

COLOR & SENSORIAL DESIGN

INTRODUCTION, BASICS & PREASSIGNMENT - 1ST LECTURE

WELCOME 😊



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Color and Sensorial Design



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Color and Sensorial Design



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Teaching Assistant
MA student, Fashion & Textile Design

YOUR TEACHING STAFF



TEKES

NOKIA



FINNAIR

BONNIER

sanoma

A!

Aalto University
School of Arts, Design
and Architecture

AEE

Aalto University
Executive Education



patagonia

ESPRIT

Aller

NICE TO MEET YOU!

YOUR NAME & WHERE DO YOU COME FROM?
WHAT ARE YOU STUDYING @ AALTO?
WHY DID YOU SIGN UP FOR THIS CLASS & WHAT ARE YOUR EXPECTATIONS?
TELL US ABOUT YOUR NAME CARD.

**1. COURSE OVERVIEW &
EXPERIENCE FROM LAST
YEAR**

**2. COLOR & MULTI-
SENSORIAL DESIGN
BASICS**

3. PRE-ASSIGNMENT

08.01.2019 AGENDA

COURSE OVERVIEW

MUO-E5024 Colour and Sensorial Design, 10 op

Tunniste	MUO-E5024	Voimassaolo	01.08.2018 -
Nimi	Colour and Sensorial Design	Lyhenne	MUO-E5024
Laajuus	10 op	Vanhenemisaika	
Tyyppi	Syventävät opinnot	Oppiaine	
Laji	Opintojakso	Tuntimäärä	
Opinto-oikeus		Arvostelu	1-5 · Opintojaksot
Suositteltu suoritus aika			
Vastuuyksikkö	Muotoilun laitos		

Vastuuopettajat**Nimi**

Jaana Väättäin-Beidler

Osaamistavoitteet

Our perception of the world is built on multiple senses. Visual information, such as colour, dominates and provides first impressions, while the other senses of hearing, taste, smell and touch shape the overall experience. Colour and sensorial design play two overlapping roles: they provide functionality while creating character through aesthetic attributes.

After completing this course, students understand the impact of the sensorial stimuli on human cognitive behavior as well as the interconnectedness of colours, materials, textures, finishes, shapes weight, etc to ensure richer, more engaging and successful products and experiences.

They are able to integrate their learnings into unique and impactful color and sensorial design solutions and palettes at product/project, collection/portfolio and brand level. The course builds students' competences in leading creative direction and driving colour, material and sensorial synergies as strategic business assets in design teams and organizations.

Sisältö

Students explore colour, texture, finish and other sensorial modalities in several different materials and contexts in studio setting. They create unique and innovative concepts, samples and collections that will be used during the course in creative, practical and strategic assignments and projects. Close company collaboration with leading brands is a cornerstone of the course and learning pedagogy. Students practice color and sensorial design by considering cultural and consumer preferences, market dynamics, seasonal flow and lifecycle management. The combination of experimentation and real life assignments strengthens students' creative expression with sensory aesthetic properties, focuses their strategic thinking and enables them to create emotional connections with customers. Through lectures, readings and hands-on explorations they gain knowledge about emerging colour and sensorial design trends, manufacturing methods and technologies, sustainable practices and the role of colour and materiality in digital environments. In the course, students create narratives and prepare presentations containing visual elements and written arguments. Results will be presented, discussed and analyzed together and with design experts from the participating company.

Toteutus, työmuodot ja arvosteluperusteet

Documentation and content of colour and material design hands-on experimentations, colour, material and sensorial palette creation projects, journaling and reflection, visual and verbal communication skills, and creating team success. Passing the class requires attending 80% of the contact sessions.

