

POLITECNICO DI MILANO - DESIGN DEPARTMENT LAUREA MAGISTRALE IN INTERIOR AND SPATIAL DESIGN THESIS | A.Y. 2019-20

THESIS SUPERVISOR: Anna Barbara

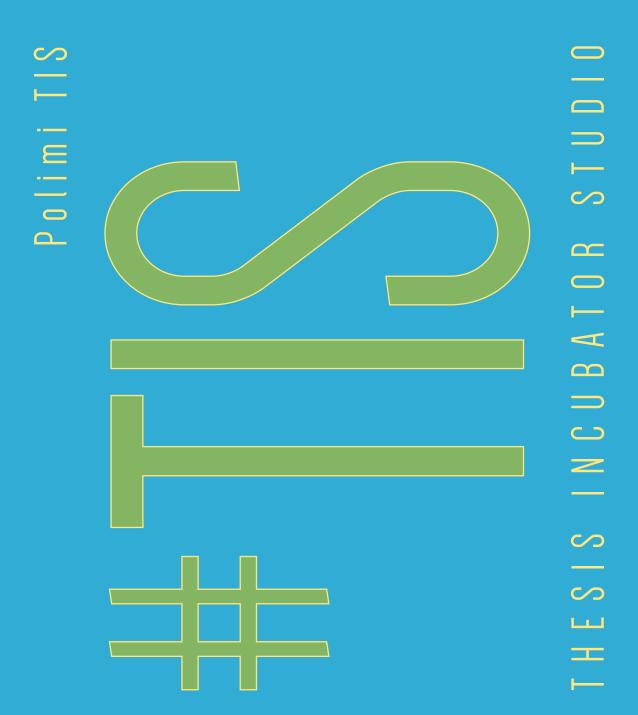
THESIS CO-SUPERVISOR: Giulia Pellegrino

STUDENT: Giset Paola Paez C - 10650813





Giset Páez



RELIEVE TROPICAL







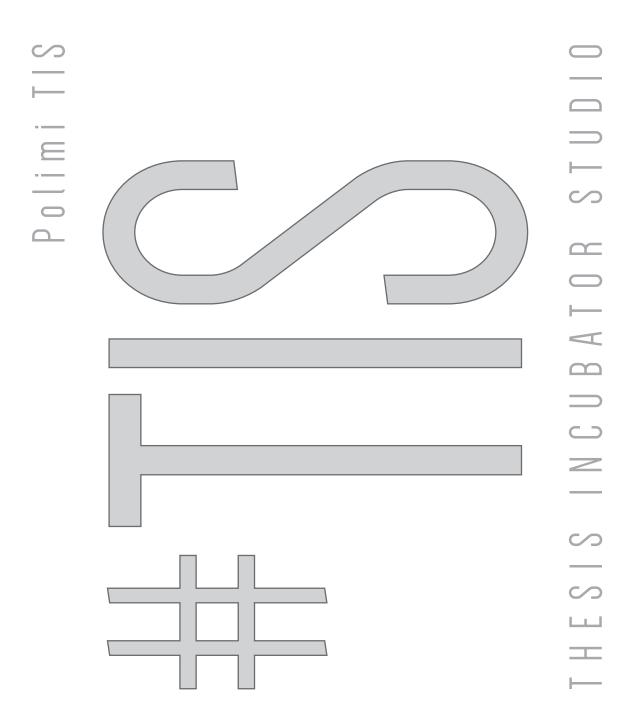
Project developed within the Thesis Incubator Studio - Politecnico di Milano in partnership with Cleaf

CORSO DI LAUREA MAGISTRALE IN INTERIOR AND SPATIAL DESIGN THESIS INCUBATOR STUDIO | A.Y. 2019-20

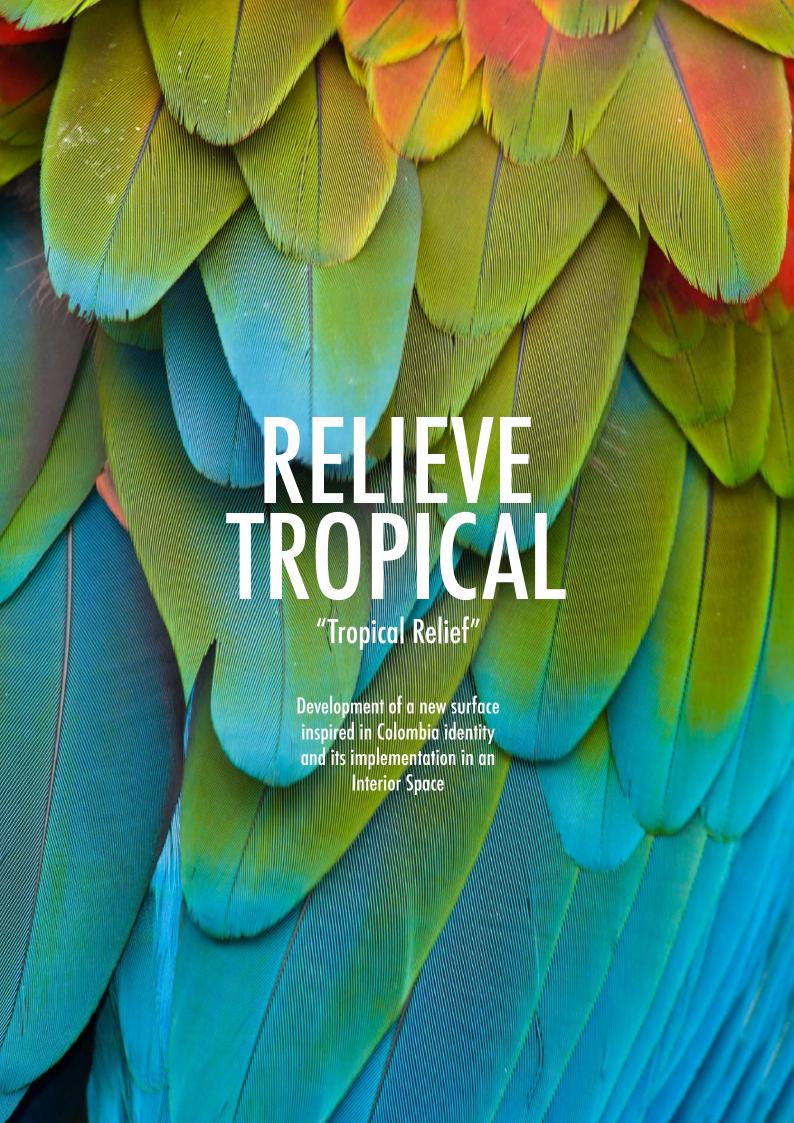
#TIS_polimi TEAM
Giovanna Piccinno, coordinator and professor
Anna Barbara, professor
Cristina Morbi, professor
Giulia Pellegrino, professor
Daniele Mazzinghi, assistant
Alice Zingales, assistant

#TIS_CLUSTER 2019 | 20 Autodromo Nazionale Monza Cleaf McArthurGlen Group Zafferano AilLati

Giset Páez

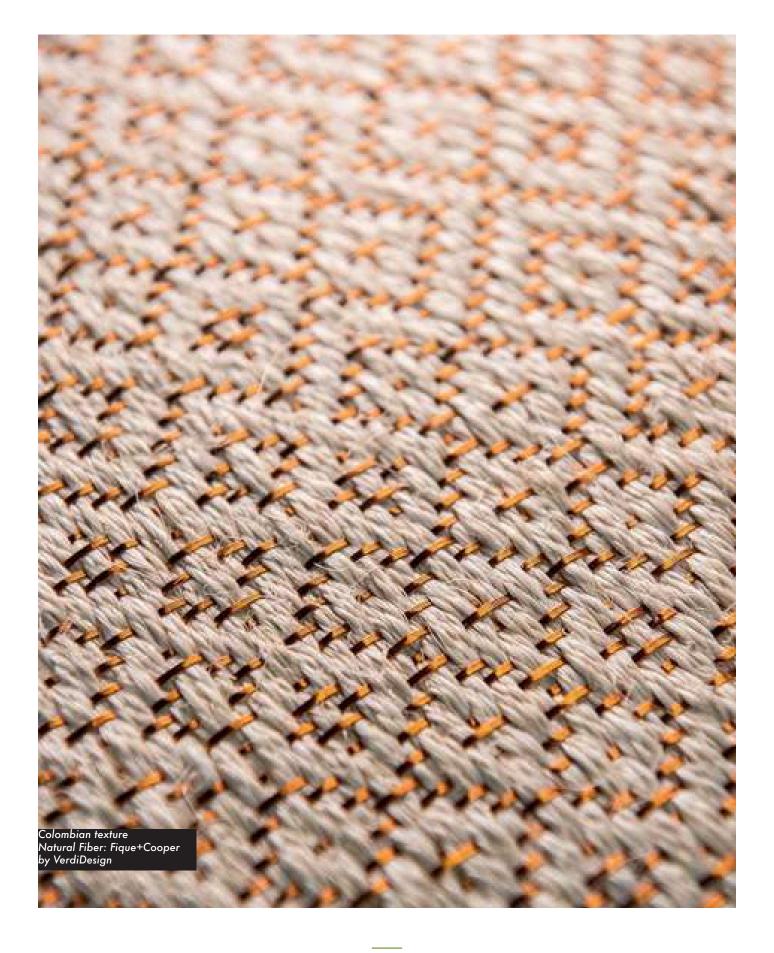


RELIEVE TROPICAL



O. Abstract	9
1. Research Research Strategy - The cloud	10 11
1.1 About surface -What is a surface -Principal elements: -Texture -Pattern -Color -Sensory Experience	12 12 13 13 13 14 15
1.2 About Colombia 1.2.1 Traditional Perspective -Overall Research -Direction Research -Hot Weather -Warm Weather -Cold Weather -Moorlands -Perpetual Snow -Synthesis Research	18 18 20 22 26 30 34 38 40
1.2.2 Contemporary Perspective -Education schools of Design -Digital Platform -Contemporary Colombian and international Designers: -Textile designers -Wood laminates designers -Artisan Tiles designers -Crafts & Objects designers -Polycarbonate designers -International Designers -Fairs and promoters	42 43 44 45 45 49 50 50 52 53
2. Development About Cleaf	60

2.1 Concept design Surface + Colombian identity	62
2.2 Decorative Paper	
Decorative paper: Andean Cross	64
Decorative paper: Wayuu Pattern	74
Decorative paper: Muisca Soul	78
3. Implementation	00
Introduction	82
3.1 Single brand store	82
3.2 Window display	96
3.3 Multi brand store	98
4. Conclusion	
Reflection and personal contribution	115
5. Sources	
-Bibliography	116
-Bank of Images	118





Nowadays, interior designers are constantly curious about the world that surrounds them, seeking for new ideas to develop and ready to create innovative applications in contemporary scenarios.

Surfaces treatments are one of the most attractive applications for interior designers; they have the challenge to translate culture, traditions, heritage, identities and apply it into many interior environments with the purpose to transmit unique senses and meanings into space. This treatment until now has left a worldwide mark in which highlights the authentic essence of a culture. The young generation of designers has the challenge today to reinterpret the culture and identity of their country into a contemporary perception throughout the development of any design, in this case, a surface. Colombia is selected as an international culture due to its multi-cultural wealth, biodiversity full of senses, exotic lands, and large folklore to explore.

Therefore, the purpose of the project is to explore and find the Colombian identity and apply it towards a contemporary environment, transforming the impression and feeling of interior space throughout the development of a new surface.

The following project consists of three phases: the research, the development, and its implementation:

The first phase attends the research exploring two main points What is a surface, Which are the principal elements who represent it such as texture, pattern, color, scale, and others; and the analysis of the traditional and contemporary Colombian identity, starting from its geography, biodiversity, folklore, materials, techniques, etc, arriving until a contemporary interpretation of interior design in Colombia based in the education, design platforms, contemporary designers, fairs, and promoters.

Considering all these aspects, the final research takes a direction where the five thermal floors of Colombia, a particular climate phenomenon will represent the authentic Colombian identity in all its senses.

The second phase consists in the development of a design concept in which the juxtaposition of the main aspects of Surface: Color-texture-pattern with the five layers of thermal floors of Colombia: Hot – Warm -Cold –Moorlands-Perpetual Snow, will represent the story behind the construction of the new surface. A range of options of decorative papers are proposed assisted by Cleaf company as part of the internship collaboration.

The last phase consists in the implementation of the new surface apply into a contemporary interior space dedicated to a retail experience, which as a final result, the design of a single brand store, window display, and a multibrand store will introduce a visual, tactile, emotional surface and express a unique perception of Colombian identity into space.

- Research

-the cloud

Staring from the question of the follow project What is the sensory identity of Colombia?, a strategy of the research is proposed in order to create and develop a new surface for an interior space, it will be based in two main topics: surfaces and Colombian identity.

The first part of the research will focus in define what is surfaces and how it could evokes different visual information such as color, pattern, proportion even sensory experiences; each element will be described and analyzed focusing specially in interior design field.

On the other hand, the research will explore Colombian identity from two different perspectives:

Firstly, an overall research of a traditional point of view about Colombia, who will analyze its identity and culture from different categories, identifying the most relevant elements on each one such as its geography, biodiversity, ethnicities, agriculture, materials, techniques, craft between others. Some of these categories are more outstanding than others, therefore the purpose of the following phase is to find a direction, when the research will focus in a special phenomenon of climate conditions of Colombia recognized as "Thermal floors" analyzed by all senses, from the sight to hear, from the smell to the taste, and from the emotions and cultural approach to discover a complete sensory experience of Colombia.

Secondly, the research will analyze the Contemporary identity of Colombia orientated in design field, exploring it from the schools of design, the new digital platforms created to promote international design around the world, contemporary Colombian designers who work in innovative solutions of surfaces in different fields such as textiles, laminates, crafts and others, local and international fairs who promotes Colombian identity and finally international designers who were inspired in Colombian culture.

Research strategy

SURFACE

ELEMENTS

Texture
Pattern
Color
Sensory
experience

Visual Jouch Hear/Smell/Taste Emotional&Cultural experience

COLOMBIAN IDENTITY

TRADITIONAL PERSPECTIVE

OVERALL RESEARCH

Geography
Biodiversity
Folklore & Traditions
Ethnics
Patriotic Symbols
Agriculture & Exotic Food
Crafts & Art
Materials
Techniques
Tourism
Architecture



Thermal floors RECTION Hot weather

Warm weather Cold weather Moorlands Perpetual Snow

CONTEMPORARY PERSPECTIVE

INSPIRATIONS

Education Platform Design Room Cont. Colombian Designers Fairs and promoters International Designers

Decorative paper

CLEAF Concept design color-pattern-texture + 5thermal floors

FRAME AWARDS application decorative paper into interior space single brand store window display multibrand store

-the meaning and its elements-

A surface is generally described as the outermost or uppermost layer of a physical object or space, or an interior element or even the skin of furniture1. It could be defined also as a texture, something emerging that evokes different visual information such as color, pattern, proportion, compositions², and could be perceived by an observer using the senses of sight and touch but even smell and taste.

These aspects named before become an important part of surface treatments and the correct choice of materials for any surface such as walls, floors, ceiling or furniture play an essential role in interior design. Therefore, surface, texture and color have a decisive impact on the atmosphere of the space and users can look at them closely, touch them, feel and perhaps even use other senses.3 In order to create appealing spaces, designers apply various elements of design according to Josephine Steed and Frances Stevenson in their book sourcing ideas4:

¹⁻ Surface, Wikipedia. Taken from https://en.wikipedia.org/wiki/Surface 2- Steed, Josephine; Stevenson, Frances. 2012. Sourcing ideas: Researching Colour, Sur-

face, Structure, Texture and Pattern. Bloomsbury Publishing 3- Schittich, Christian. 2002 In Detail: Interior spaces: Space-Light- Materials. Publisher Birkhäuser Architecture

⁴⁻ Steed, Josephine; Stevenson, Frances. 2012. Sourcing ideas: Researching Colour, Surface, Structure, Texture and Pattern. Bloomsbury Publishing

-texture

"Texture is the union o two feelings: view and touch"

Texture is an element of design that defines the surfaces of shapes and forms; it means that every surface has a texture whether it be smooth or rough, bumpy or flat. Another definition of texture refers to the quality of a surface perceived directly by touch or indirectly by the eye; as a result of two types of texture⁵:

A visual texture is the illusion of physical texture, created with the use of different materials, colors or patterns, being this twodimensional due to its lack of depth. For example, paint can be manipulated to give the impression of texture, while the support surface remains smooth and flat.

This visual effect creates a particular sensibility, it can be made to appear quite different to the way it feels to the touch; therefore small patterns can be read as texture, and a fake finish can imitate other materials such as wood, brick, marble, silk, stone and soon.

A tactile texture mainly is produced by a physical surface or "relief" of material represented a three-dimensional due to its height, width, and depth.

It ignites the sense of touch, an invitation to feel not only with the fingers or hands transmitting a softy, smoothly, rough, hard, ridged, grainy or bumpy feeling to the touch, but also to feel it with different emotions as a result of the interaction of light of an innately textured surface that creates highlights and shadows which enhance the sensibility of senses. For instance, the use of rough surfaces can be visually active, whilst smooth surfaces can be visually restful. The use of both can give a sense of personality to a design, or utilized to create emphasis, rhythm, contrast, etc.

-pattern

"The skeleton that organizes the parts of a composition"

According to Steed and Frances, pattern is a sensory experience for the viewer, created by the recurrence of similar forms at regular intervals or the repetition of a motif on a material. For instant pattern deliver a different message of texture: while texture refers to the 2D quality of a surface, pattern relates to illustrative perception, playing on the inhabitant's mood, emotion, and outlook.

Pattern has endless variety of centuries-old shapes and forms from around the world, it is inspired in ethnicity, religious beliefs, celebrations, discoveries, designs, nature, animals, plants, elements and minerals, stories and folk tales, all free form abstractions that suggest categories of patterns available to designers interested in introducing in different environments, being this an important visual element into an overall design scheme⁷.

One of these categories was analyzed by the zoologist D'arcy Thompson and architect Peter Stevens who explain that nature uses the same five patterns structures continuously8:

Textures should be handled in a unified way, with every texture in an interior feeling compatible with every other, but some contrast and variation in texture are important for relief and for emphasis⁶. This affirmation enhances the concept of harmony, it is the key to good texture coordination especially in interior spaces, a harmonious textural scheme incorporates a balance of compatible textures that combine to produce and communicate a discernible design or style.

⁵⁻ Textures in desing, INTERIOR LOGIC. Taken from: https://www.intlogic.com/industry-news/textures-add-touch-design/

⁶⁻ Understanding Texture in Interior Design, THE INTERIOR DESIGN STUDENT, 2018. Taken from https://interiordesignstudent.com/2018/05/31/understanding-tex-Taken from https://interiordesignstudent.com/2018/05/31/urture-in-interior-design/ 7-Blair, Linda. 1939. DESIGN SENSE.Publised by John Wiley&Sons,inc.

⁸⁻ Steed, Josephine; Stevenson, Frances. 2012. Sourcing ideas: Researching Colour, Surface, Structure, Texture and Pattern. Bloomsbury Publishing

- -branching: is motifs that spread as the arteries of the body grow and expand or trees growing from their roots to their outer branches.
- -meanders: (stripe) is a wandering line like a long winding river. The repetition of stripes is one of the simplest and most common repeat structures patterns.
- -bubbles: as soap bubble it creates a repeating pattern
- -explosions: often recognized as simple spotted motifs or free-floating forms across the design
- -spirals: are cultural symbols and reflect different meanings in every culture. Symbol of eternity and it could be found in many natural phenomena such as shells, pine cones and fern leaves.

As a result, pattern apart of define surfaces, impact scale, convey a design style and add visual interest to space, can also be felt by the effect illustrated without touching it; feel the rhythm, the depth, the enrichment. Bold and dramatic, or subtle and understated, patterns are a powerful design tool that adds personality and visual interest to space.

-color

"Color is a sensation induced by electromagnetic radiation of varying wavelengths"

From a Scientifically point of view, Color perception is dependent upon the spectral combination of light and the reflective properties of the illuminated object. The logic of color in terms of its hue, saturation, tones, and shade can be understood using pre-arranged sequences and systems. In a few words, color is just pure light, made up of the colors that we see when light is fractured, as in a rainbow or through a prism. Red, yellow and blue as the main primary colors and orange, green and purple as secondary colors; these further subdivided into tertiary colors that are mixtures of all of the above in certain orders.

From a cultural point of view, the importance of color considers huge significances, emotions, and relationships; it means

9- Schittich, Christian. Germany, 2008. INTERIOR SURFACES AND MATERIALS: Aesthetics, technology, implementation. EDITION DETAIL Publisher Birkhäuse

different that it has interpretations of color differ widely from culture to culture, reflecting contemporary and historical aspects of individual societies. As a single example in the west black color is often linked with death, but in the East white color is who carries this meaning. Therefore, the strong cultural and emotional relationships with color create visual harmony, a language who communicate common meanings mainly found in Western cultures; in the chapter about color by Steed and Frances affirm:

-red: This color symbolizes passion, fire, blood, and desire. Commonly associated with energy, war, danger, strength, and power, standing out with very high visibility.

