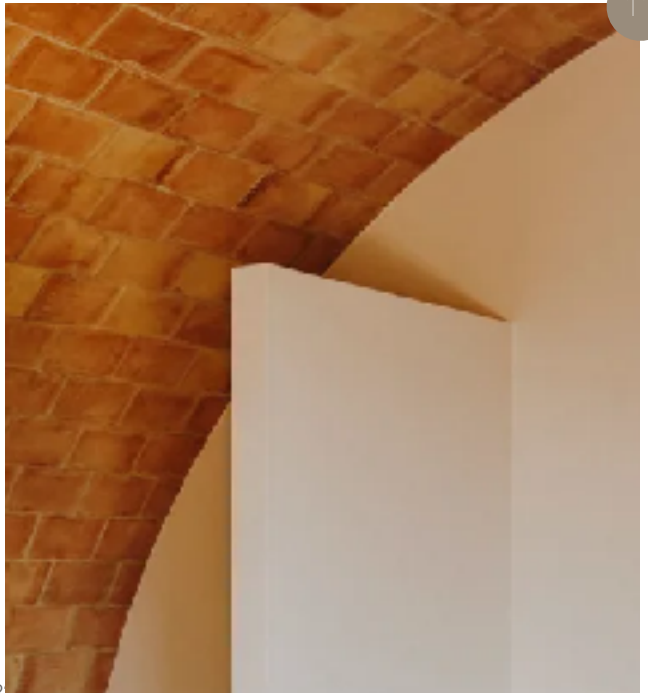
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Nº05: Description of the exteriors and interiors

Number	Architecture
Exterior	
1	KOLUMBA MUSEUM Atelier Peter Zumthor & Partner Köln, Germany 2007
2	MUSEO IBERO Solid Arquitectura Jaén, Spain 2016
3	TAIZHOU CONTEMPORARY ART MUSEUM Atelier Deshaus Taizhou, China 2020
4	NEVŞEHİR BUS TERMINAL Bahadır Kul Architects Nevşehir, Turkey 2010
5	ARCA DESIGN CENTER Esrawe Studio Guadalajara, Mexico 2019
6	CASA ALTA AS/D Asociación de Diseño Huixquilucan, Mexico 2012
7	TUNQUEN HOUSE DX Arquitectos Tunquen, Chili 2013
8	VILLA ALÉM Valerio Oligati Alentejo, Portugal 2014
9	THE KMO HOUSE CASA TER Mesura Baix Empordà, Spain 2020
10	PUBLIC MIDDLE SCHOOL LCR Architectes Labarthe-sur-Lèze, France 2012
11	THERME VALS Peter Zumthor Vals, Switzerland 1996
Interior	
1	KOLUMBA MUSEUM Atelier Peter Zumthor & Partner Köln, Germany 2007
2	OPTICAL GLASS HOUSE Hiroshima NAKAMURA & NAP Hiroshima, Japan 2012
3	JUDISCHES MUSEUM BERLIN Daniel Libeskind Berlin, Germany 2001
4	ACNE STORE Arquitectura-G Stockholm, Sweden 2020
5	NEVŞEHİR BUS TERMINAL Bahadır Kul Architects Nevşehir, Turkey 2010
6	TOBY'S ESTATE Studio Tate Sydney, Australia 2017
7	HOUSE IN RAZAFA Fran silvestre arquitectos Valencia, Spain -
8	DONGDAEMUN DESIGN PLAZA Zaha Hadid Architects Seoul, South Korea 2014
9	BABYN YAR HOLOCAUST MEMORIAL CENTER Dorte Mandrup Kiev, Ukraine 2019
10	ROUND ROOM Matter Design Cambridge, United states of America 2014
11	THE KMO HOUSE CASA TER Mesura Baix Empordà, Spain 2020