Työmäärä toteutustavoittain

270 h

Contact teaching including lectures, group discussions and assignments 80 h

Independent work including literature study, writing assignments and studio work 160 h

Personal reflection 30 h

Oppimateriaali

Karana, Elvin & Pedgley, Owain & and Rognoli, Valentina (eds.) (2013). Materials Experience: Fundamentals of Materials and Design. Oxford: Butterworth-Heinemann. (selected

COURSE GOALS



CONVERSE



COURSE PARTNERS



**INDEPENDENT ENOUGH
NOT TO FOLLOW**



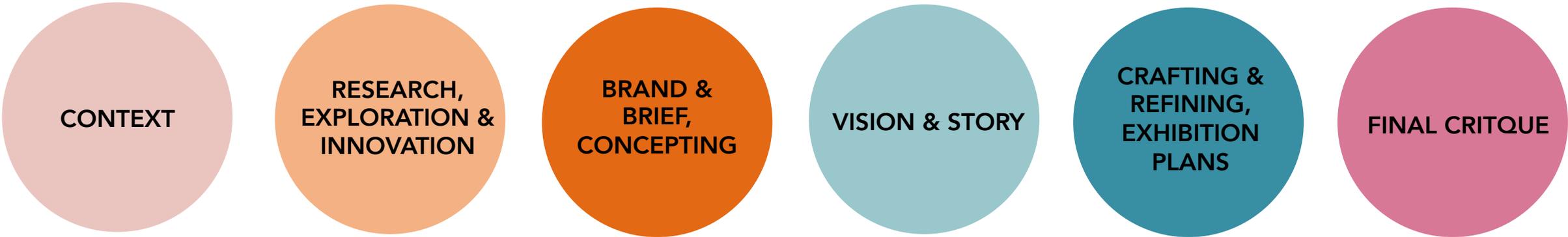


Believe in something.
Even if it means sacrificing everything.

 Just do it.

COURSE CONTENT

1. **Context:** Basics of color and sensorial design. Subculture & consumer Insights.
2. **Research, Exploration and Innovation:** Create color and sensorial design assets & palettes. Culture & mega trends deep dive.
3. **Brand, Brief & Concepting:** Understanding & creating for a brand, interpreting brief. Concepting ideas at product & collection level.
4. **Vision, Story & Strategy:** Building a compelling vision/direction & story. Emotional connection. Impactful communication.
5. **Crafting & Refining:** Obsess the details. Plans in placed for Final Critique Exhibition
6. **Final Critique:** Expressing the vision, strategy and color & sensorial palettes at product, collection and brand level.



CONTEXT

RESEARCH,
EXPLORATION &
INNOVATION

BRAND &
BRIEF,
CONCEPTING

VISION & STORY

CRAFTING &
REFINING,
EXHIBITION
PLANS

FINAL CRITIQUE

COURSE AGENDA

JAANA (& TIINA)

1

- INTRO: COLOR & SENSORIAL DESIGN
- SUBCULTURE & CONSUMER

JAANA & TIINA

2

- EXPLORE, RESEARCH & INNOVATE
- MEGATRENDS

TIINA (& JAANA)

3

- BRIEF & BRAND
- FOOTWEAR WORKSHOP ?
- CONCEPTING

TIINA (& JAANA)

4

- VISION , STORY & STRATEGY

JAANA (&TIINA)

5

- CRAFTING & REFINING
- EXHIBITION

JAANA & TIINA

6

- REHERSAL & SHOWTIME!