-blue: represents sunny sky, calm sea, serenity, peace, and space. Its quality, horizon, nostalgia, and expectations.

-yellow: it represents the sunshine, summer, and growth; a warm color who symbolize happiness and joy but at the same time cowardice and deceit.

-black: associated with power, elegance, formality, strength, and authority having a prestigious connotation but also negative connotations as death; a mysterious color who represents fear and the unknown black holes. Black creates a sense of perspective, depth, and texture.

-orange: combines the energy of red and the happiness of yellow. Associated with tropics and represent enthusiasm, fascination, creativity, determination, attraction, success, encouragement, and stimulation.

-green: It's the color of the natural environment and ecology that symbolizes growth, harmony, freshness, fertility, stability, and endurance. It's the most restful color for the human eye who can improve vision and as being a color opposed to red, green means safety.

-purple: it combines the stability of blue and the energy of red. Associated with royalty, extravagance, wisdom, dignity, independence, mystery, magic and symbolizes nobility, luxury, and ambition.

-white: associated with positive connotations as light, goodness, innocence, purity, and virginity. It's considered as the color of perfection and means safety, purity, and cleanliness.

Basic knowledge of color principles helps in planning a color scheme to coordinate into an interior environment; in other words, color has vitality and decorative power to create an atmosphere, establish mood and evoke a strong emotional response.

Compatibility of the three elements:

texture - pattern - color

Observing and analyzing the three elements which describe surfaces, all together create a balance, harmonize the space and defines the feeling of it. A texture will create different densities of color within a surface, can add interest and detail, making it visually pleasing to the eye and tactile quality due to the addition of depth, a pattern will create repetition and variation of color and motifs while color evokes memories and emotions; adapting carefully these elements to a space is possible to create harmonious, sensual, physical ans embodied results for a contemporary interior space.

-sensory experience

"The way spaces feel, the sound and smell of these places, has equal weight to the way things look" by Steven Holl.

This part of the research is based on the book -The Eyes of the Skin: Architecture and the Senses by Juhani Pallasmaa¹⁰ who express the significance of the tactile sense for human experience and also seeks to create a conceptual short journey between the dominant sense of vision, the suppressed sense of touch and quiet senses of smell, taste, and hearing.

10- Pallasmaa, Juhani; 2012. The eyes of the skin: Architecture and the senses. John Wiley & Sons.ltd Publication.

In his book he mentioned the anthropologist Ashley Montagu who gives a significance of the tactile sense in human life and has become increasingly evident especially in architecture and interior spaces arguing that: "The skin is the oldest and the most sensitive of our organs, our first medium of communication, and our most efficient protector... Touch is the parent of our eyes, ears, nose, and mouth. It is the sense which became differentiated into the others...its the mother of the senses"

Spaces, in general, are full of integrated materials, textured surfaces and shapes molded for the touch of the eye and even for other senses, but at the same time it incorporates spiritual and cultural senses who are related to the existential experience strengthened with coherence and significance.

From one side if we come back to the past during the Renaissance, the five senses were understood as formal hierarchical system from the highest sense of vision down to touch, being this related to the image of the cosmic body; vision was correlated to fire and light, hearing to air, smell to vapor, taste to water and touch to earth¹². However, no doubt that nowadays in technological culture the senses has ordered and separated more distinctly; sight and hearing are now more privileged sociable senses, whereas smell, taste, and touch are considered as ancient sensory who remnants with a simply private function and usually liked with culture, behavior, and communication.

Natural materials as stone, bricks, wood, and others allow human vision to penetrate surfaces and enable them to become convinced of the veracity of matter, this natural materials express their age, their stories, their origins and also their history of human use; but machine-made materials such as synthetic plastics, sheets of glass, enameled metals and so on, tend to present inflexible surfaces to the eye without transmitting the sense of age. It should be noted a positive experience of space, place, and meaning in the contemporary era where applications of gradations, overlay, and juxtaposition of transparency materials create a new sense of spatial thickness and change the sensations of movement and light.

The lack of senses in these new applications brings awareness to several architects and designers who are attempting to re-

¹¹⁻ Montagu, Ashley;1986. Touching: the human significance of the skin. Harper&Row 12- Pack, Steven;1994. Discovering (Through) the dark interstice of touch. History and theory graduate studio 1992-1994.McGill School of Architecture

sensualize spaces through a strengthened sense of materiality and texture. Therefore, sensory experiences become the new ingredient to apply to design strategies.

Sensory experiences open on a world of interacting senses and became integrated through the body due to is its constant interaction with the environment; "there is nobody separate from its domicile in space, and there is no space unrelated to the unconscious image of the perceiving self"13. Pallasmaa affirms that every touching experience is multi-sensory; qualities of space, matter, and scale are measured equally by the eye, ear, nose, skin, tongue, skeleton and surfaces is the closer element of a touching experience in architecture or any space strengthen the existential experience itself.

The sense of sight could be an interpretation of knowledge, truth, and reality and has historically been regarded as the noblest of the senses because it approximates the intellect most closely under the relative immateriality of its knowing¹⁴ as Plato described "vision as humanity's greatest gift". Eyes invite and stimulate muscular and tactile sensation and for that reason, it may incorporate and even reinforce the other senses modalities: the unconscious tactile ingredient in vision is particularly important that should be applied in contemporary times.

The sense of touch is weight, resistance and has a threedimensional shape of materials bodies, which means that it is the only sense which can give a sensation of spatial depth. The sense of touch could be defined as the unconscious of vision; while eyes stroke distant surfaces or contours, our hands, and body determinate the real agreeableness or unpleasantness sensation of the experience. From one side, hands are important in tactile experience because they have own histories, own culture, own particular beauty, own development, feelings, and wishes and they can read textures, density, weight, and temperature; for instance, an old object, polished to perfection by a craftsman's tool and the diligent hands of it user, seduces the stroking of the hand; and from the body, the tactile experience means knowledge and memories, it has the ability to incorporate a sequence of movements who define traditions generation by generation and skills of an ancient hunter, farmer and soon. The human body is destined to have a strong intimate connection with space and as a result, it connects time and tradition in a complete impression of touch.

Pallasmaa affirmed that all the senses, including vision, are extensions of the tactile sense; the senses are the specialization of skin tissue and all sensory experiences are modes of touching and are related to tactility.

The sense of hearing creates connection and solidarity, it creates an experience of interiority, and it structures and articulates human affinity with space. For instance, the sound of a habited-house is refracted and softened by the numerous surfaces of objects of personal life, a sound of intimacy and an invitation to hospitality. A space is understood and appreciated by its echo and the acoustic perception is usually remains as an unconscious background experience; for example, every city and open space has its own echo which depends on the pattern and scale of its streets, on the prevailing architecture styles and its materials, but in the interiors spaces of today echoes are absorbed and censored producing an interiority experience.

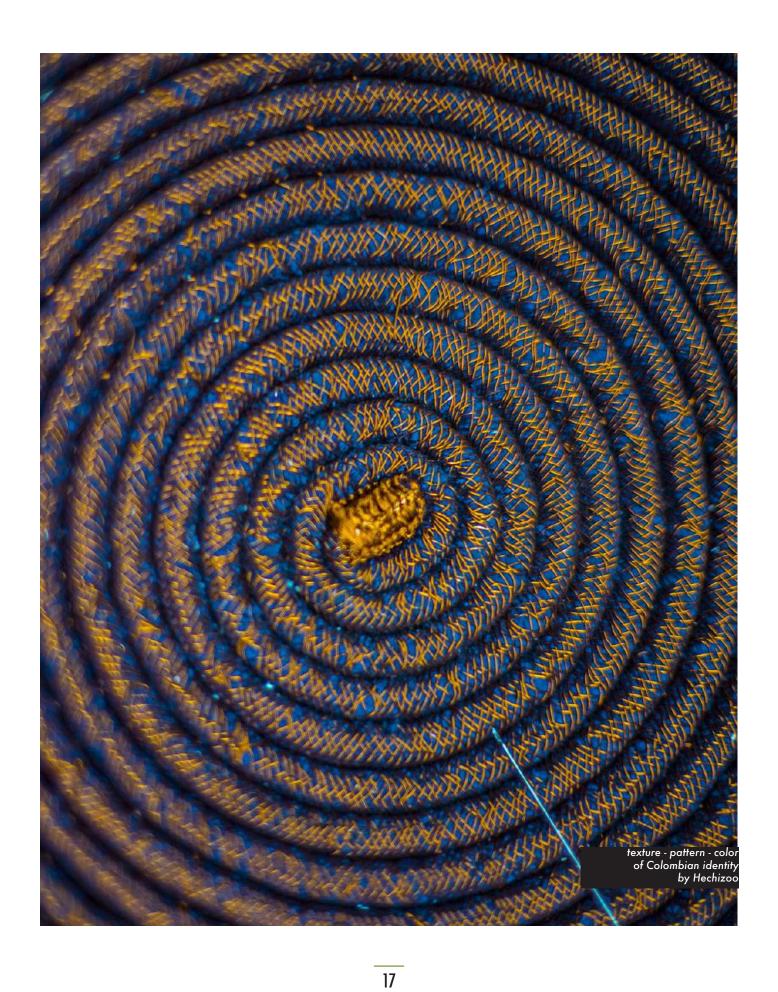
The sense of smell is the most persistent memory of any space, for instance, the smell of old furniture and wood surface scarred by decades of use creates an immediate connection with childhood in grandparents' house. The nose makes the eyes remember, remember spaces, remember situations, remember experiences, and also at the same time it stimulates the imagination.

The sense of taste creates oral sensations evoked by certain colors and delicate details, where a delightful colored polished stone surface is subliminally sensed by the tongue. Sensory experiences of the world always tend to return to its oral origins establishing that the most archaic origin of architectural space is in the cavity of the mouth 15. For instance, the sensuous materials and skillfully crafted details of Carlo Scarpa and also the sensuous eye-catching colors of Luis Barragan's houses generally evoke oral experiences and present the appreciation of the tongue.

Nowadays, a human being is in constant dialogue and interaction with the environment, it means that is impossible to detach a complete image of itself from its spatial and situational experience through the senses; concluding that spaces and places are real in the full sense of the experience, senses that move us throughout space.

¹³⁻ Pallasmaa, Juhani; 2012. The eyes of the skin: Architecture and the senses. John Wiley & Sons. Itd Publication. Pag 44
14. Flynn R, Thomas; 1993. Foucault and the eclipse of vision.

¹⁵⁻ Pallasmaa, Juhani; 2012. The eyes of the skin: Architecture and the senses. John Wiley & Sons.ltd Publication. Pag 64



-traditional perspective of Colombia

Colombian culture is as diverse as its landscape: lands of extremes, vast rain forests, sprawling savannas, huge mountains, coastline on two oceans, moorlands.

These characteristics represent Colombia as one of the most biologically diverse countries on Earth¹⁶.

-overall research

This chapter About Colombia will analyze the traditional perspective starting from an overall look of the country and will embrace different categories identifying the most relevant elements of each categories, such as geography, biodiversity, folklore and traditions, ethnics, patriotic symbols, agriculture and exotic food, crafts and arts, materials, techniques and finally tourism.

-Geography

Divided in 5 different regions: -Caribbean Region close to the Caribbean Sea being this its identity. People who is from this are more recognized as "costeños", because they are "Corazón Alegre del Atlántico" which means cheerful heart of the Atlantic, extroverted and cheerful people. -Andean Region which has the mountain range from the east, central, west; and is particular identify by coffee culture and flowers -Pacific Region, the greater and highest biodiversity and rainfall, mostly flat, which allows the growth of forests and swamps and has high humidity -Amazon Region has a biological diversity due to a huge percentage of jungle, forest and warm tropical weather. Largest tropical expanse hosting the most exotic fauna and flora and finally -Orinoco Region, a small region represented by livestock and agriculture.

Relief: The 55% of the relief is Earth which is divided by 33% Los Andes mountain system and 67% of low plains; and the 45% remaining is water represented by its hydrography

Hydrography is defined by two Oceans, the Caribbean Sea and Pacific Ocean together with significant range of rivers and lagoons.

Weather depending on the altitude, temperature, humidity, winds, and rainfall, the weather is divides by five different ther-

¹⁶⁻ Colombian culture. Co Colombia by Colombian Government. Taken from https://www.colombia.co/pais-colombia/

mal floors:_Hot Weather, Warm Weather, Cold Weather, Moorlands "Páramos"and Perpetual Snow¹⁷

-Ethnics

The 96% Indigenous&Spanish&African which are split by Mestizos 58 %, Whites 25% and Afro-Colombians 13%. The other 4% are natives, identify by 87 indigenous ethnicities being these the most representative ones "Arhuacos" "Kogi" "Muiscas" and "Guambianos"

-Biodiversity

Endemic species: According to the Biological Resources Research Institute Alexander Von Humboldt¹⁸ Colombia is the second most biologically diverse country on Earth being about 10 % of the world's species. This biodiversity is the result of varied ecosystems—from the rich tropical rain forest to the coastal cloud forests to the open savannas.

Animals, More than 1,821 species of birds, 623 species of amphibians, 467 species of mammals, 518 species of reptiles, and 3,200 species of fish reside in the country, and about 18% of these are endemic to the country for example colorful macaws, butterflies and hummingbirds.

Plants, 51,220 species of plants, of which nearly 30% are endemic such as Orchids and Palms. Nearly 10% of these plants are under protection ans its rich biodiversity is increasingly threatened.

Ecological treasures such as Sierra Nevada de Santa Marta, Ciudad perdida, Tayrona Park, Caño Cristales River 7 colors, Valle del Cocora Highest Wax Palm

Ecosystems classified as Colombian terrestrial ecosystems and Colombian aquatic ecosystems

-Folklore and traditions

Traditional dance&music are represented by the Andean music and dance "Bambuco" "Carranga", Caribbean music and dance "Cumbia" "Porro", Pacific Music and Dance"Bullerenque - Mapalé"

Festival as Carnaval de Barranquilla, Carnaval de Negros y Blancos, Feria de las Flores

Myths and legends such as La Llorona, El Hombre Caimán, La Madremonte, La PataSola, El Muán o Mohán andWale'kerü y el amanecer (wayuu)

Traditional customs such as masks, colorful customs, handmade ornaments, hats and scarves

-Patriotic symbols Symbols as the flag, anthem and shield

Identity colors such as yellow, blue, red Emblems as orchid, palm, condor

-Agriculture and exotic flavors

Depends of its altitude and temperature:

Hot weather: Fruits such as Araza, Mangosteen, Passion fruit, Gulupa, Maracuyá, Yellow Pitaya" dragon fruit" and cocoa, sugarcane, corn, cotton, rice

Warm weather: Coffee Culture, Heliconia Flowers, banana, avocado, wood called Guadua, aromatic herbs and wax palm.

Cold weather: Flowers such as Alstroemerias, orchids, roses, Eucalyptus, goldenberry "Uchuva", Quinoa, Emerald Moorlands: Moos, Frailejon Plant and wild fruits.

Tourism

Most visited and attractive places, cities and natural landscapes, such as Bogota the Capital city, Medellin the innovative city, Cartagena the Colonial city, Manizales the Coffee region, Sierra Nevada de Santa Marta the snow mountain, Ciudad perdida, Tayrona Park Caño Cristales River 7 colors.

Crafts and Arts

Indigenous crafts such as Handbags called Mochillas, hamacas, hat as the tipical Sombrero Vueltiao, woven baskets. traditional fols crafts such as the Carnaval Mask, Filigrana, Hamacas from San Jacinto downtown, basketry in Guacamaya Technique and pottery.

Contemporary crafts as Contemporary Pottery, Jewelry, Fabrics and Carpets.

Artists such as Fernando Botero recognized by his scultures and paints, Pedro Ruiz by his paints and Doris Salcedo by her temporary exhibitions.

Materials

Mineral such as coal, metal ores, precious stones as gold, silver, cooper, emeralds and Non-metalic minerals

Natural fibers such as Fique which comes from a family plant Agavaceae and Fucraea, Esparto, Cotton, Werregue Palm, Iraca Palm, Caña Flecha, artesanal Textil with a mix Natural fibers with gold, copper, silver wires

Wood such as Bamboo with 18 genres and Guadua (one of the genres - most popular)

Mud classified by brick clay, pottery clay, gres clay and ball clay

¹⁷⁻ See Direction Research. Pag 20.

^{18- &}quot;Biodiversidad colombiana": números para tener en cuenta"; Insitute AlexanderVon Humboldt. Taken from http://www.humboldt.org.co/es/boletines-y-comunicados/item/1087-biodiversidad-colombiana-numero-tener-en-cuenta

Techniques

Woven "Tejidos" classified as Horizontal loom, vertical loom, knitting, braid "trenzado", Tejido de Araña Wayuú and roll technique

Patterns and prints such as Wayuú Patterns, Arhuaco and Caña Flecha Pattern

-direction research

After analyzing all the previous categories, common elements and characteristics will be founded, where the research will take a direction focused on a special phenomenon of climate conditions of Colombia recognized as "Thermal floors".

The concept of thermal floor can be defined as the system that allows defining the temperature of an area, according to the altitude above sea level where it is located. This phenomenon operates in the inter-tropical zone - the strip that goes from the Tropic of Cancer until Capricorn - which is where the sun's rays affect vertically¹⁹. In synthesis, this phenomenon occurs thanks to its geographic location near the Equator, presenting variations within five natural regions and depending on the altitude, temperature, humidity, winds, and rainfall, change its behavior, it's senses and perceptions²⁰.

Five types of Thermal floors have been defined in which the average of temperatures, rainfall and sunlight rays can vary enough depending on the altitude: starting from Hot weather withing 0-1000 meters above sea level, which represent the 80% of the territory of Colombia, until arrive to the other 20% based between warm weather, cold weather, moorlands and perpetual snow withing more than 1000 to 4000amsl²¹. The closer to sea level, the hotter is the temperature. The higher are the mountains, the colder the lands became.

This part of the research will focus on this phenomenon analyzing each layer from a sensory experience, where all the senses sight, smell, taste, touch, hearing, emotions, and cultural approach will catch the most significant elements of Colombian identity.

Most recognized in Colombia as

-Perpetual Snow

"Nieves perpetuas" +4000amsl 0,1% of the territory

-Moorlands

"Paramos" 3000 -4000amsl 2% of the territory

-Cold weather

"Clima frio" 2000 -3000amsl 7,9% of the territory

-Warm weather

"Clima templado" 1000 -2000amsl 10% of the territory

-Hot weather

"Clima caliente"
0 -1000amsl
which represent the 80% of the territory of Colombia

-Sea level

^{19- &}quot;Fundamentos para la definición de pisos bioclimáticos" Fundamentals for the definition of bioclimatic floors by Colombia; IGAC; Instituto Geográfico Agustin Codazzi; Ministerio de Hacienda y Credito Público.

²⁰⁻ Banco de Occidente. Pisos termicos de Colombia. Online Book, Ecological Collection 2009. I/M Editores.

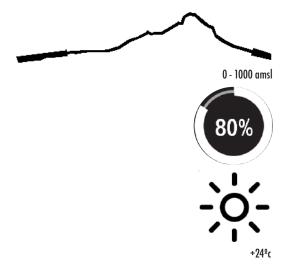
²¹⁻ Cólómbia Naturally Sustainable, ExpoMilano 2015 - Thermal Floors. Taken from: http://www.colombiaexpomilan.co/thermal-floors/index.html



-Hot weather "Clima caliente"

macaw wayuú carniyals
Sea side citric flavor
birds rhythm festival
OCEANS natural fiber
acid extroverted people warm
guacamaya seductive
woven exotic fruits endemic flora
happiness braid biodiversity
hand sew warm people
traditions endemic animals
palms tropical jungle
amazon rain forest flat land

These lands cover near 80% of the country, it includes the zones located between 0 and 1000 meters above sea level. They have an average temperature greater than 24 degrees Celsius and host most of the beauty and diversity of Colombian, where the agriculture and biodiversity are the elements most representative of this lands thanks to the range of tastes, colors and decorations²²



²²⁻ Hot weather, ExpoMilano 2015 - Thermal Floors. Taken from: http://www.colombia-expomilan.co/thermal-floors/index.html

-sensory Identity



This territory is visually identified by the variety of colors that is reflected in its biodiversity, according to the Biological Resources Research Institute Alexander Von Humboldt Colombia more than 1,821 species of birds, 623 species of amphibians, 467 species of mammals, 518 species of reptiles, and 3,200 species of fish reside in the country, and about 18% of these are endemic to the country.

-Animals

In this hot lands inhabit mainly BIRDS with the most striking colors who represent Colombia such as parrots, macaws or "guacamayas"; at the same time could be possible find pink flamingos; amphibians such as the poison gold frog and the crystal frog; insects like butterflies of infinity colors; mammals, and reptiles like iguanas, snakes, alligators, between others.



-Endemic Flora

Are represented by 51,220 species of plants, of which nearly 30% are endemic and the majority of them are under protection such as Cecropias, Bromeliads and palms. All this foliage forms an inescapable green sea.