MONDAY		HOMEWORK & STUDIOS	STUDIO TIME HOMEWORK	STUDIO TIME / TUTORING	STUDIO TIME / TUTORING	TUTORING EXHIBITION BUILD
TUESDAY	JAN.8 • INTRO • PRE-WORK • TEAMS	JAN.15 • INNOVATION & EXPLORATION • TUTORING	JAN. 22 • TOOLS (Tiina) • CLIENT BRAND & BRIEF (Jaana)	JAN. 29 • VISION & STRATEGY • LECTURE*** W/COURTNEY	FEB. 5 • OBSESS THE DETAILS • EXHIBITION PLANS	FEB.12 • REHERSAL & TUTORING
WEDNESDAY	HOMEWORK	JAN.16 • PALETTE REVIEW	STUDIO TIME / FOOTWEAR WS	STUDIO TIME/ TUTORING	STUDIO TIME / TUTORING	TUTORING EXHIBITION BUILD
THURSDAY	JAN.10 • REVIEW HOMEWORK • LECTURE* W/NICO	JAN.17 • STUDIOTIME • LECTURE** W/ ADAM	JAN. 24 • CONCEPTING: PRODUCT & COLLECTION	FEB.7 • EXHIBITION PLANS • TUTORING	STUDIO TIME EXHIBITION BUILD	FEB.14 • FINAL CRITIQUE
FRIDAY	HOMEWORK	STUDIO TIME HOMEWORK	STUDIO TIME	STUDIO TIME	FEB. 8 • TUTORING	FEB.15 • 1:1 MEETINGS W/NIKE

*CONNECTING W/CONSUMER ** COLOR REFLECTING TIME

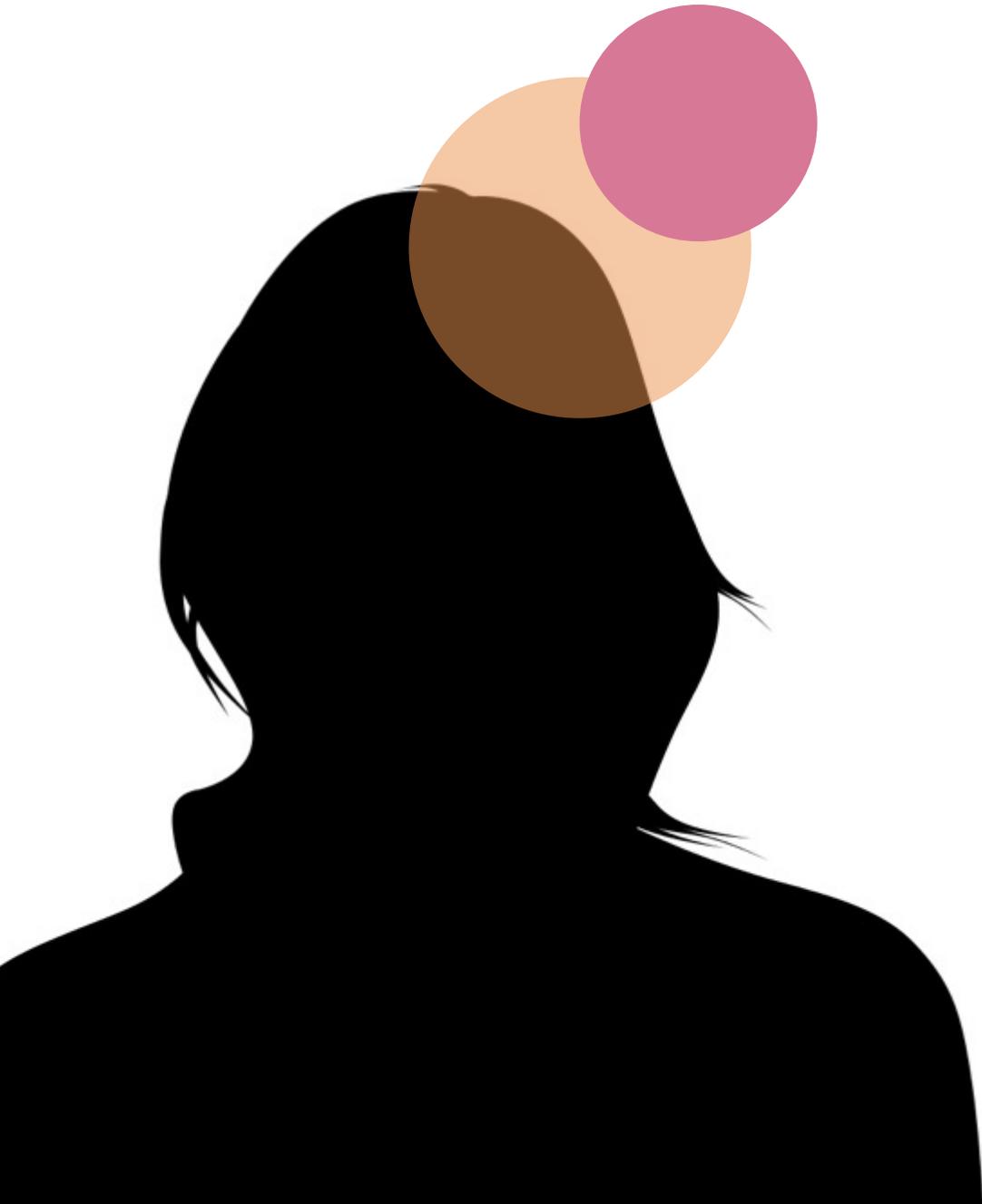
** STORY TELLING & IMPACTFUL COMMUNICATION