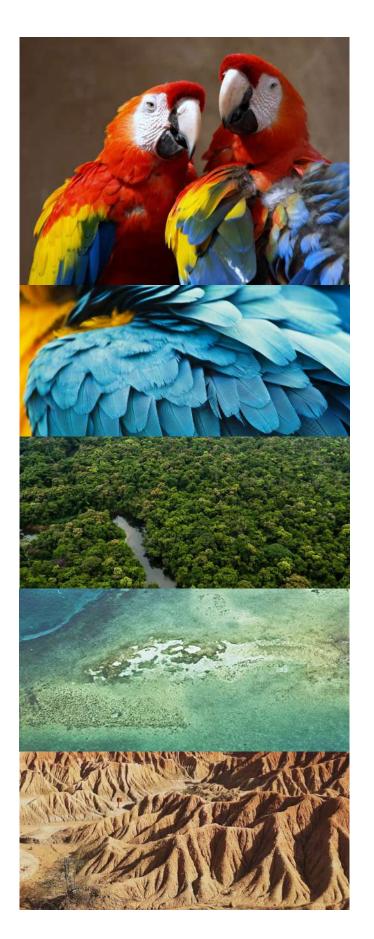
-Natural landscapes

Such as Amazon rain-forest (green)
Crystal clear waters of the Caribbean coast (crystal blue)
Arid deserts of Tatacoa and La Guajira (beige, orange)



-Color scheme

This variation of striking and natural colors is reflected in the architectural facades, in the typical costumes of the festivals-carnivals and Colombian handcrafts.



Sense of taste

Exotic flavors that only exist in these lands Endemic fruits, due to its flavor and texture, the fruits transport a sublime experience on the palate: From sweet and acidic flavors, refreshing and soft, some more acids than others, some stronger than others, and some with strong bark but soft inside.

- -Passion fruit "Maracuyá"
- -Yelloow Pitaya "Pitaya"
- Passionflower "Granadilla"

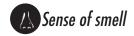


These lands represent two opposite sounds: Primarily, Colombia is 55% water, that means that the sound of the water of the surrounding oceans and the rivers that crosses adorned by tropical forests represent the sound of these lands.

Sound of nature of animals murmuring in the morning, buzz from millions of insects and other creatures going about their daily lives, the sound of the rivers with their strong currents and the blow of the waves in the coastal areas.

On the opposite side, most of the year the population that inhabits these lands meets to celebrate their traditional festivals and troupes; that means party, carnival, the rhythm of their drums, traditional music, screams, songs. Without seeing, these hot lands are identified by the rhythm of the music that accompanies these festivals





The smells of a tropical forest and fresh fruits and vegetables on the markets, fresh air combined scent of vegetation, moisture, soil, and decaying plants and wood, the smell of sea and coast is the identity of Colombia.







-touching with hands

In this lands people WORK WITH HANDS continues from generation to generation. Most recognized as " artesanos", men and women create handmade crafts and develop from year and years ago traditional techniques with hand sew. Weaving with different natural fibers of this lands means every time that its touch and its feeling is different.

-touching with feet

To feel with the feet is common in this lands: Traditional dances are danced without shoes feeling the rhythm of the music with their feet.

Coast workers, fishermen and kids playing on the beach feel the ground without shoes, touching the earth, the sand, the pavement.



Sense of culture and emotions

"COLOMBIA – Home of the world's Happiest people" Close & affectionate PEOPLE; warm lands = warm people. Charming, extroverted and cheerful people; energetically social, outgoing and boisterous; positive, welcoming, hospitality hopeful people.

-traditional dances

Express happiness and color, from fast and strong to seductive body movements, create proximity between partner (woman - men) where they flirting, and where sensuality and delicate contact is continuous.

-customs

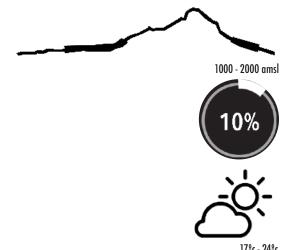
People believe in traditions, in learning generation by generation, are religious and believers (Catholic), the socio-political situation is Diddle/lower class, poverty



-Warm weather "Clima templado"

hands roll technique committed
BRAID coffee roasted
hill weave crafts cafeteros
endemic bamboo
gold campesinos guadua
CULTIVATE develop
Sweet taste HELICONIAS
humble wood coffee fields
innovation warm people
flowers sugar tones
FIQUE eternal spring
natural fiber AGRICULTURE

Lands placed between 1,000 and 2,000 meters above sea level in the low areas of the Andean mountains range and its temperature oscillating between 17°C and 24°C. These territories are defined by their industrial and commercial innovation, which boosts development and environmental sustainability. Here, nature and men coexist in a synergy that pushes the country further into the future²³



²³⁻ Warm weather, ExpoMilano 2015 - Thermal Floors. Taken from: http://www.colombiaexpomilan.co/thermal-floors/index.html

-sensory Identity



This territory is visually identified by the variety of colors of the flowers, especially the "Heliconias" called The flame of the forest.

Their red, yellow and orange hues, exoticism and non-conventional shape such as birds' beaks are the main elements of these flowers. Colombia owns more than 80 species currently, and more than half of them are endemic from the privileged Colombian territory. This flower is part of the hundreds of flower species that garnish the country and can attract positive energy, warmth, good thoughts and creativity.





One of the most colorful events where flowers are the main character is the "Flower fair" in Medellin that takes place every year; city knowns as the "city of eternal spring", where people make flower arrangements on a "saddle", a wooden chair shaped a table that they load on their backs and parade along the streets. These arrangements represent the beauty of the variety of flowers that exist in Colombia. Each type of flower, each color, each position, and each set has an important meaning and language.



Gladiolus illyricus "GLADIOLO" Victory - Strength Moral - Integrity



"HORTENSIA"
Purity
Abundance



Asteraceae "GERBERA" Luminosity - Joy Smiles - Happiness



"JASMINE" Affection Kindness



Caryophyllaceae "CARNATION" Pride Fascination



§ Sense of hearing

These lands represent the sound as morning in the countryside, where the nature is the protagonist, a place where the noises of big cities doesn't exist and water and birds singing; rooster sing at 5 am in the morning after a rain sound with crickets start.



Sense of smel and taste

Colombian coffee is one of the main fruits representing the cultural identity in every sense; especially smell and taste. These warm lands have the perfect growing conditions for coffee and is recognized throughout the world for its optimal land- altitude and climate. A handpicked harvesting process perfected over generations choosing the finest beans. The Arabica Bean which grows in these lands, has a faint aroma of blueberries that produces a wide taste range ranging from sweet to tangy; its has medium- bodied with a rich taste and citrus- like acidity, mild and fruity flavor.

- -Its aroma: sweet as caramel and chocolate
- -Its flavor: as for one side sweet fruity with touch of caramel, apple and red fruits berries and Citrus, Nutty
- Its smell: un-rogsted is like blueberries but rogsted perfumed with notes of fruit and sugar.
- Its body: Medium -Its acidity: Bright, Citric



Sense of culture and emotions

In the coffee zone of warm weather, peasant families, some of them displaced by the violence of the armed conflict, produce superior quality coffee thanks to a private initiative that helps them improve the yield of their crops and their living conditions. These lands are represented by working and custom people, attached to the countryside and its family, who work every day to support them , humble and kind, dedicated and committed; they build its own identity "Los cafeteros"

According to "La Federacion Nacional de Cafeteros en Colombia, The town of La Celia, in the department of Risaralda, is one of the municipalities where an initiative has been implemented to provide logistical support to local coffee growers, promote sustainable practices and ensure the best performance of coffee plantations.



Sense of touch

-touching with hands

In this lands exist two elements who bring special feeling and connection with touch. Natural textures, woods and fibers represent the traditional handwork of Colombia:

Bamboo is a type of wood cultivated in warm lands, it has 18 genres of it, where "Guadua" is one of the most popular.

- Its properties are sustainability over time, self-propagation, high growth rates (11-21 cm / day), high productivity, generation of intense workforce is both its cultivation and management process and its transformation.
- Its uses are construction houses, bridges, stairs; land containment; for move heavy things; form work; water conduction channels; ornaments, crafts, pottery, and ceramic.
- Called the "vegetable steel" thanks to its physical-mechanical resistance, overcome compression tests of steel being bamboo much lighter.

Fique is a handmade extraction and preparation process of a natural fiber and is one of the most used materials in Colombia to weave crafts according to "Artesanias de Colombia" who are the official sponsor of Colombian crafts and culture. From is cultivation until the craft elaboration, the use of the hands is the art of this fiber. Fique plant height varies from two to seven meters. Its leaves are long, narrow, fleshy, pointed, ribbed, toothed spiny (some varieties) and green. The width of the mature leaves varies between ten and twenty feet long and between one and two meters. Natural sisal of the tropic plant is classified as hardboard, long, multiple cells extending along the fleshy leaf tissues.

- The most widely used technique is braided "Trenzado" and roll "enrollado" to create different feeling and textures while the hand touch it.

-working with hands

In this lands specially the HANDPICKING OF COFFEE CROPS is one of the works most nearest to he sense of touch. Cultivate coffee is the principal labor of a "campesino" a coffee crop worker and during the whole year the handpicking process is the result of the finest coffee beans of these lands and Colombia.

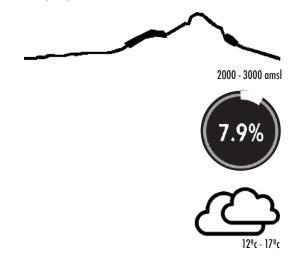
Seasoned coffee- pickers sift through ripe, unripe, and overripe beans to ensure only the finest beans make their way into the final product.



-Cold weather "Clima frio"

hands acidesweet goldencherry
BRAID exotic fruit artisans
endemic RAIN andean
orchids mud MOUNTAINS
art business develop
HUMMINGBIRD
charismatic leadership
bricks RAIN EMERALD
CLAY metropolis sophisticated city
value earth taste cloudy
POTTERY blue purple tones
purity colors HIGH MOUNTAIN

These lands are located between 2,000 and 3,000 meters above sea level, presenting an average temperature ranging between 12°c to 17°c, is characterized for having Andean Mountains or Cloud forest. The Colombian capital city Bogotá is located within this thermal floor and it represents the modern country, interested in infrastructure development to keep up with today's dynamic times²⁴



²⁴⁻ Cold weather, ExpoMilano 2015 - Thermal Floors. Taken from: http://www.colombiaexpomilan.co/thermal-floors/index.html

-sensory Identity



This cold land is visually identified by 3 different elements: the incredible colors of the hummingbird, the variety and exclusivity of the orchid and the purity of the emerald.

Hummingbird

Fluttering around the colorful flowers goes a little bird with quick flapping and delicate figure which shiny greenish fur, with blue nuances, makes it look like a restless gemstone trying to stick on the cold climate's foliage. Exist 147 species of hummingbirds that appear and disappear in seconds between the vegetation.

-myth: The hummingbird was sun disguised on earth to seduce the moon

-colors: Purple aquamarine purple colors bright as frost



Orchids

Colombia has the largest number of Orchids in the world, around 1500 species most of them endemic."Cattleya trianae" is the one most commonly found throughout these lands. These flowers have different colors, shapes, textures and sizes turning into the national flower which decorates with their colors the lands of Colombia.



Emeralds

Charming stones have been discovered at the Muzo mines (Boyacá) being the "green flowers" of precious stones. An emerald is a beryllium stone that owes its special dark green color to beryllium, chromium, and vanadium for that reason a gem's value depends upon its size, purity, color, and brilliance.





Sense of hearing

These lands are identified with the variable sound during the course of the day: during the morning the inevitable sound of nature appears as the main element but throughout the routine the sound of the cars, of the inevitable traffic, the murmuring of people and street vendors represents the sound of the big city "Bogota". According to "Secretaria distrital de Ambiente, in Bogota exists and environmental problem due to its noise and is considered one of the environmental impacts that most directly affect the population, causing hearing and extra-auditory problems.

In Bogotá mobile sources such as road traffic and air traffic contribute 60% of the auditory contamination. The remaining 40% corresponds to fixed sources like commercial establishments open to the public, large industries, and buildings.

This city is the most noisy of this lands, but is not the only sound when hours go by and the rumor of rain overwhelms most of the nights in this climate.

Sense of smel

Cold weather smell a combination of nature and city: eucalyptus and pine, trees that grow along the Andean mountains. Fresh, earth and forest fragrance, smell fresh grass thanks to the rain coming down to the mountains arriving at high cities. The smell of exhaust smoke of millions of cars Smell city, smell asphalt, smell pollution.



Cold weather tastes earth, most of the foods that grow on these conditions of weather are tubers such as potatoes and cassava "yuca" or grains like wheat, guinoa, lentils, chickpeas, beans, etc.

On the other hand, these lands taste EXOTIC FRUIT: "uchuva" most know as GoldenCherry gives joy to these cold lands. Is the most recognized and tasty fruit due to its acid and sweet tones until make people became addicted to it.





Sense of touch

-working with hands

Under these lands pottery is the art made by the artisans, people that work every day with their hands using a manageable material such as mud and clay.

The most representative cities working with this material are Bogotà, Chamba, Carmen de Viboral and Raquira, and could be divided in four different uses depending of its types of clay:

- Brick clay: for fabrication of bricks, clay tiles, facades buildings. The architect ROGELIO SALMONA is the Master-worker with bricks developing and creating the most recognized buildings with these bricks around Colombia specially in Bogota.
- -Pottery clay: used for pottery and modeling, it has good finish and present a light, reddish or brown color. Pottery means "the union of the four elements of the universe: "water, air, mud and fire"
- -Gres Clay: clay with feldspar, cooked has great plasticity and minimal absorption showing a light gray or cream tones. The use of "Torno": art that is molded by hand while the lathe rotates
- -Ball Clay: It is ideal for hand modeling. Its color raw is dark gray which becomes clear when cooked



Sense of culture and emotions

Climate brings together all the variety of cultures of Colombia. Bogota as a cold capital receives daily populations of all Colombia and today exist a mixture of ethnicities and cultures. It brings together all kinds of approach: from charismatic people who hug each other even if they are not family to a cold and serious greeting without any physical approach. Different characteristics of people who live in this cold lands make Bogota every time more attractive, cozy and welcoming.

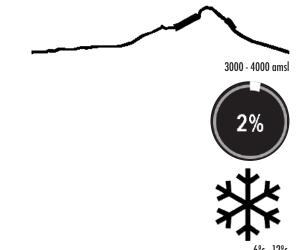
- -Strong people, business people, workers
- -Women with leadership and respect
- -Politics as a topic of conversation
- -Art as an element of expression



-Moorlands "Paramos"

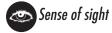
BRAID water reserve
white landscape waterbak
hill WET MOSS small
FOG MOOTS humidity
CLOUDY porous texture
condor silence lands vegetation
waterfalls RAIN FRAILEJON
high mountain
nature crystalline waters
MOORS ENVIRONMENT
vulnerable
territory rivers PARAMOS

Located between 3,000 and 4,000 meters above sea level and is characterized for presenting an average temperature ranging between 6° c and 12° c. These cold ecosystems shelter Colombia's water reservoirs and also are the lands that host an astonishing biodiversity. This 2% represents a small and vulnerable territory being this the source of the country's water²⁵



²⁵⁻Moorlands, ExpoMilano 2015 - Thermal Floors. Taken from: http://www.colombiaex-pomilan.co/thermal-floors/index.html

-sensory Identity



These moorlands are visually identified by 3 factors: its cloudy landscape, a dense and permanent white cloud covers the highest mountains, a unique ecosystem surrounds one of the main resources: freshwater reserves and the exoticism of "frailejon" plant.

Cloudy landscape: Misty or cloudy forests are those wooded sites, where air condenses, produce cloudiness that remains most of the time on these lands. A high concentration of surface fog where dark green, gray and light white represent the colors of this landscape.



Water reserves: Moorlands guarantees 80% of freshwater that supply Bogotá and other cities, with almost three million hectares of Moorlands, the country owns almost half of all moors in the world. Almost transparent crystalline waters, light blue, aquamarine lagoons, transparent rivers represent the color of this landscape.



Frailejon plant: most characteristic plants of the moors, where they dominate by their size and abundance; its leaves have a fluff to trap the humidity of the environment (whitish or yellowish hairs) which they capture and collect water from the mountains. They are green, mustard yellow, silver for its skin, are the "moorland lung".







Sense of hearing

The sound of tranquility and silence abounds in the moorland, identified by two special sounds:

- -Sound of water: an endless rain, dripping rain falling from the trees, a sound of waterfalls and rivers, sound of wet weather.
- -Sound of condor: The majestic Andean Condor lonely overfly its territory. With spread wings -which cover more than 3 meters. This animal is vital to the whole territory because it provides balance to the ecosystem. It represent the national bird where a strong and lovely sound appears between the dense and white landscape.

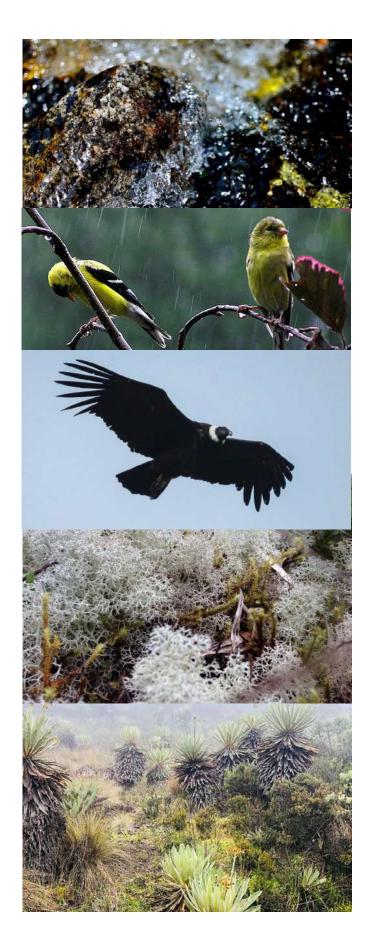
Sense of smell

The Smell of these lands express three different aromas, the most predominant is the musty smell combined with a mixed of several chemical and physical reactions:

-ozone: the smell of which can be reminiscent of chlorine, -geosmin: more intense and similar to a vapor of mold, which comes from plants and wet soil

-petrichor: which is fresh, sweet and soft, emitted mainly by

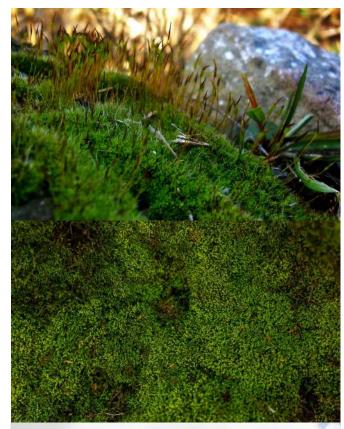
rocks





Sense of touch

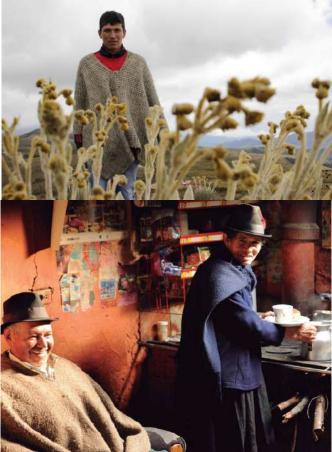
At "Paramos" summits, there is a rug that covers the fields and keeps them humid and alive. That is the Moss, which clings from the Frailejones leaves and trunks to the mountain rocks. Moss is part of the 882 hryophytes species that balance the highlands ecosystem and is a great natural water bank, it's light green color, its porous texture and its softy touch make this land a particular surface.





Sense of culture and emotions

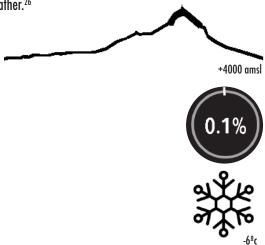
Campesino or countryman of the moors called as "Los paramunos" is the people who represent these lands, far away from big cities, they are humble and good-hearted people, sheltered under its heavy clothing made by cotton "ruanas" take of the top of the high mountains.



-Perpetual Snow "Nieves perpetuas"

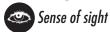
hands white and black
ARUACOS virgin sheep
mochila mountain
mystical animals FROZEN
craft indigenous cotton
DENSE WIND rituals
peak generations antarctic wind
peak storm SNOW KOGIS
HIGH gate of heaven
accumulations NATIVES
WHITE sierra nevada
cloudy HIGHEST PEAKS

These lands are located over the 4,000 meters over sea level and up and with average temperatures ranging between 6°C and below. The are few Glaciers in Colombia that began retreating in the 20th century due to global warming and are in danger of disappearing, if this occurs water supply would be scarce in the near future. Most of the glaciers are located in the Andes mountains and are inhabited by very few living species due to its sever weather.²⁶



²⁶⁻Perpetual Snow, ExpoMilano 2015 - Thermal Floors. Taken from: http://www.colom-biaexpomilan.co/thermal-floors/index.html

-sensory Identity



White and rochy landscape

At the Caribbean's shore, located in the middle of a rain forest, the highest coastal summit of the world stands up: Santa Marta's Snowy Peak. This isolated mountain range is garnished by the majesty of its twin peaks, Bolivar Peak and Columbus Peak, with more than 5.700 meters high where snow accumulation and ice formation represent these lands. Nowadays the melting of glaciers is being evident by the extreme changes of climate change and its white landscape is disappearing day by day. -Legend: "these high mountains are the gate of heaven"



Sense of hearing

Wind sound

The sound of this lands is a cold, dense and deep wind, as a snowy storm, as the Antarctic wind; but, sometimes represent totally silence as a peaceful, calm and comforting place.



Touching with hands

A handmade crafts created by the "Arhuacos Indigenous" weave by hand for generations a handbag called "Mochila arhuaca" made by virgin sheep wool and wool-cotton traditional materials for this community; a colored threads in white or black background are designed accurate by hand in which patterns represent:

- -anthropomorphic figures human
- -zoomorphic figures animals
- -physomorphic figures plants



Sense of culture and emotions

From the slopes of these high peaks habit different indigenous people such as "Arhuacos (or ikas)", the "Wiwas", the "kogis" that take care of these high mountains.

Small population but for them, these "lands are the heart of the world". The natives of the Sierra call themselves the "older brothers" and believe they possess mystical wisdom and understanding that surpasses those of others. The cultural approach is by generation to generation knowledge indigenous traditions and rituals.





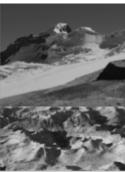


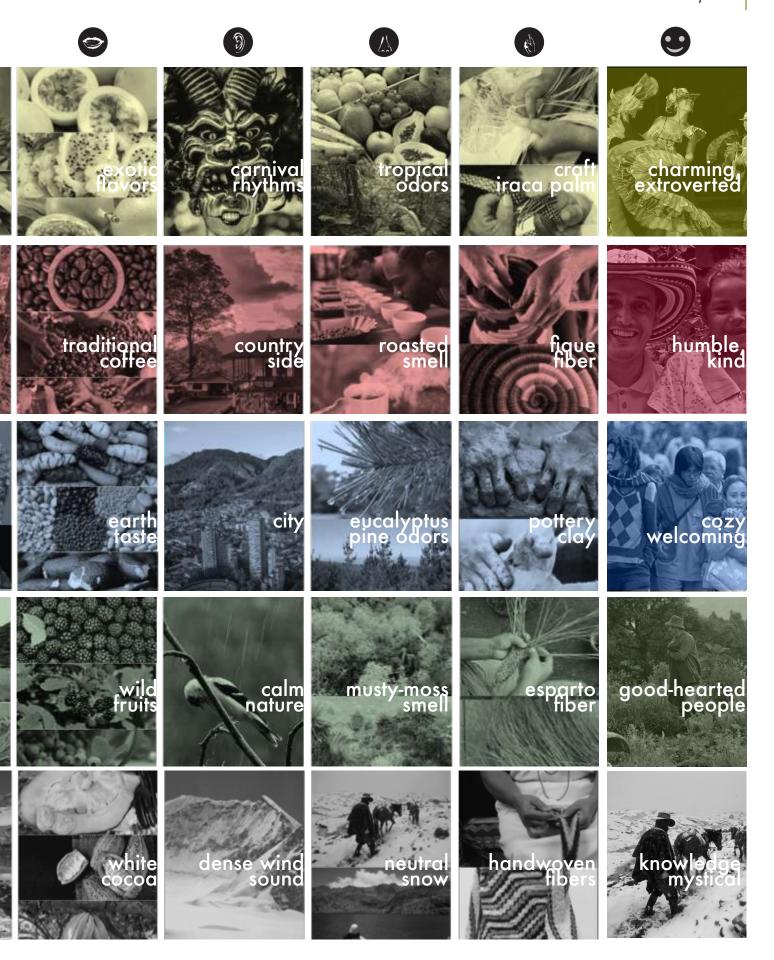












-contemporary perspective of Colombia

Nowadays interior design is taking more and more power and strength around the world; in Colombia, interior design is rewriting its history. New generations of designers and interior design companies have found new spaces to offer their proposals and related markets to position their creations, which, for the most part, highlight the diversity of the country by different decoration styles, trades, and Colombian artisan tradition.

This part of the research will find and discover the new and contemporary interpretation of interior design inside Colombia from different points of view:

- -Firstly, to understand the new interpretation of design field, the research will analyze what is teaching and communicating the schools of design in Colombia and what is the message wants to transmit to the new generation of designers.
- -Secondary, to analyze the new alternatives of communication of Colombian design in international environments, the research will focus on a new *digital platform* who was created in order to promote and let know Colombian customs and identity throughout the design.
- -Thirdly, to discover the new generation of contemporary designers, the research will identify *local and international designers* who are inspired in Colombian culture and want to develop innovative solutions of surfaces in different fields such as textiles, laminates, crafts, and others.
- -Finally, the research will evaluate who is promoting and sponsoring Colombian design throughout *local or international* fairs and events.

Education SCHOOLS OF DESIGN IN COLOMBIA

The Colombian higher education system is composed of technical institutes focused on vocational education, university institutions focused on technological education, and universities focused on undergraduate and postgraduate education²⁷. The country has both public and private universities and the ones who are teaching and promoting design are the ones located especially in Bogota.

Most of them are universities oriented to the conceptualization and integral development of design, which respond to the contemporary optimization of the vital space or environment. For example, the *Pontificia Universidad Javeriana* is promoting an *Interior Architecture* program divided into two modules; one of them especially focus in the fundamentals of interior architecture through theoretical bases, analyzing its dimension, its importance, its complexity, and its validity as one of the fundamental elements for the quality of life of contemporary man. On the other hand, the second module consists to bring design tools to the new generation of designers, in order to provide criteria and instruments to develop a quality project; these design tools meet the principles of interior comfort, Illumination, Acoustics, Materials, and finishes, the interior color, Furnishing and accessories, all possible to being materialized in any interior space²⁸.

Universidad Piloto de Colombia is one of the universities that has a big commitment to design culture. One of its academic programs Interior Design and Sustainability has the aim to foment strategies for the development of interior design projects under sustainability criteria, they affirm that different areas of design and architecture have been addressing the problem of sustainable design, where interior design cannot be foreign to these contemporary dynamics, and where comfort is sought in the interior space, based on the guidelines of sustainable constructions both nationally and internationally²⁹. For this reason, this program instructs the new generations of designers to build concepts and have design tools that strengthen their technical and creative

capacity to approach in a coherent and detailed way in solving space problems. Its fundamentals are based in the principles of sustainability with a global and local panorama, the principles of comfort, and the most important related with this research is the principles of sustainable interior design, where the definition of perception, sensory identity, spatial theory of interior design and the evaluation of color theory, palettes, experimentation, and materials, put in evidence the commitment in Colombia with the new interpretation of spaces in contemporary era.

At the same time, another prestigious university as Tadeo University of Colombia affirmed Interior design is a project discipline that involved the process of forming the experience of interior space with spatial manipulation; this discipline Investigate aspects of perception, aesthetics, psychology, architecture, product design, and besides apply traditional customs and identities in contemporary time³⁰.

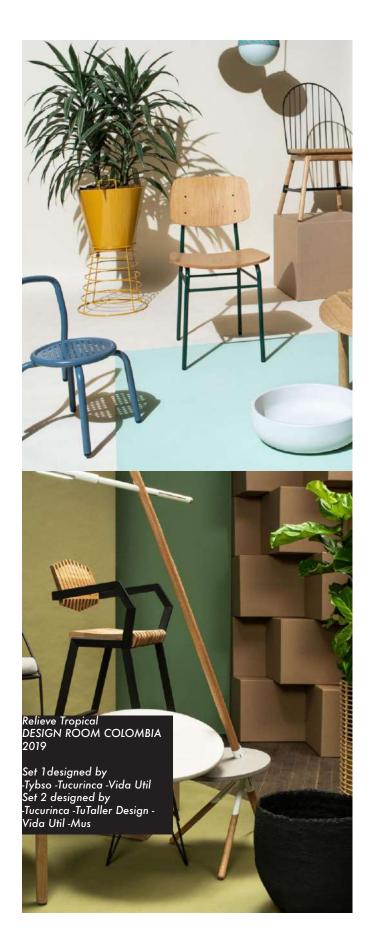
In conclusion, interior design field in Colombia nowadays is focusing in develop the capacity of conception of a space through the knowledge of conceptual elements such as context, form, color and function and more objectives such as; the techniques, the history, the styles, the representation, and materialization, preparing the students and new generations of designers to the elaboration, execution, and communication of creative and innovative projects in order to renewed ideas that adapt to the reality and serve to satisfy needs of spatial environments.

²⁷⁻ Universities in Colombia, Wikipedia. Taken from https://en.wikipedia.org/wiki/List_of_universities_in_Colombia

²⁸⁻Interior Architecture Diploma, Pontificia Universidad Javeriana. Taken from https://www.javeriana.edu.co/educon/infraestructura-tecnologia-y-productividad/arquitectura-interior

²⁹⁻ Interior Design and Sustainability Diploma, Universidad Piloto de Colombia. Taken from https://www.unipiloto.edu.co/programas/educacion-continuada/diplomados/diplomado-en-diseno-de-interiores-y-sostenibilidad/

³⁰⁻ Interior Design Diploma. Tadeo University of Colombia. Taken from https://www.utadeo.edu.co/es/tadeo-caribe/continuada/educacion-continuada/30581/diseno-de-interiores-practicas-de-espacio



Digital Platform

Design Room Colombia:
A window to Contemporary Design³¹

Design Room Colombia is the first digital platform that highlights the talent and decoration of interiors and exteriors of Colombian origin. It was created in 2018 and is promoted by PROCOLOMBIA, an entity attached to the Ministry of Commerce and promotes Colombian exporters, potential foreign investors, international buyers seeking goods and services and tourism experiences in Colombia³².

This digital platform was created to position Colombia as a leader in furniture design and decoration in international stages, and it presents a selected overview of the leading design trends with a selection of brands conveying the energy of the inspiring country, Colombia. Between tradition and innovation, this platform is an invitation to discover the creative forces of Colombia in full economic expansion, which plays today a leading role in the international trends in terms of Art of living.

Since it was launched, it was divided in order to create different editions every year. *Edicion central* in 2018 and *Relieve tropical* in 2019, both recreate different environments through unique pieces of modern interior decoration and exteriors with a contemporary style, and as a result, a development of a great collection of sophistication, innovation, and creativity Colombian talent, turned into a global offer of design and decoration. From this point, Design Room Colombia becomes the first digital platform that promotes Colombian interior design and is presented to an international audience that is searching for new talents, authentic designs for interior decoration and exteriors, and avant-garde trends.

EDITION 2018: Edición Central.

The platform in this edition brings together 10 representative Colombian interior design brands and opens its doors to the international market, showing the world a virtual reality tool where visitors can tour 12 settings created exclusively for the

³¹⁻ Design Room Colombia, Digital Platform. Taken from http://www.colombiatrade.com.co/design-room-colombia/

³²⁻ ProColombia: Exports, tourism, investment, country, brand. Taken from https://procolombia.co/en/about-us/what-procolombia

project, to get to know current trends in Colombia. The first edition was focused in Colombia's capital, due to Bogotá is a city where the cultures of over 8 million inhabitants meet and transform the space. Its cosmopolitan atmosphere led to choose 10 Bogotá-based brands that respond to a demand for contemporary international design without forgetting their origins and traditions.

Interior design companies and exteriors of Colombian origin, as well as emerging designers offering unique pieces, come together to solve a design need and harmonize different spaces and environments that when is considered as a whole become an art gallery of contemporary design.

"Design has to be present in a photo, in a text with words that are communicated in a clear, simple, and convincing way; in an exhibition that generates sensations and a connection with the person who is observing, and in the way that the brand positions itself."

by Mónica Barreneche Edicion Central Curator

EDITION 2019: Relieve Tropical

Inspired by the thermal floors of Colombia and its geography, this furniture design and decoration objects present the contrast of sunsets in the Caribbean and the green color of the moors. From the textures, fibers, and colors that reflect tropical environment and generate various shapes, the history of Colombian interior and exterior design is told from its roots.

Contemporary Colombian and international Designers

This part of the research is aimed at getting to know design based in Colombian inspirations, showing and analyzing multiple brands specially focused in surface applications, being these brands the most pioneering on national and international design scene. Divided in different categories, such as: textile, wood, artisan ceramic, polycarbonate, crafts and objects applications

-Textile applications

-Verdidesign

Artesian textile art by Tomás and Cristina Vera

Verdi is a textile studio that reinterprets Colombian traditions and Culture to create unusual pieces of interior design, fashion, and art. An idea that was born in a small town located on the slope of the Andes called Curití, a paradisaic place with tropical climate which bases its economy on the cultivation and fiber production of the fique plant. Currently, 18 families of artisans from this town work exclusively for the studio.³³

Its contemporary design combines Colombian handicraft with touches of modernity to create its Verdi universe, designing and creating handcraft carpets, curtains, backpacks, and art, made of a mix of natural and metal fibers. Its studio develops a chemical engineer technique where is created 130 new colors to apply into natural fibers, the artisan hand-knit with the support of a computer program that reveals patterns to follow and dry the textiles in a machine that applies nanotechnology and ultraviolet light.

"Our value is to reinterpret the craftsmanship and print quality, detail and design to elevate it. Applying patterns, putting the metal fibers and build the brand around the product has allowed us to venture into luxury"

by Tomas Vera.

Tree of Life is the centerpiece of the showroom placed in Bogotá which symbolizes an embodiment of a tree itself but at the same time, it resonates with ancestry and the connection of Colombian past. At Verdi, it symbolizes creative director Tomás Vera's enduring bond with his late father, upon whose legacy he built the brand while emphasizing Verdi's material identity through the tree's copper trunk and loose fiber threads.

The uniqueness of Verdi is particularly special³⁴: starting from the identity of the brand materials such as metals and natural fiber,

³³⁻ Vera, Tomas; Vera Cristina, VerdiDesign. Taken from https://verdi.com.co

³⁴⁻ Surface; The Fiber Tree at the Center of VERDI's Bogotá Showroom is Nothing Short of Magic, June 27, 2019. Taken from https://www.surfacemag.com/articles/verdi-tree-of-life-colombia/

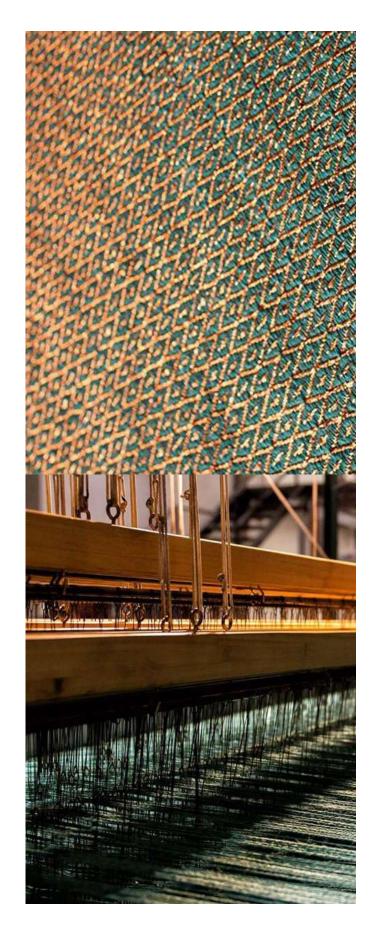
secondly their three pillars home, fashion, and art, and lastly the connection to nature and ancestors of the country; being this last point is hugely significant for them, due to the brand itself was built upon a family legacy and it honors the family tradition, bringing back Colombian craft and reinterprets traditional techniques in a way that has never been done before.

"Honoring a family tradition, specializes in mixing natural fibers with metals to create contemporary products with an artisanal heritage" This represent Verdi Design.

by Surface Magazine NY, June 2019

Carpet made by Natural Fiber Turquoise&copper rhombus rug designed by the traditional loam by VerdiDesign

> Carpet inspired in Colombian Coffee Crops Natural Fiber: nylon + metal by Hechizoo





-Hechizoo Artesanal carpets by Arch. Jorge Lizarazo

A workshop of gold, silver and copper threads, mixed with more than 2,500 plant natural fibers from plants from the depths of the Amazon and the summits of the Andes represent Hechizoo, an artesian factory of carpets used in interior spaces or as an artwork where Colombian culture predominates in their designs.

"One of the largest convictions that gave life to Hechizoo, was to give people back their ability to dream, to believe that they can live from the work performed by their hands, from the knowledge they learned from their grandparents, that it was literally possible to weave their destiny"35, said Lizarazo describing its own company.

Its contemporary design is based on combining the artisan multiplicity, the folds of Colombia, its geography and its people. Hechizoo's mission highlight the Colombian identity, a culture endowed with talent and virtues that collectively builds the memory of the country today³⁶. A contemporary interpretation of weaving with metallic fibers such as silver and copper, reflect the new look of the Colombian tradition and translates it into artisan languages that respect their identity.

"Lizarazo found the space to create interiors faithful to his style; an organic and vibrant eclecticism where color management is key to generate contrasts and textures."

by Rocio Hofman Arias Sentada en su silla verde Magazine

³⁵⁻ Oroca, Guillermo; July 2019. El País Magazine "El textil artesanal colombiano conquista el mundo"- "Colombian handmade textile conquers the world"; . Taken from https://elpais.com/elpais/2019/07/16/eps/1563277864_514795.html.
36- Arias Hofman, Rocio; December 2012. Sentada en su silla verde Magazine, "El hombre de los hilos de metal"- "The man of metal threads". Taken from https://www.sentadaensusillaverde.com/publicacion/el_hombre_de_los_hilos_de_metal/32.

-Gres

Hand woven fabrics by Silvana Vergara and Catherine Jessurum

Gres is the organic result of playful experiments with handwoven fabrics created in 2016 and is driven by curiosity and through contact with many local artisans.³⁷ The architects noticed a common thread plaguing Colombia 's rural communities: the interest in learning traditional crafts and techniques is vanishing; especially among the younger generations, the lack of resources prevented many artisans from acquiring the raw materials necessary to produce their products, which, in turn, are necessary as a means of subsistence.

They started by playing around with threads, mixing colors and understanding patterns and throughout the time, discovering other types of weaving techniques and understanding its aesthetics.

The DNA of the brand is reflected in the shapes and geometry of their products, looking to create objects with a soul, that tell a story, that will adjust to an interior and that will add richness, texture and enhance it. The name of the brand is inspired in the clay with which Colombia makes bricks and other construction materials. In Spanish this clay is called "gres" and it speaks of Colombian roots in architecture, it built environment as well as it evokes the spirit of the brand that seeks to transform materials and techniques that come from our land and our traditions.

Gres aims to incorporate thoughtful and soulful objects into your surroundings. Inspired by architecture, creating contemporary home goods, rooted in traditional techniques.

"We aim to breathe new life into the centuries-old techniques of arts and crafts, while we have the pleasure of partnering with."

by Silvana Vergara

³⁷⁻ Vergara, Silvana; Jessurum, Catherine. Gres. Taken from http://www.gres.com.co/about/

-Wood applications

-Primadera S.A.S

Melamine Manufacture

Primadera is a manufacturing organization dedicated to the manufacture of MDP, which means Medium Density Particle Boards in different thicknesses, sizes, and decorative finishes³⁸.

Distinguished by their commitment to providing a high-quality product, focused on meeting and exceeding customer expectations with a varied and striking offer, which reflects the latest global trends in design. They believe in their great responsibility to contribute to the community, not only to the development of the Municipality of Gachancipá where the factory was born but also to that of the region and the country.

The Primadera RENACER COLOMBIA 2018 Melamine Collection³⁹ selects 4 kinds of wood that allow a reconnection with nature, invite to create spaces full of personality and evoke a strong character at the places they will place.

This collection finds its inspiration in unique places in Colombian geography, in order to recognize the value of the local and enhance appreciation for the own thing seeking to position in the global trends the identity of the product defined by the Colombian culture. RENACER COLOMBIA is ideal for the manufacture of architectural carpentry, home furniture, office, kitchens, interior doors, hotels, gyms and RTA furniture among others. The collection is formed by Taroa, Majuy, Cocuy, and Tumaco.

TAROA melamine of warm tones is ideal for generating cozy environments. It is inspired by the landscape of the Dunes of Taroa, due to the winds of the Caribbean Sea crash on the sands of La Guajira creating wavy grooves in permanent movement. The dynamism with which the wind transforms the landscape of the Taroa Dunes reflects the vivacity of nature and gives inspiration to Taroa melamine. A design full of movement in its veins and cathedrals, evokes the footprint of the wind over the dunes, with

its sun-roasted sands and its range of warm tones, honey and caramel reinforce the naturalness of this wood.

MAJUY melamine represents the sacred forests in Cundinamarca. Its deep gray and brown tones realize how the passage of time and the elements of nature leave their mark on woods. This melamine of knots and marked cathedrals, with its neutral and warm color palette, is perfect for generating comfortable spaces, places to feel at ease and return to the basics. Majuy which in Muisca means "within you", is a place to meet and reconnect with nature.

COCUY melamine, is an elm with soft play of gentle tones, is the perfect design to create bright and fresh environments, which are inspired by glacial whites generating an atmosphere of calm and tranquility. This wood evokes the colors present in the rock formations, the peaks, snow-capped mountains and glaciers of the majestic Sierra Nevada del Cocuy, one of the most impressive landscapes in Colombia.