- **10 CREDITS = 270 HOURS OF WORK** (80 contact & 190 independent study), AVERAGE 40 HOURS / WEEK - FULL TIME JOB!
- YOU CAN MISS 3 CONTACT SESSIONS. PLEASE NOTIFY THE TEACHERS.
- BE ON TIME.
- TURN IN YOUR ASSIGNMENTS BY THE DUE DATE (Printed if so requested).
- NO PHONES (except for course work documentation). LAP TOPS ONLY FOR NOTE TAKING.
- EFFECTIVE COMMUNICATION: MY COURSES & AALTO-EMAIL. EVERY DAY.
- ACTIVE PARTICIPATION - DISCUSSIONS, QUESTIONS, SHOW YOUR PASSION, SHARE YOUR POINT OF VIEW.
- COLLABORATE - PROVIDE INSIGHTS & FEEDBACK TO YOUR PEERS.

PROFESSIONALISM & EXPECTATIONS

- ATTENDANCE AT CONTACT SESSIONS & WORKSHOPS. Each day evaluated in the scale of 1 - 3 - 5.
- **ACTIVE PARTICIPATION:** CONTRIBUTION IN CLASS DISCUSSIONS & TEAM SUCCESS.
- REPORTING & REFLECTION IN THE PROGRESS JOURNAL.
- TRANSLATING CONSUMER AND COMPANY INSIGHTS AND COLOR & SENSORIAL DESIGN LEARNINGS INTO STRATEGIC DESIGN CONCEPTS AND SOLUTIONS IN A PRODUCT & PORTFOLIO LEVEL.
- **QUALITY OF ASSIGNMENTS & PROJECTS. Mastering big picture, strategic thinking and thoughtful, detailed product/project centric approach.**
- BUILDING A **COMPELLING VISION** FOR THE COMPANY PARTNER THROUGH STRONG CREATIVE CONCEPTS BALANCED WITH FACTUAL INFORMATION AND DATA.
- **VISUAL AND VERBAL COMMUNICATION & PRESENTATIONS. STRONG INFLUENCING SKILLS.**

STUDENT EVALUATIONS



Be Curious - embrace change and see opportunities. Challenge and question the convention.

Try Stuff - Prototype & fail early.

Reframe Problems - reframing is essential to finding the right problem and the solution.