TUMACO melamine with its variety of dark chestnut trees, evokes the mangrove roots in terms of their shades, strength and intricate composition. This timeless walnut with its deep brown colors allows creating versatile and warm environments. The dense vegetation of the Colombian Pacific, intertwines the roots of the mangrove with the waters of the sea, creating a shelter where several species that constitute one of the richest ecosystems on the planet take refuge. Tumaco evokes that force from the roots of the mangroves to create a sense of security and protection, creating shelters to recover from everyday chaos.

Renacer Colombia 2018 Melamine Collection by Primadera

³⁸⁻ Primadera S.A.S. Taken from https://www.primadera.com/?utm_medium=website&utm_source=archdaily.co

³⁹⁻Archdaily. Renacer Collection Colombia 2018. Taken from https://www.archdaily.co/catalog/co/products/12389/melamina-primacor-tumaco-primadera?ad_source=neufert&ad_medium=gallery&ad_name=close-gallery

-Artisan Tiles

-Icono Taller Handmade tiles by Luisa Aldana

*Icono Taller*⁴⁰ comes from Bogota since 2016, a handmade production of artisan tiles in concrete is the perfect product for many remodeling works and an excellent product for architects and builders who wants to apply it in many scenarios such as any surface of restaurants, offices, houses and soon. The catalog has more than 100 patterns that can be produced in different sizes, colors and figures. The process for each tile is hand made and unique, it allows us to be environmentally friendly.

Ícono Taller participated in the first edition of the digital platform Design Room Colombia in 2018, showing four of its possible combinations in different scenarios.

-Crafts & products

-Artesanias de Colombia

Colombian handicraft

Artesanías de Colombia is a non-profit organization linked to Colombia's Ministry of Trade, Industry, and Tourism that has promoted the development of Colombian handicrafts, both domestically and internationally, for over 50 years.⁴¹

Artesanías de Colombia isn't just a wide selection of quality well-crafted items; it's a hotbed for design and innovation. Artisans, in this case, are the real entrepreneurs being the ambassadors of the different regions of Colombia. Their pieces hold the creative DNA of Colombian people and for each fiber, knit, mold or design is the reflection of our nature and our cultural richness.

The main objective of *Artesanías de Colombia* is to promote sustainable development, innovative, inclusive and artisan, regional and national levels, as well as preservation, rescue, and

⁴⁰⁻ Icono Taller. Taken from http://iconotaller.com/galeria/ 41- Artesanias de Colombia. Taken from http://artesaniasdecolombia.com.co/ PortalAC/General/template_index.jsf





appropriation of the cultural heritage represented in the trades and crafts tradition industry locally. At the same time increase the participation of artisans in the national productive sector, achieving a comprehensive sustained development that manifests itself in improving the standard of living, reflected both an increased rate of income and opportunities for social participation, and more productivity and positioning of craftsmanship in local, regional, national and international markets.

-Tucurinca Woven chairs by Rafael Zuñiga

Colombian people are faithful to the weaving tradition of the natives. Over the years, this ancestral knowledge has been present in rural areas where agricultural activities and armed conflict replaced many of their artisan gestures. *Tucurinca* is the rebirth of these techniques⁴².

Tucurinca rescues the traditional coastal chair, reinvent the design, recover techniques and innovate in materials such as Zuncho, plastic and rope, materials derived from palm leaves and banana crops in the region. Its products are composed of a steel frame and woven PVC ropes, which convey the joy and energy of the Caribbean experience. A whole range of furniture is inspired by the Colombian tropics, the perfect mix of traditional techniques and international standards.

Tucurinca participated in the second edition of the digital platform Design Room Colombia in 2019, the Collection "Relieve Tropical" was the perfect scenario to show the contemporary design of Zuñiga.

Artesanal Tiles 3d Cubes by Icono Taller Edicion Central 2018 Design Room Colombia

Tucurinca Chair Traditional Patterns Design Room Colombia - 2019

⁴²⁻ Tucurinca. Taken from https://www.tucurinca.com.co

-Polycarbonate applications

-Arkos

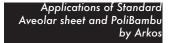
Polycarbonate sheets

Since 1990 *Arkos* is dedicated to the design, supply and installation of roofing systems, facades, divisions and enclosures in polycarbonate, other polymers and other materials of great technological advancement. *Arkos* stands out for offering innovative architectural systems that combine high quality and performance with maximum use of natural light, design, and sustainability⁴³. Between all their products, two of them are specially dedicated to applications in interior design:

POLYGAL® STANDARD ALVEOLAR SHEET: Sheets with optical and mechanical properties that generate atmospheres and environments where light, protection, visual and thermal comfort become determinants of use or specification. Standard alveolar sheet coverings have been designed by *Arkos* to allow light to pass through, creating spaces with natural light and great thermal comfort. Manufactured in different colors and degrees of transparency, the honeycomb sheets are designed to be used in conventional applications of roofs, facades, and interior design.

POLIBAMBÚ - POLIFIBRA®

Honeycomb sheet with natural bamboo and / or natural fibers, for interior design applications, offering a very high aesthetic value. Thanks to the union of polycarbonate with the rustic of bamboo, generate spaces full of color, design, texture and natural appearance. This interior lining offers virtually unlimited design possibilities. Polibambú, integrates the benefits of polycarbonate such as light transmission, flexibility, lightweight, diversity of colors, textures and sizes, among others, and bamboo benefits such as sustainability, durability, and resistance, generating a design and decoration product. High strength product with a warm and natural appearance, ideal for setting spaces, creating interior design spaces or covering exterior surfaces.





-International Designers

Colombian culture, landscapes, customs, and crafts are nowadays inspirations for international designers. Here are exposed the most outstanding projects in interior design applications of different parts of the world:

-Marni

"Las Veredas: Colorful Colombian shines" Design collection 2018 Italy

Las Veredas collection by *Marni* and Italian brand pays tribute to Colombian crafts creating handcrafted furniture, Colorful hammocks, vibrantly woven seats, home accessories and a design barnyard with responsibly handcrafted hen-shaped toys which invites to discover the convivial microcosms of Colombian villages⁴⁴.

Las Veredas Collection supports La casa sull'albero by Piccolo Principe S.C.S Onlus, a non-profit association looking after kids and their future families embarking the adoption and custody bureaucratic hurdles. The new collection is inspired by Veredas' humble, yet vibrant vibe. Veredas are small Colombian settlements centered around a street or across where rural communities welcome auests to discover a world of colors and folklore.

Marni teamed up with these communities to create a collection powered by a playful and experimental approach. The brand's chair collection is reinterpreted. Backrests blossom into peacock tail-like designs. PVC weaving s give space to sinuous loom-crafts. The colorful baskets of the Las Veredas collection are made from weaving willow trees branches and roots according to the centenary tradition of the ancient lbagué city in the Tolima region. Women in the Curitì, Santander district hand-craft agave plants to create a 100% organic strong textile for colored resistant bags.

-Marni

"Mercado de Paloquemao Salone del Mobile 2015 Italy

Marni present a showroom in the Salone del Mobile 2015 that turns into a fruit market called "Mercado de Paloquemao"⁴⁵. Inspired by the market of the same name in Bogotá, Colombia, Marni offers an installation in which the protagonists are the bright colors of the exotic fruits of a distant land, their shapes, and their interpretation.

The installation set-up invites conviviality, to be lived around a large table, enriched by the silhouettes of exotic fruits and set with tin plates decorated by hand with *Marni* archive motifs. Stools of various shapes, weaves, and colors complete the collection. An expressive freedom in the choice of compositions that is reflected in the *Marni* collections, where each combination is unique and unexpected.

The fruits become sculptures made of metal and PVC that can be containers, in the larger dimensions, or decorative objects for the centerpiece in the smaller ones. A rich banquet where you can taste pineapple, guanabana, zapote, and curuba: these are the fruits that *Marni* brought from Colombia, with the aim of making the public of Design Week known different flavors. The limited editions of objects and furnishings were made entirely by hand in Colombia, involving a group of women who through work have found their independence and emancipation.

The *Marni* Mecado de Paloquemao installation was awarded the "Best Impact" prize of the Milan Design Award for:

"The great visual impact, linked in tandem with an ongoing social support project. The opulence of nature harmonizes with the desire to involve the city through an opportunity for exchange and openness "

by Francesco Risso Manager

⁴⁴⁻ Marni, Las veredas Collection. Taken from https://www.archipanic.com/las-veredas/

⁴⁵⁻ Marni, Mercado de Paloquemao Instalation. Taken from https://www.marni.com/experience/it/event/marni-mercado-de-paloquemao/







-ames and Sebastian Herkner

Colombian plastic weaving Caribe collection 2017 Germany

The German designer has collaborated with Ames to create a home collection called "Sala". 46 The designer traveling around Colombia and visited local artisans whose traditional production methods have been passed on for centuries from one generation to the next; from this moment "Caribe Collection" was born, a new range of furniture suitable for outdoor use. Inspired by Colombia's fascinating culture and honoring the artisans' special skills, Herkner has designed accessories and textiles for *ames* that blend modern design with traditional craftsmanship.

A comprised chair, a lounge chair, a large side table in high and low versions and a woven table, the pieces feature traditional woven plastic in combination with a tubular steel frame, typical of Colombia's Caribbean-coast region where the furniture line has been handcrafted⁴⁷. These types of chairs are typical of this area of the country, where the popular Momposino waving craft is taught in schools.

In this collection for *ames*, the German designer has taken different-colored plastic strands and has woven and combined them with a tubular-steel and steel-wire frame available with a galvanized or power-coated finish. The furniture has been produced by locals of Santa Marta town on Colombia's Caribbean coast and it was presented at Maison et Objet in Paris and IMM cologne.

"the new furniture family is suitable for outdoor use. Different colored plastic strands inspired in Colombian coast are combined with a tubular steel and steel-wire frame: a complete charming combination."

by Sebastian Herkner

⁴⁶⁻ Ames; Herkner, Sebastian. Caribe Colection. Taken from https://www.ames-shop.de/en/inspiration/ames-sala/#emotion-5

⁴⁷⁻ DesignBoom; Herkner, Sebastian. Taken from https://www.designboom.com/design/sebastian-herkner-caribe-ames-colombia-01-27-2017/

-Alvaro Catalan de Ocon

PET bottle lamps 2013 Spain

The Spanish designer traveled to South America with the aim to understand the problem of plastic waste that is contaminating the Colombian Amazon. Currently, large amounts of PET bottles are washed into the earth's body of waters by tropical rains—the discarded material pulled into the rivers, floating out into the pacific ocean where over time it has accumulated into an immense island. Alvaro's initiative was decrees the amount of pollution generated by plastic bottles with a potential solution to the problem: a transformation of a PET bottles into lamps⁴⁸.

Using the surface of the PET bottle as the warp on which to weave, local craftsmen come into the picture to create the weft, ultimately giving the lampshades their form—the lines where the plastic molds meet, serving as horizontal and vertical references for cutting and spinning the textiles. The original structural form of the bottle top remains in place in which to join the electrical components to the lampshade itself. The colors, materials, and motifs employed in the creation of the lamps speak of the cultural traditions of the artisans who make them, engaging the local community to turn the containers for liquids into ceiling lamps and with the help of the *Artisanías de Colombia*. The initiative gives locals a means of sustaining themselves economically as well as bringing a livelihood back to their culture in which to express their knowledge of craft to be shared with the world.

The designer worked with two distinct ethnic groups from the area on this project: the "emperara-siapidara" where a special palm tree is found in abundance, their fibers dyed using natural pigments for application in their traditional craft practices; and the "Guambianos" where wool and cotton weaving are symbolic of their customs⁴⁹. The result is two unique collections of lighting pieces whose colors, materials and motifs, indicate the origins of their makers.

PET Bottle lamps by Alvaro Catalan de Ocon

⁴⁸⁻ Catalan de Ocon, Alvaro. PET bottle Lamp. Taken from https://www.pamono.com/designers/alvaro-catalan-de-ocon

⁴⁹⁻ Ďesign Boom. PET bottle Lamp. Taken from https://www.designboom.com/design/pet-bottle-lamps-by-alvaro-catalan-de-ocon/

-Acande

Le tapis en caña flecha 2019 France

Acande is a handmade crafts brand inspired by the Zenu community of Colombia, producing a different variation of home objects with 100% natural vegetable fiber furniture⁵⁰.

Handicrafts and agriculture are the main economic activities of the Zenu people. A large number of them divide their time between working the land and making artisan products made within associations. *Acande* collaborates with three families who have been selected for their artisan mastery, all are located in very isolated areas and has long been affected by the armed conflict in Colombia, but the improvement of the situation in recent years has eased the working conditions of families in these rural areas.

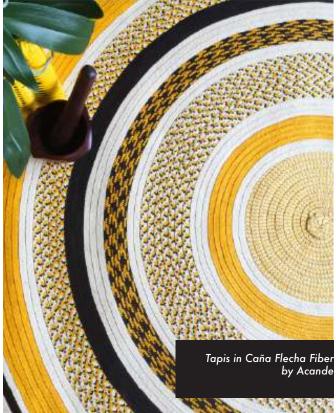
Caña Flecha is the plant that provides the fiber and could be tapered, dried and then braided by hand. *Acande* with the artisans mostly makes hats, handbags, jewelry, and interior decoration items from this material.

The aim of the bran is to spread the Zenu ancestral tradition of Caña Flecha, still, little known in Europe and design fully ecological furniture that does not undergo any chemical treatment and colors in the vegetable dye, all braided by hand giving a variety of crops and braiders.

"After just over a year of collaborative work with Zenú craftsmen, we are still impressed by their braiding technique and dexterity. It is a craft which is specific to them and which is transmitted orally from generation to generation".

by Acande





-Fairs and promoters

Expoartesanias Fair

Bogotá, Colombia Every year

Expoartesanías is the largest fair of crafts and cultural products of Colombia promoted by Artesanias de Colombia and is an exaltation to artisans and artists who build with their hands the traditions and identity of a country.

Expoartesanías⁵¹ is a scenario that allows visitors to experience the greatness and richness of Colombian crafts every year. The fair visitors will be able to travel throughout the country by experiencing cultural samples that represent each region, and that will be present in exhibitor stands, cultural activities, trade experiences, and scenarios dedicated to crafts. This platform also allows to exalt the labor of our artisans and to project it at a national and international level, for this reason a curatorship and product selection that guarantees the participation of representative social groups from every corner in Colombia.

The Edition 2019 in partnership with *Corferias* y *Artesanías de Colombia*, promoted the message 'Made to live with them'.

"What we are looking this year is to incorporate crafts into daily life, that we make them part of our daily life, whether in the form of a dress or an object to decorate, because in that way we appropriate our cultural heritage and our identity,"

In this large showcase organized in five pavilions, 164 indigenous artisans, 178 artisans, and 349 contemporaries participate. Where 870 exhibitors from 30 departments, invited visitors to take a trip through five regions of Colombia: Caribbean, Pacific, South Center, Coffee Axis, and Eastern Plains.

BURO Fair

Bogotá, Colombia Every 6 months.

In Colombia in recent years, creative young entrepreneurs are building their brand inserting in Colombian market contemporary designs and inspirations. BURO Fair is promoting these new designers opening the doors to the national public but also international⁵². BURO aims to publicize Colombian talent from the inside out of the country and support the talent of new generations and young people highlighting the quality of Colombian design and becoming recognized as creative potentials in Latin America.

Covering the fields of design, art, photography, and gastronomy, *BURO* offers a cultural program that seeks to sensitize the public so that they can easily access the best proposals.

BURO is the experience of the new Colombian design. Born to enrich the national identity through the best standards of quality, creativity, and entrepreneurship of brands that arise in retrospect of our talent. What is known about Colombian design is centralized in already positioned brands, under parameters that identify them in the national market.

BURO is born and grows to give the opportunity to less known brands that have international potential and projection; has the balance of providing a fairground where brands can have space, expose their work and in the same way have effective businesses.

⁵¹⁻ Expoartesanias. Taken from https://expoartesanias.com/es

Maison & Objet international Fair

París, France Every year

MAISON&OBJET is the major event for professionals working in the art of living in all its rich and varied expressions. The lifestyle show brings together a 360° product offering. 53 Decoration, design, furniture, accessories, textiles, tableware, and other. The styles coexist in a multifaceted way, throughout the inventive show design which enlivens the spaces. This extraordinary diversity is in line with the varied expectations of global markets. With each session, the great lifestyle platform, at the intersection of business and creativity, reveals solutions to visitors from around the world in search of uniqueness.

Each year, the show celebrates the Designers of the Year and Rising Talents. An inspired talent detector, it picks out emerging talents and celebrates the values of style around the world. Colombian interior design and handicrafts are becoming increasingly recognized and popular throughout the world, for this reason, last year in 2019 Maison&Objet display Colombian Talent which Design Room Colombia and Artesanos de Colombia were involved. Colombia's display combined the indigenous and traditional knowledge of handicrafts with six young innovators' universal approach to design.

Accompanied by ProColombia, the delegation of designers made up of Gres, Folies, VERDI, Del Portillo, Mónica Urquijo, and Artesanías de Colombia, as well as a selection from the Manos a la Obra project, promoted by the Atlántico department's local government. In fact, Colombia boasts the most products with Denominations of Origin in the Latin American artisan sector, according to Expoartesanías⁵⁴.



⁵³⁻ Maison&Objet Fair. Taken from https://www.maison-objet.com/en/paris/exhibitors/september-2019/procolombia

⁵⁴⁻ Procolombia, Colombia, técnicas ancestrales para el hogar de hoy. Maison&Objet participation. Taken from https://procolombia.co/noticias/colombia-tecnicas-ancestrales-para-el-hogar-de-hoy

- Development

-collaboration with a laminate company

CLEAF, an Italian company of laminates is looking for a development of a new surface, where a contemporary interpretation of an international culture will take the protagonist this time. CLEAF team in collaboration with students of Politecnico di Milano are developing a research about coating materials for furniture and interior design from the traditions of student's country in order to create a new texture or decorative paper (or both) from a contemporary interpretation.

The main purpose of the project is to capture the Colombian identity into one surface applying it on an interior space or furniture for living and working spaces.

For understand who is Cleaf as company and what is going to be the next step after the research, the brief is presented here:

WHO

CLEAF Company WHO is Cleaf? WHO is the target?

CLEAF is an Italian company based in Brianza producing and manufacturing innovative surfaces and solutions for the furniture and interior design industries founded by Luciano Caspani and Agostino Fausto.⁵⁵

Since 1975, its design meets technology, surfaces manufacturer, and has turned it into a veritable art-form where the melamine faced panels, laminates and edges are exclusively manufactured to build inspirational spaces for living and working.

-Target-

As an international company, CLEAF brings innovative solutions for architects and designers around the world (Europe, America, Asia, Africa, and Oceania) who are interested to create inspirational spaces for living and working.

55- Cleaf. Taken from https://www.cleaf.it

WHAT

Current Production
WHAT are the design solutions CLEAF offer?
WHAT CLEAF is looking for?

Specialized in innovative surfaces manufacturing melamine faced panels, laminates and edges in different types o textures.

Faced panels are wood-based panels whose sides have been covered with decorative papers or polymeric foils.

Laminates are hot pressed impregnated papers; various typology (HPL - CPL - Hyperflex), sizes and thicknesses are available in the same textures and decorative paper of the faced panels.

Edges are the borders for faced panels (ABS edges)

60 Textures currently offering in over 600 decorative papers

meaning a wealth of optical and tactile possibilities.

CLEAF is looking for a developer of a new surface introducing an international culture (Colombia)- as main protagonist; in collaboration with students of Politecnico di Milano a new texture will evoke new senses and meanings to interior design field.

WHEN

Contemporary approach
WHEN the products will be needed?

As an international company, CLEAF looks for a nowadays solutions and innovations, always innovating its design concept with a contemporary interpretation, which means an accelerated growth of production and innovation.

- Production: Currently developing a fast production service called CLEAF ESPRESSO, where a selection of products are available in seven working days that can be ordered in bundles or single items. - Innovating: As part of CLEAF strategy to create and develop new textures for furniture and interior designs, a RESEARCH TEAM was founded discovering day by day innovative ideas, and with the collaboration of Politecnico di Milano's students, the company will adopt a new international contemporary interpretation for its next collection 2020.

WHERE

Furniture and Interior spaces Where the products will be used?

Products are dedicated especially to use for furniture and interior design industries particularly in retail, residential spaces, hotels, restaurants, public spaces, exhibitions, and working spaces.

-CCube: Since 2013, a showroom was created to display the "culture of surface" where multiple textures and decoratives are combined with tactile and visual effects. This place is the creative heart of CLEAF and is the inspiration for many architects and designers.

WHY

New opportunities
WHY Cleaf is looking to develop a new surface?

The main goal of this collaboration between CLEAF company and students of Politecnico di Milano is to bring a contemporary interpretation of an international culture reflected in a surface that transmits and evokes new tactile and visual sensations and experiences to the costumers.

- This new opportunity creates an international door, where the growth and expansion of the company and interior design field spread throughout the world.
- It's an opportunity to open new experimental research about international culture and adopt new senses to the Italian design.
- An opportunity to build new inspirational contemporary spaces for living and working with an international touch.
- An opportunity to display and be part of international design fairs.

HOW

COLOMBIAN TOUCH
Implementation of a new surface

The developing of a new surface with Colombia as an international case of study will consist on the three phases named in the research strategy⁵⁶

⁵⁶⁻ See Research strategy, pag 11

- Color

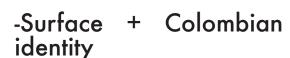
of Endemic Flora &Fauna + Natural landscape

The identity colors of Colombian are represent by its large biodiversity.



Its fauna represent more than 1,821 species of birds, 623 species of amphibians, 467 species of mammals and soon, where about 18% of these are endemic to the country showing a range of striking colors.

-macaws - parrots -hummingbirds -butterflies -gold frog -iguanas





Its flora: a mind-boggling 51,220 species of plants, nearly 30% endemic show a fading colors depending of its location in Colombian territory.

orchidsheliconiasfrailejon

The design concept consists in juxtapose three mainly elements of surface COLOR - TEXTURE and PATTERNS from Colombian traditions with the five layers of the thermal floors: hot, warm, cold, moorlands and perpetual snow previously analyzed by senses to create a complete sensory identity of Colombia.

A dynamic and interactive board is designed where the visual and tactile sensations express a unique perception of the Colombian identity.



Its natural landscape: thanks the variation of temperature and altitude the visual perspective of the landscape change dramatically.

-amazon tropical landscape -seaside landscape -coffee crops landscape

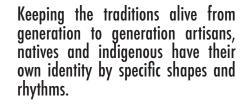
- Texture

- Pattern

of Natural Fibers

of handcrafts patterns + Techniques

Natural fibers are fragments, strands or hairs, whose come from many sources as plants, animals and minerals.





Natural fibers derived from plants mainly consist of cellulose, hemicellulose, and other substances; means that are long, resistant, cohesive, fine, uniform, glossy and durable fibers, used to make fabrics, ropes and nets.

-cotton -magüey -fique -Jute



Ancestral influence comes from the Pre-columbian period (5000 b.c), where nature and cosmos were represented by abstract and figurative designs specially with geometric shapes:

-mountain is mother earth, by triangles in a continuous line

> -agriculture are crops, by geometric design steps





Natural fibers derived from animals consist largely of particular proteins. Hairs and skin used to make fabrics and textiles.

- silk - wool -wild wool

-Caña flecha



Indigenous patterns represent elements in the matriarchal structure of their society, their surroundings and their daily life.

-anthropomorphic: figures of human -zoomorphic: figures animals -physomorphic: figures plants



Natural fibers derived from minerals origin in rocks with fibrous structure and consist essentially of silicates and precious metals.

-gold -silver -cooper



Indigenous techniques mostly identified by different types of woven especially made by hands and looms.

-Roll technique -braided: "trenzado" -wayuú technique: "tejido araña" -horizontal and vertical loom

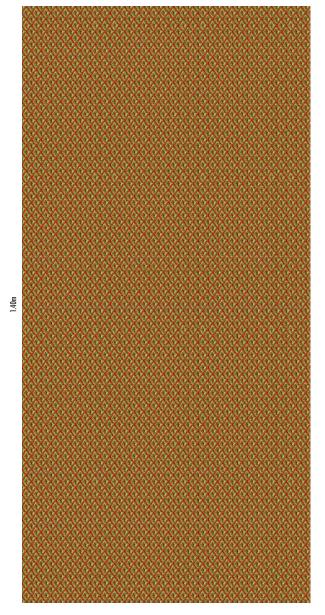
Decorative Paper #1

-development of a decorative Paper "Andean Cross"

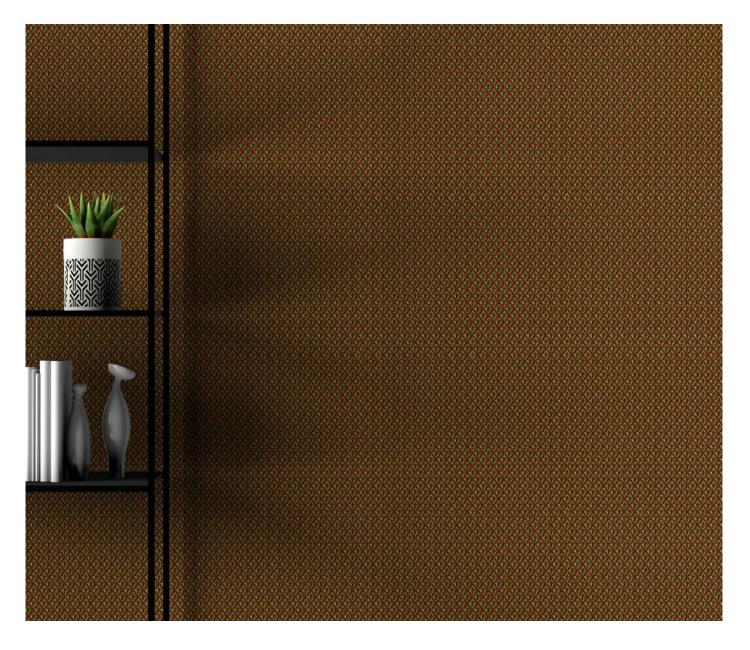
Cruz Andina which means eternity -eternity of culture of indigenous community -eternity of family -eternity tribe

Material -Fique and Copper threads Inspiration -Endemic biodiversity and Tropical-Caribbean landscape

0.65 m



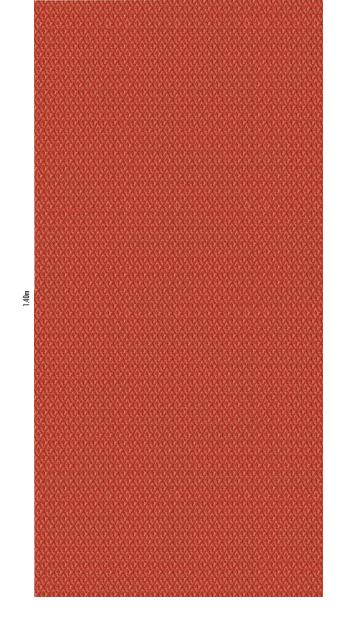


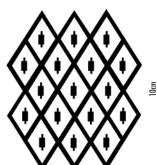


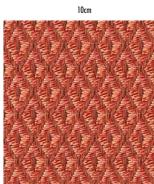
Cruz Andina which means eternity -eternity of culture of indigenous community -eternity of family -eternity tribe

Material -Fique and Copper threads Inspiration -Endemic flowers and Natural Landscape Coffee crops

U.65M



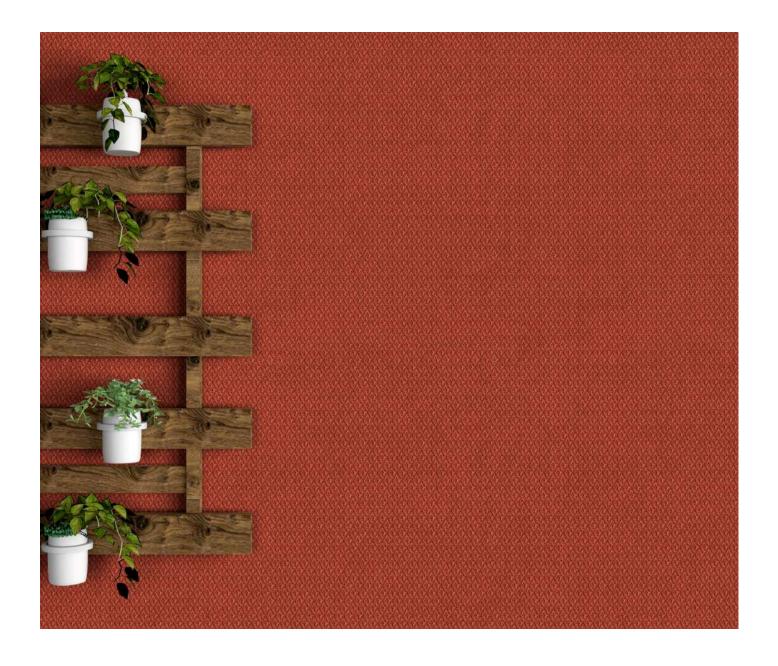








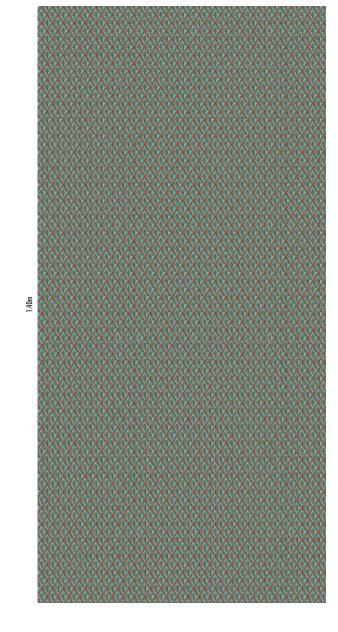




Cruz Andina which means eternity -eternity of culture of indigenous community -eternity of family -eternity tribe

Material -Fique and Copper threads Inspiration -bluish greenish colors City landscape and Bricks

0.65m



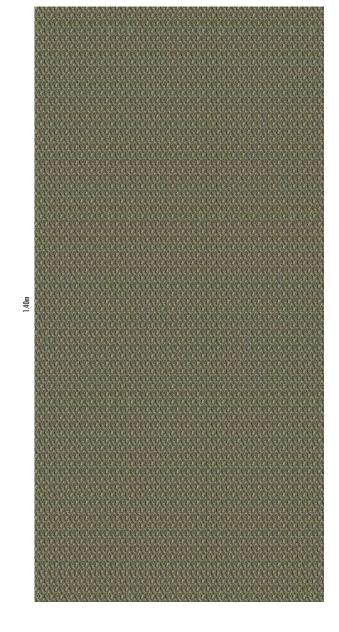




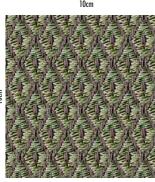
Cruz Andina which means eternity -eternity of culture of indigenous community -eternity of family -eternity tribe

Material -Fique and Copper threads Inspiration -Endemic flowers and Frailejon Landscape

0.65 m









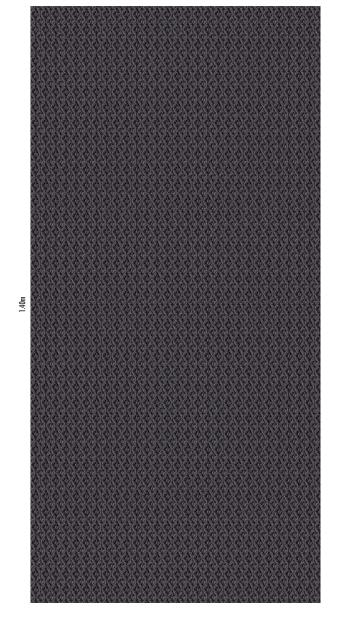


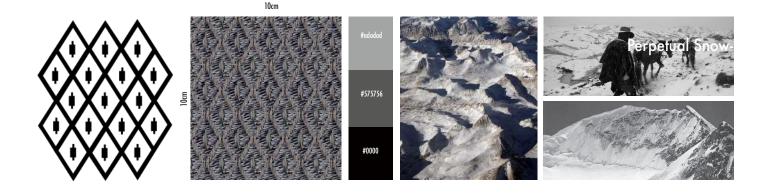


Cruz Andina which means eternity -eternity of culture of indigenous community -eternity of family -eternity tribe

Material -Fique and Copper threads Inspiration -Rocky landscape and mountains surrounded by snow

0.65m



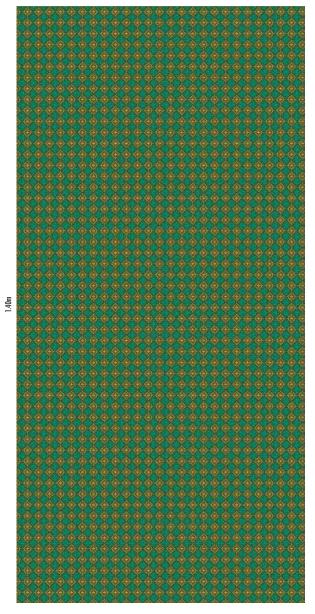




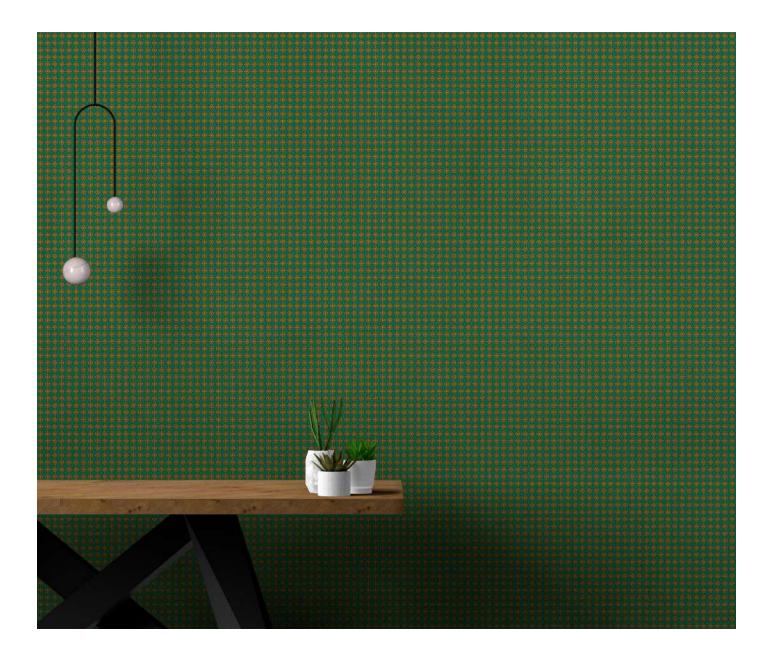
-development of a decorative Paper "Wayuu pattern"

Escalonado which means steps Reflection of symmetry and rhythm ancestral terrace representation

Material -Fique and Copper threads Inspiration -Tropical landscape with exotic flavors



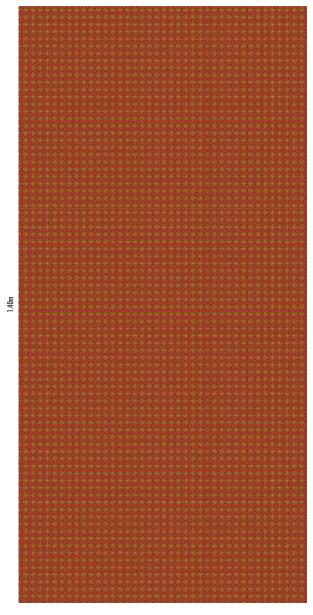




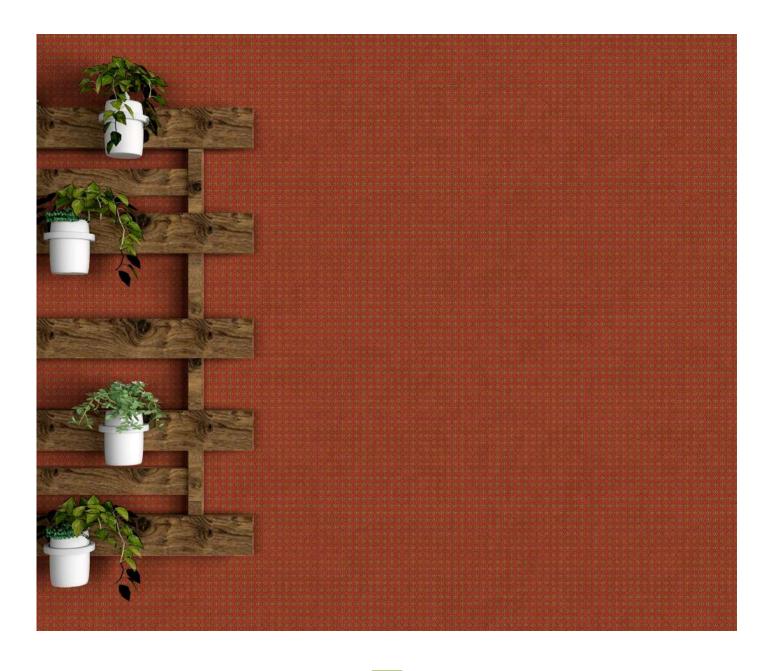
-development of a decorative Paper "Wayuu pattern"

Escalonado which means steps Reflection of symmetry and rhythm ancestral terrace representation

> Material -Fique and Copper threads Inspiration -Endemic Heliconia Flower, Wood Bamboo and coffee plant



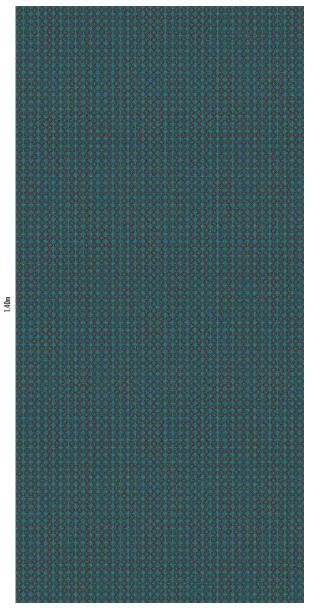


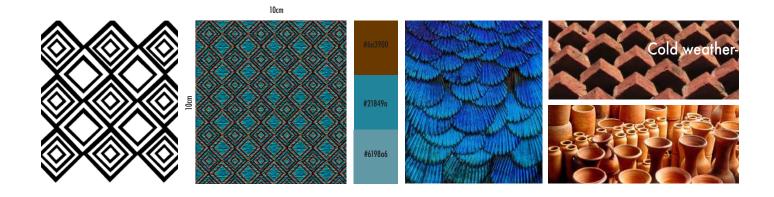


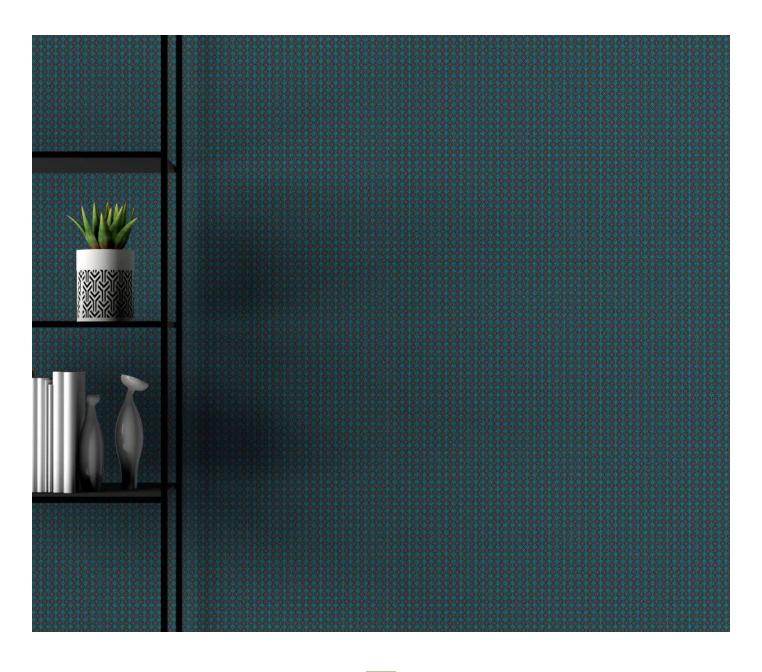
-development of a decorative Paper "Muisca Soul"

Representation of rhombus shape means the womb where life begins Its the symbol of family, unity and group

Material -Fique and Copper threads Inspiration –bluish colors from endemic hummingbird Pottery tradition and architectural bricks



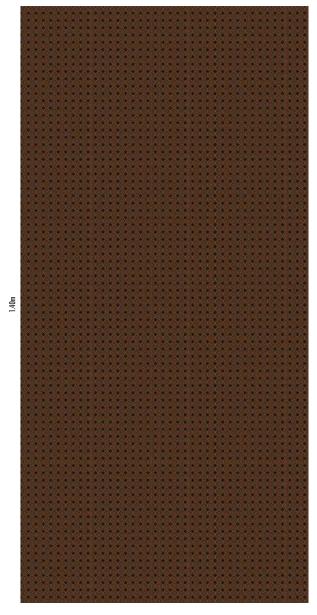




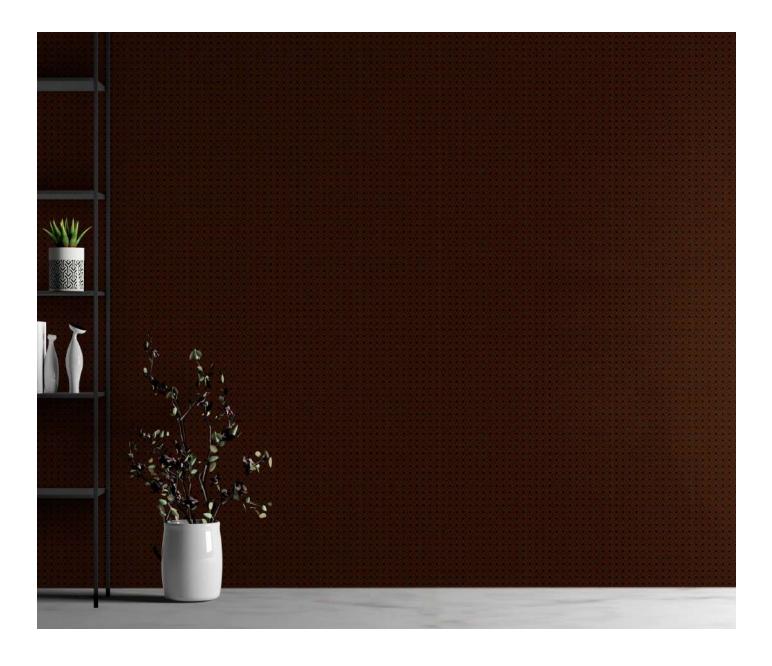
-development of a decorative Paper "Muisca Soul"

Representation of rhombus shape means the womb where life begins Its the symbol of family, unity and group

Material -Fique and Copper threads Inspiration -Rocky landscape, Arhuacos community the soul of the high mountains







- Implementation

The last part of the project consists in the implementation of the new surfaces developed and explained during the previous chapter and applying into a contemporary interior space dedicated to a retail experience, which as a final result, the design of a single brand store, window display, and a multibrand store will introduce a visual, tactile, emotional surface and express a unique perception of Colombian identity into space.

-single brand store

Brand: VERDI design⁵⁷ Typology: Fashion

VERDI is a textile studio that reinterprets Colombian traditions and Culture to create unusual pieces of interior design, fashion, and art. His fashion department is dedicated to Colombian handwoven Artisan handbags made by natural and metal fibers, its classic Colombian "mochila" is reinvented by VERDI into a bucket bag which intertwines silver-plated threads with plantain and fique fibers to be later enhanced with finely sourced details.

The design of the fashion department of VERDI is inspired by a traditional Colombian woven technique called -roll and its consists in a spiral weave made by Fique natural fiber which represent for Colombian ancestors resonance with the time and the connection with the past. The patterns that form this technique brings back Colombian craft and reinterprets traditional techniques into a contemporary perspective.

⁵⁷⁻ Vera, Tomas; Vera Cristina, VerdiDesign. Taken from https://verdi.com.co. See pg





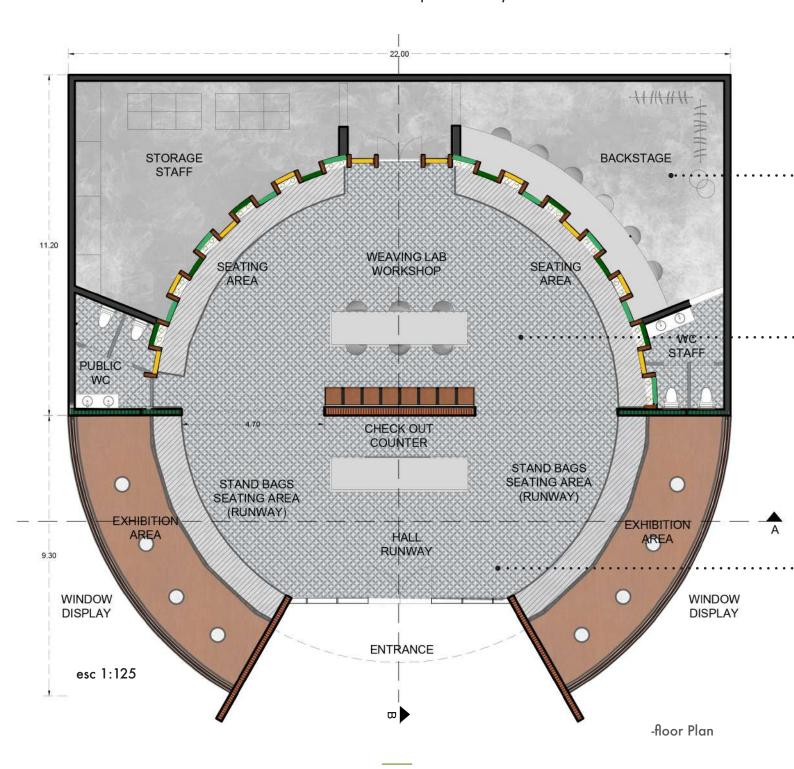


Pattern inspiration "Roll"



-Retail experience

The store is divided by three main functions: the front part will be dedicated to an exhibition store in which the handbags will be exhibited as a piece of art, the back part will be a workshop where people can interact with natural fibers, have weaving lessons and have a experience with the decorative papers in a touch wall, and the third function will be for a fashion event store where the brand can host others brands to convert the space in a runway.





esc 1:125 -front view



fashion event store

Seating area Runway Backstage models and staff



Appreciation performance

Open - Free space Continue Circulation - Interaction with the space



weaving lag workshop

Workshop/lessons handwoven technique Wall Natural fibers curtain separate space



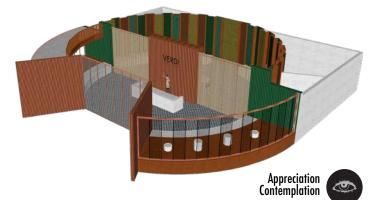


Learning traditional Colombian woven techniques Active area



exhibition store

Entrance Checkout Exhibition area: Base with floated handbags Stand Bags Public WC





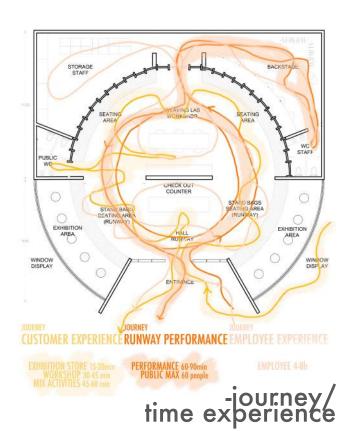


-Sense board











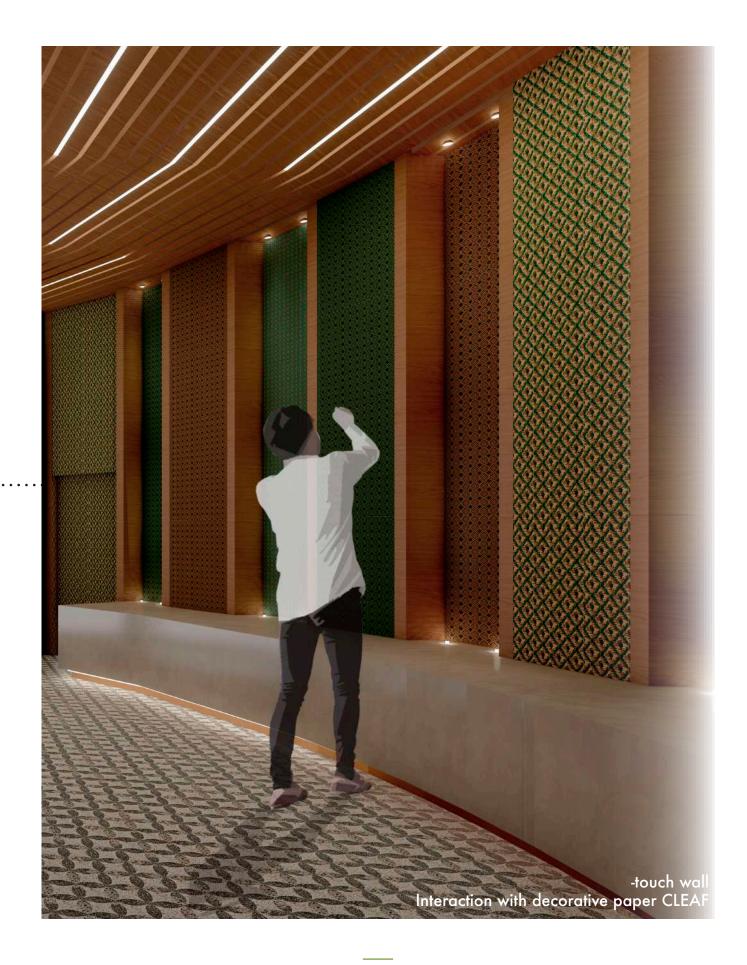
-design details



-material board



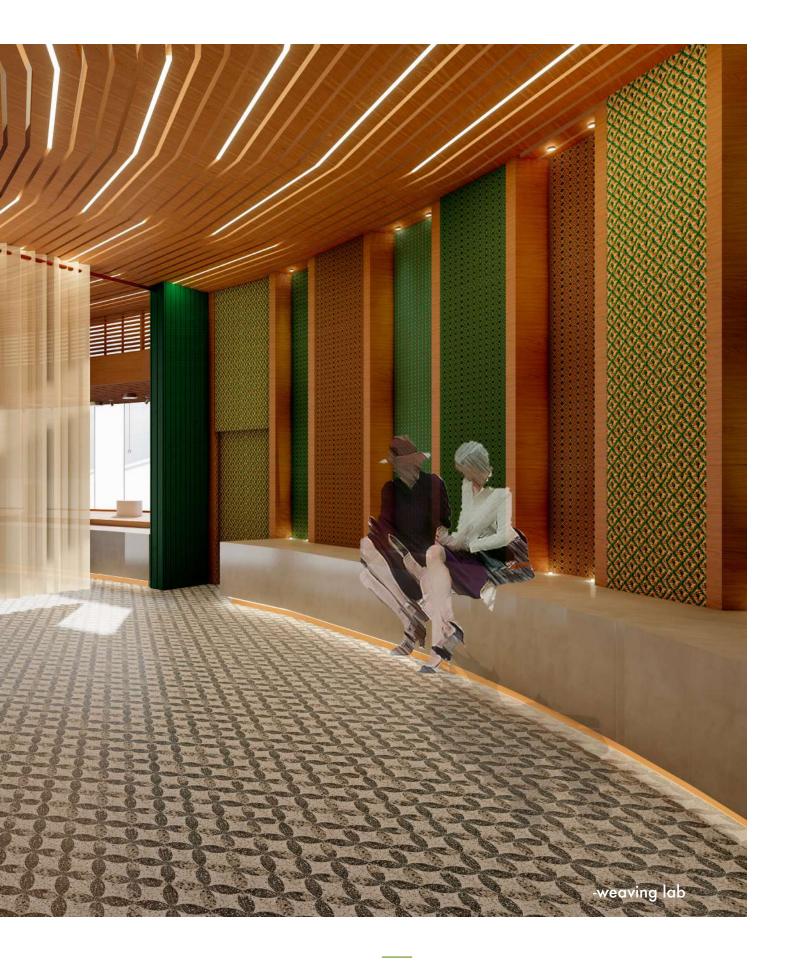
-touch wall

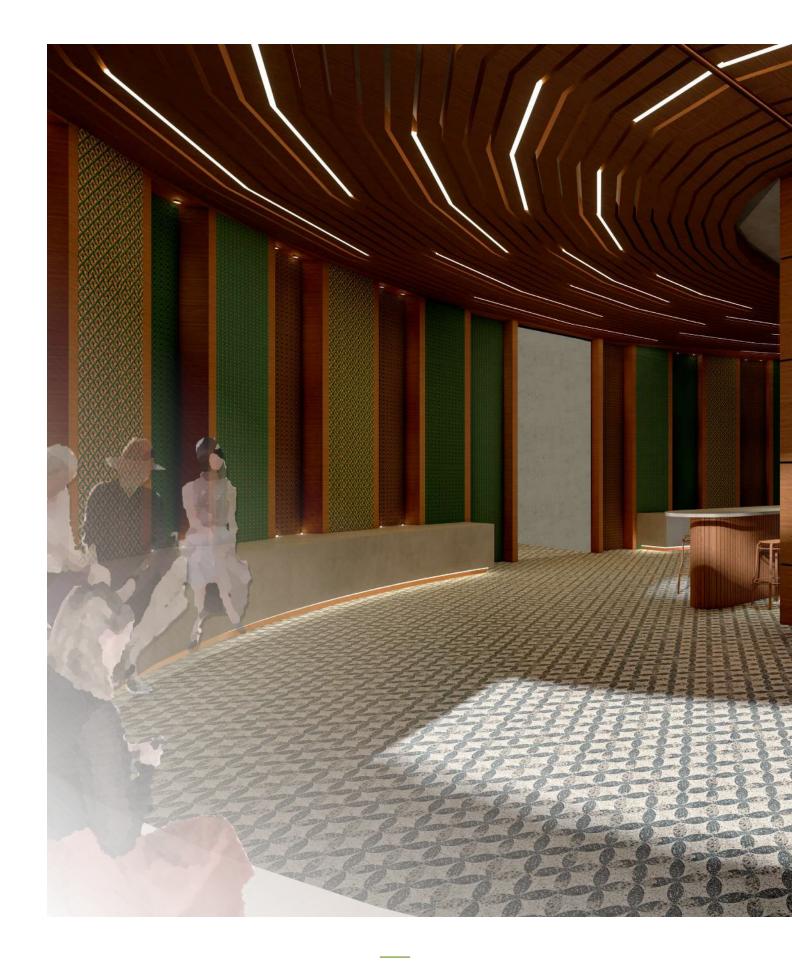








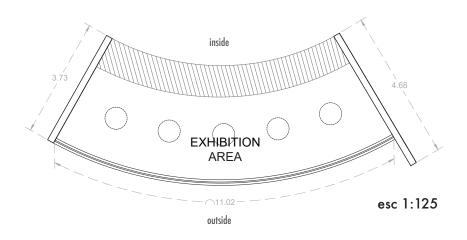


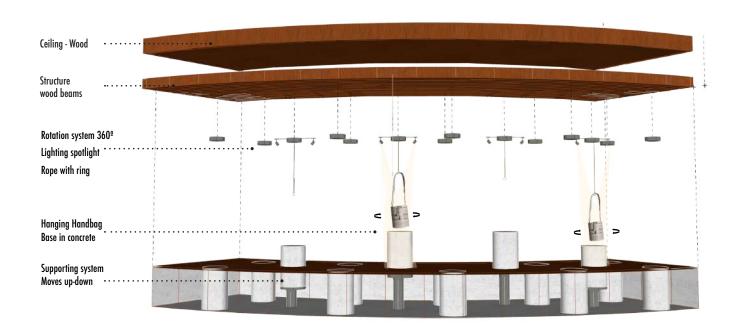




-Window display

The design of the window display is connected with the exhibition area of the single brand store. It is an interactive space dedicated to exhibit the handbags of VERDI showing the elegance and enhancing the details of them throughout a system which permit a constant movement allowing the bags turns 360°. The interaction with the window display create a sense of fascination, admiration and contemplation not only from the inside part of the store but also from the outside.







-Multibrand store

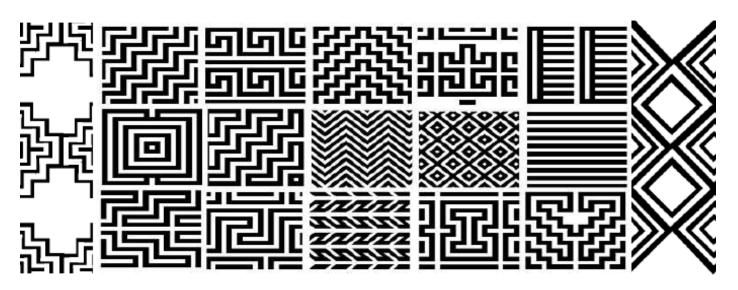
Department store Fashion - Furniture - Food

The design of a department store is inspired by the Precolombino patterns of Colombia. Artisans, natives and indigenous from Colombia have been kept alive the traditional patterns from generation to generation and have transmitted their identity, meaning and symbology over the time⁵⁸. The ancestral influence comes from the Pre-Colonial period (5000 b.c), where nature and cosmos were represented by abstract and figurative designs specially with geometric shapes. The principles of this geometric configuration is based in symmetry, ordering, balance, rhythm, repetition; being this the starting point of the design when a wall flexible system is created in order to generate multiple configuration for the inner space of the department store.

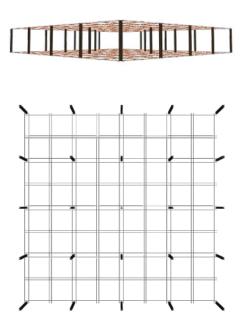
Wall Flexible system consists in a series of columns separated every five meters and a rail system duplicates on the floor and ceiling in which will placed the panels that have the possibility to move and create multiple layouts. This panels can be configured depending of the need in the inner space forming different geometrical shapes inspired in the Precolombiano Patterns.

The panels will have three different materials: transparent, semitransparent and solid in which the decorative paper previous developed will be applied.

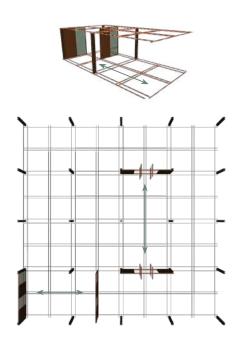
⁵⁸⁻ Simbologia de los ancentros. Artesanias de Colombia. Taken from http://artesaniasdecolombia.com.co/PortalAC/General/template index.jsf



Precolombino patterns of Colombia



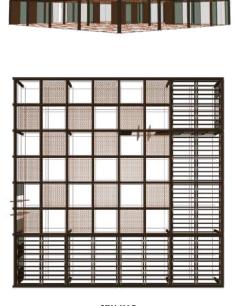
COLUMN + RAIL SYSTEM
Columns are separated every 5 meters
Rail system Vertical-Horizontal direction
Duplicated in the floor and ceiling



PANELS
Panels are located in between the columns
Parallel movement



FLEXIBLE CONFIGURATION PANELS
Panels have multiple layouts
Layout create different geometrical patterns
Panels configure the interior depending of the
need of the space

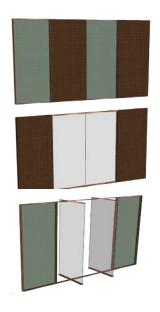


CEILING
60% Ceiling is covered +
wood acoustic panels alternated in
between the beams
40% Covered Metal Pergola

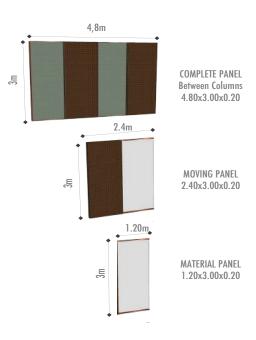
-wall flexible system



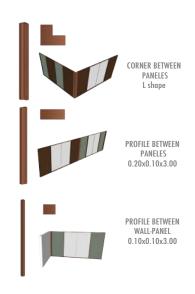
MATERIAL
A. Transparent Panel
Possibility to open (Door-Window)
B. Semitransparent Panel
Color film with pattern
C. Solid Panel - Decorative paper



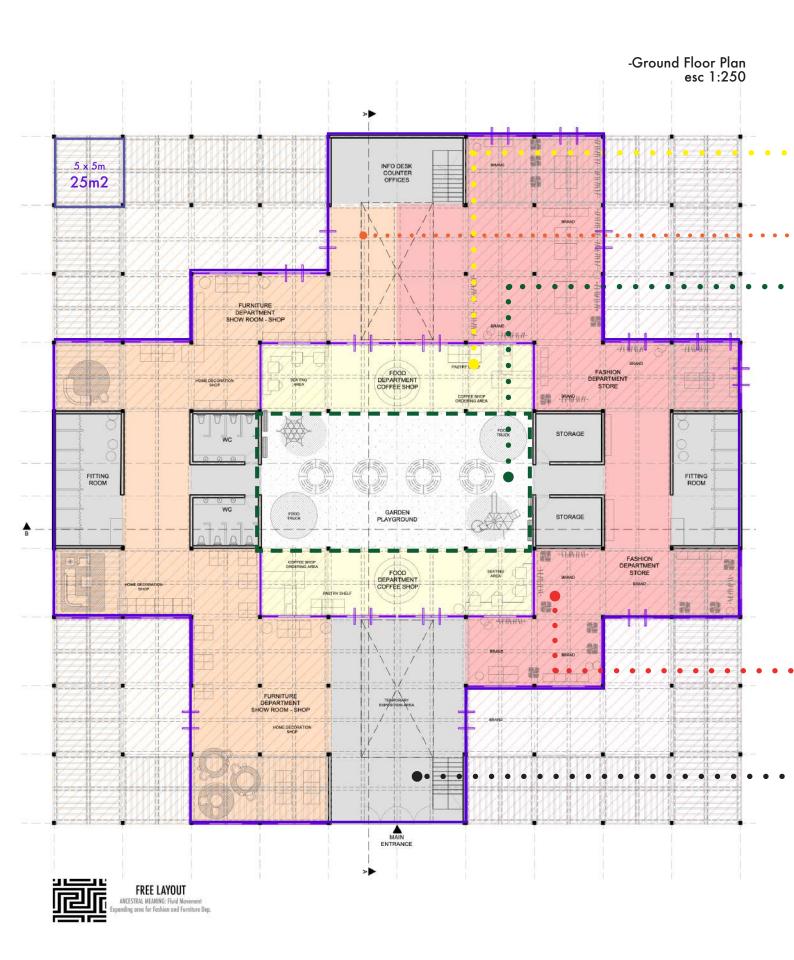
MULTIPLE COMBINATION
A. Solid/Semitransparent
B. Solid /Transparent
C. Transparent/Semitransparent
(Open - Door)



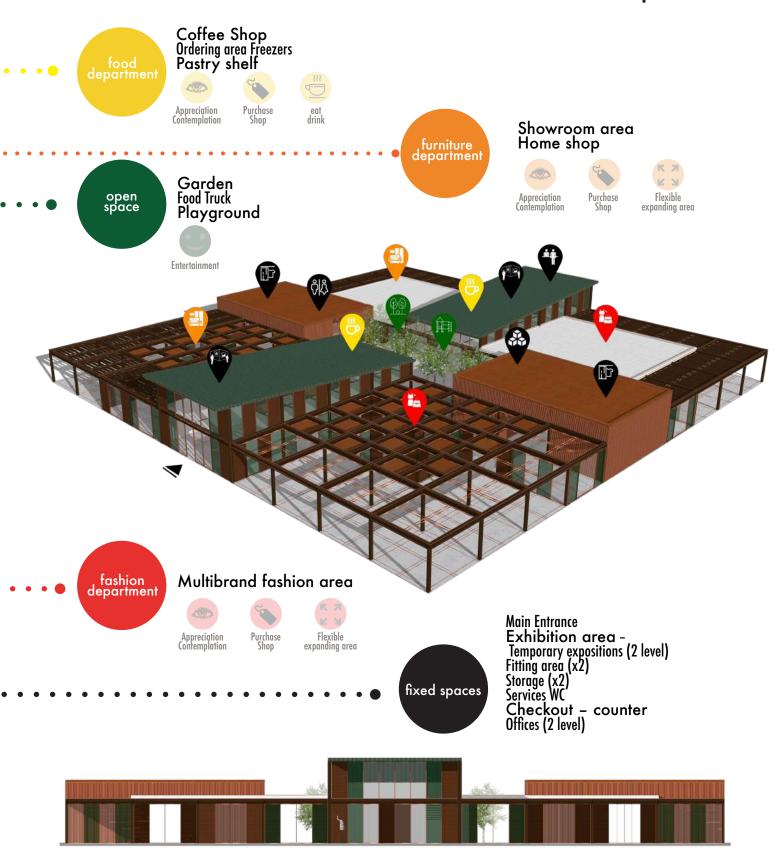
DIMENSION
Panels dimension according to the space between the columns
Easily movement: Panels are divided in the middle



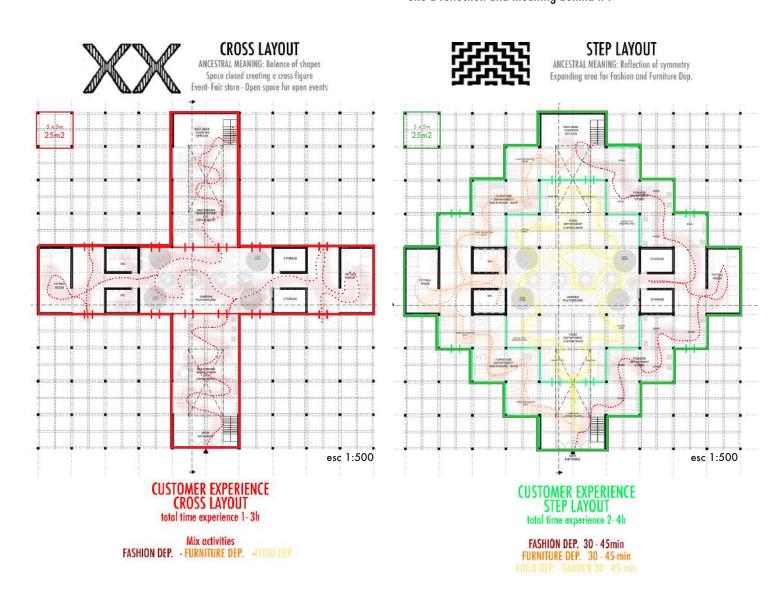
ADDITIONAL PROFILES
Dedicated for the joint in between panels and walls



-Retail experience



-Multiple layouts
The wall flexible system allows the space create multiple layouts, in which depending of the need in the inner space the panels can move in different geometrical shapes inspired in the Precolombiano Patterns. There are proposed 5 types of layouts, having each one a reflection and meaning behind it.





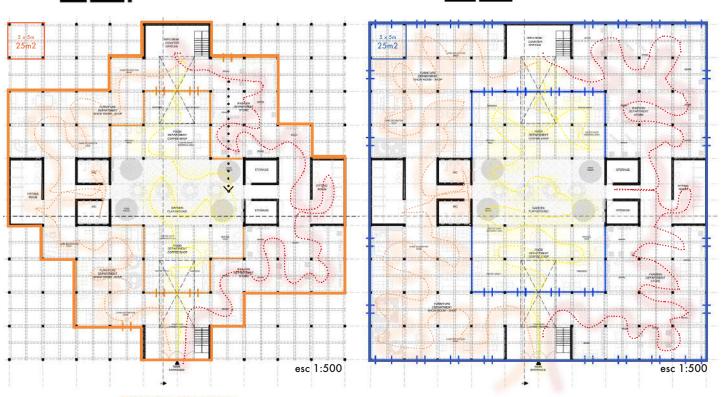
SNAKE LAYOUT

ANCESTRAL MEANING: Fluid Movement Expanding area for Fashion and Furniture Dep.



SQUARE LAYOUT

ANCESTRAL MEANING: Open to life MAX Expanding area for FFF Dep.



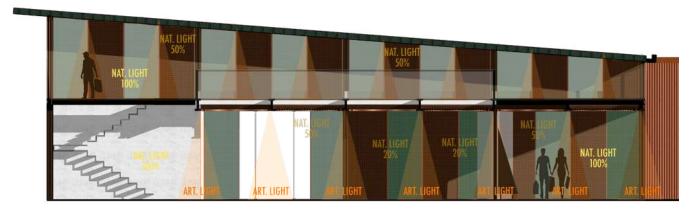
CUSTOMER EXPERIENCE SNAKE LAYOUT total time experience 3 - 4h

FASHION DEP. 45 - 60min FURNITURE DEP. 45 - 60-min FOOD DEP. GARDEN 30 - 45 min

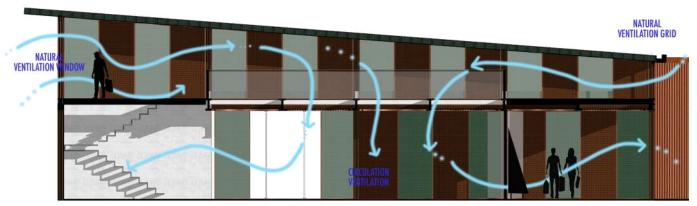
CUSTOMER EXPERIENCE SQUARE LAYOUT total time experience 3 - 5h

FASHION DEP. 60 - 90min FURNITURE DEP. 60-90min FDOD DEP. - GARDEN 45-60 min

-Sense board



natural&artificial light analysis



air circulation



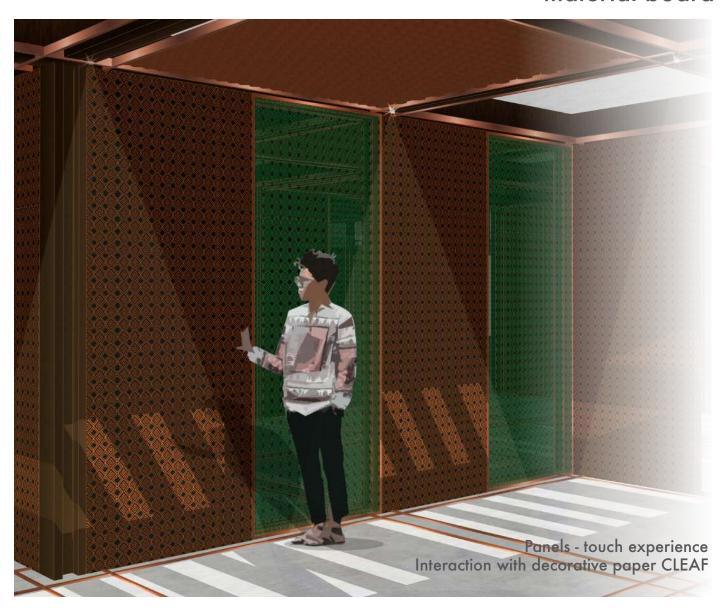
-acoustic

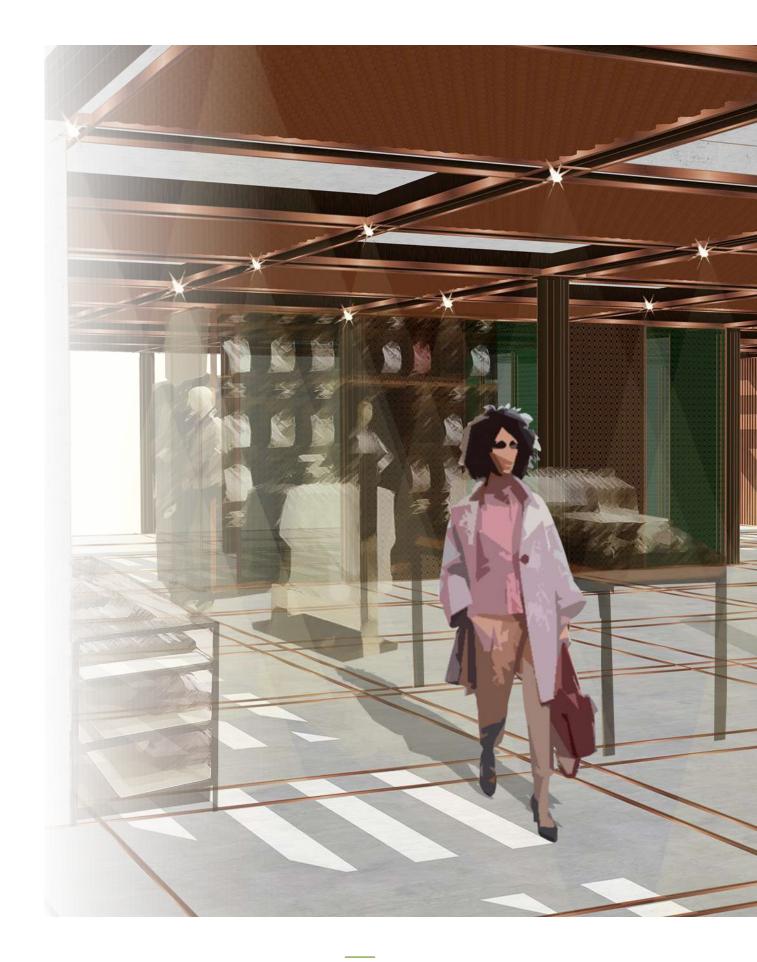


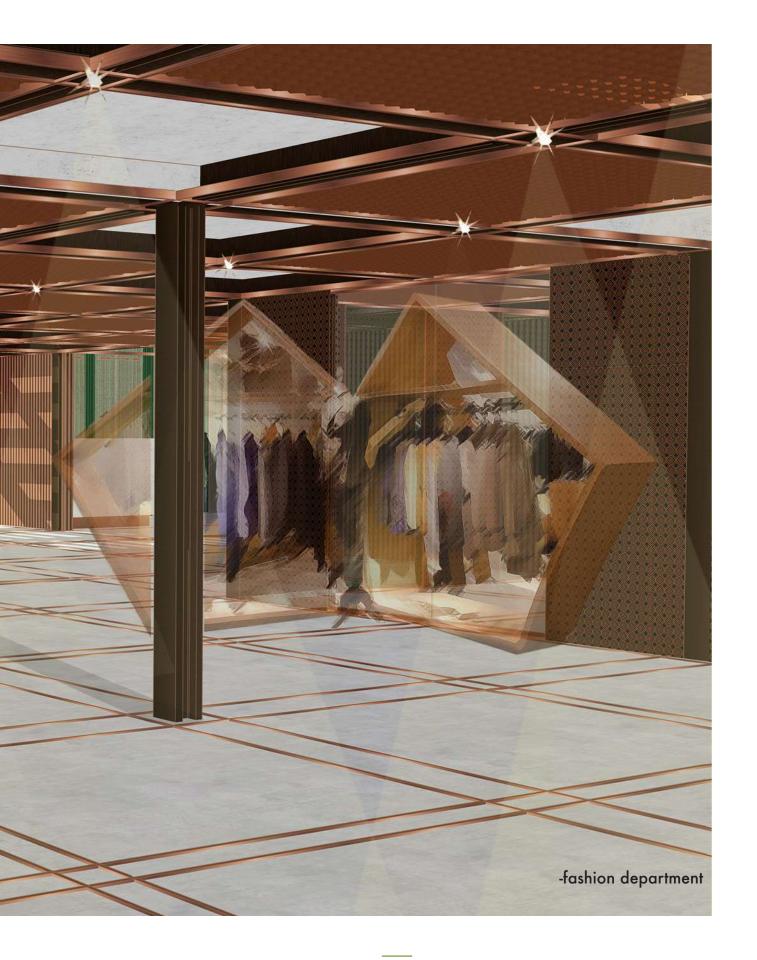
-section A esc 1:250



-material board



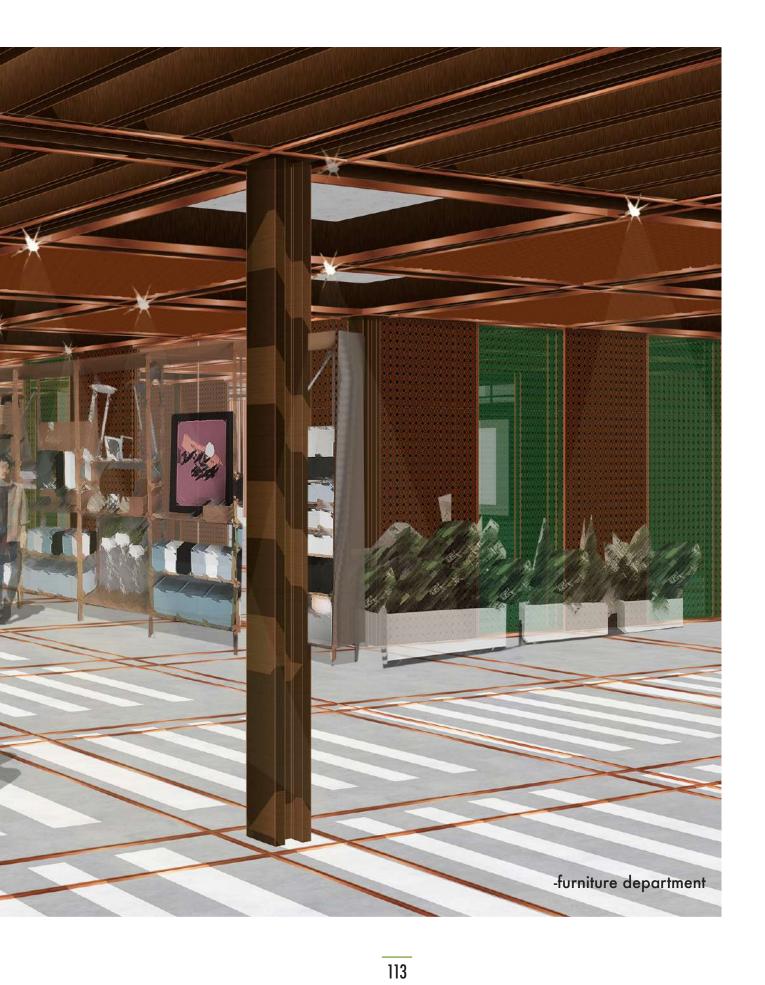












-Reflection and personal contribution

As a final result, the project reflects a contemporary view for and interior space in which the development of a new surface inspired in Colombian identity evokes a completely visual, tactile, and emotional experience.

-The project consisted of three phases: the research, the development, and its implementation: The research focused in two main topics surfaces and Colombian identity in which where explored all its elements and characteristic, and as the final direction the thermal floors of Colombia was taken as the principal topic to be analyzed from a sensorial experience. The development of the project consisted in the creation of a design concept in which the juxtaposition of the main aspects of Surface with the five layers of thermal floors represents the story behind the construction of the new surface. The final products were nine creating different options of decorative papers and were assisted by Cleaf company as part of the internship collaboration. The last phase consisted of the implementation of the new surface applying into a contemporary interior space dedicated to retail experience throughout an application into a single brand store, window display, and multibrand store.

-The development of the decorative papers were assisted by CLEAF team analyzing the different proposals and were modified in terms of -color adjustment, brightness, and contrast, color pallet and color specifications, the scale of the motif, concluding with the adequate and precise scale when two pieces match each other and when the decorative paper could be used in furniture. After a range of modifications of the nine options of the decorative paper, the final process was completely done and accurate. As a result of dedication, creativity, and hardworking, the internship was a complete success for the company and me as a student.

-The single-brand store as main project implementation was inspired by a traditional Colombian woven technique called -roll which consists of a spiral weave made by Fique natural fiber which represents for Colombian ancestors resonance with the

time and the connection with the past. The patterns that form this technique brings back Colombian craft and reinterprets traditional techniques into a contemporary perspective. The store is dedicated to a fashion brand called Verdi which sells handwoven handbags from Colombia and the retail experience consisted in three main functions: an exhibition store in which the handbags will be exhibited as a piece of art by a window display interacting from the inside and outside, a workshop where people can interact with natural fibers and have experience with the decorative papers in a touch wall and a fashion event store where the brand can host others brands to convert the space in a runway.

-On the other hand, the multibrand store implemented the decorative paper throughout a wall flexible system inspired by the Precolombino patterns of Colombia. The principles of this geometric pattern configuration were based on symmetry, ordering, balance, rhythm, repetition, and created as a final result multiple configuration layouts for the inner space configured depending on the need of the space that will be used for fashion, furniture, and food departments.

-Concluding, the three phases developed during the design process of the project: the research the development, and its implementation were a learning path in which educational and professional skill has been used and the personal contribution as an international young designer introduce the essence of a different culture and transmit a complete and accurate feeling of the culture in an international environment.

- -Acande. Taken from https://mobile.ulule.com/acande/
- -Ames; Herkner, Sebastian. Caribe Colection. Taken from https://www.ames-shop.de/en/inspiration/ames-sala/#emotion-5
- -Arias Hofman, Rocio; December 2012. Sentada en su silla verde Magazine, "El hombre de los hilos de metal"- "The man of metal threads". Taken from https://www.sentadaensusillaverde.com/publicacion/el_hombre_de_los_hilos_de_metal/32.
- -Archdaily. Renacer Collection Colombia 2018. Taken from https://www.archdaily.co/catalog/co/products/12389/melamina-primacor-tumaco-primadera?ad_source=neufert&ad_medium=gallery&ad_name=close-gallery
- -Arkos. Taken from http://www.sistemas.arkos.com.co/catalogos
- -Artesanias de Colombia. Taken from http://artesaniasdecolombia.com.co/PortalAC/General/template_index.jsf
- -Banco de Occidente. Pisos termicos de Colombia. Online Book, Ecological Collection 2009, I/M Editores.
- -Blair, Linda. 1939. DESIGN SENSE.Publised by John Wiley&Sons,inc.
- -Biodiversidad colombiana: números para tener en cuenta"; Insitute AlexanderVon Humboldt. Taken from http://www.humboldt.org.co/es/boletines-y-comunicados/item/1087-biodiversidad-colombiana-numero-tener-en-cuenta
- -Buro Fair. Taken from http://www.feriaburo.com
- -Catalan de Ocon, Alvaro. PET bottle Lamp. Taken from https://www.pamono.com/designers/alvaro-catalan-de-ocon
- -Cleaf. Taken from https://www.cleaf.it
- -Colombian culture. Co Colombia by Colombian Government. Taken from https://www.colombia.co/pais-colombia/
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-Hechizoo texture. https://elpais.com/elpais/2019/07/16/eps/1563277864_514795.html	pag 17
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-Emerald http://www.colombiaexpomilan.co/media/frio_18_Nivel02.png	pag 31
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-Condor http://www.colombiaexpomilan.co/media/nieves_13_Nivel02.png	pag 36
-Moss http://www.colombiaexpomilan.co/media/paramo_02_Nivel02.png	pag 37
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Hechizoo https://www.sentadaensusillaverde.com/publicacion/elhombredeloshilosdemetal/32	naa 47

Primavera https://www.primadera.com/utm_medium=website&utm_source=archdaily.co	pag 48
Tiles http://iconotaller.com/galeria/	pag 50
Furniture Tucurinca https://www.tucurinca.com.co	pag 51
Polycarbonate sheets http://www.sistemas.arkos.com.co/catalogos	pag 52
Marni https://www.marni.com/experience/it/event/marni-mercado-de-paloquemao/	pag 54
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Decorative papers - own creation	pag 64-81
Roll technique by Verdi https://verdi.com.co	pag 83
-Single brand store - own creation	pag 85-95
Window display - own creation	pag 96-97
Patterns http://artesaniasdecolombia.com.co/PortalAC/General/template_index.jsf	pag 98
-Multibrand store - own creation	pag 100-113