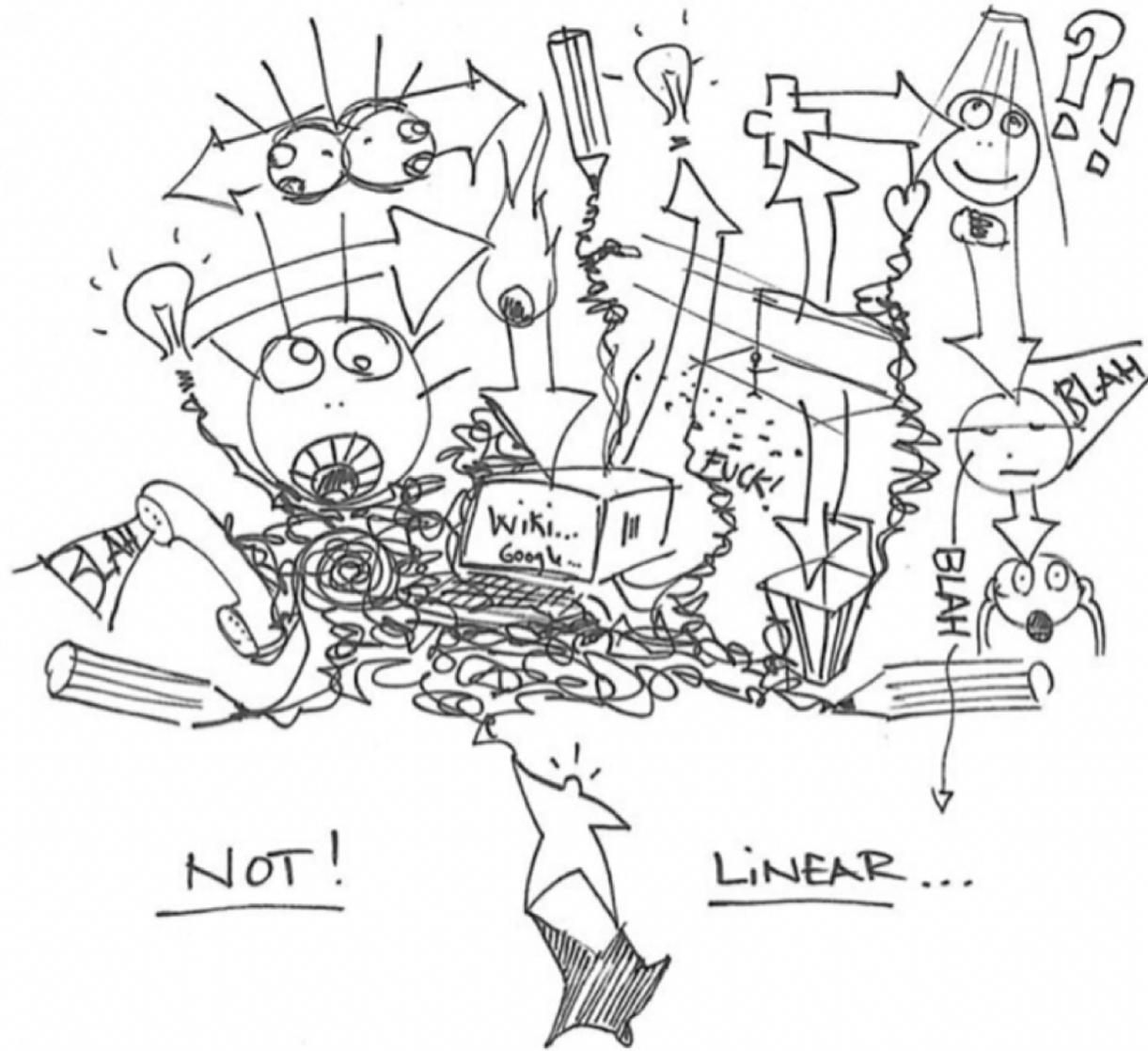
Embrace the Process - it's messy. Don't fall in love with your first idea.

Collaborate - great results require radical collaboration.

Tom & David Kelley, IDEO, d.school at Stanford, the Hasso Plattner Institute of Design.

DESIGN THINKING MINDSET

PROCESS



INNOVATION IS INHERENTLY MESSY, NON-LINEAR AND ITERATIVE PROCESS WHICH TESTS ONE'S CONFIDENCE AND TOLERANCE FOR AMBIQUITY.

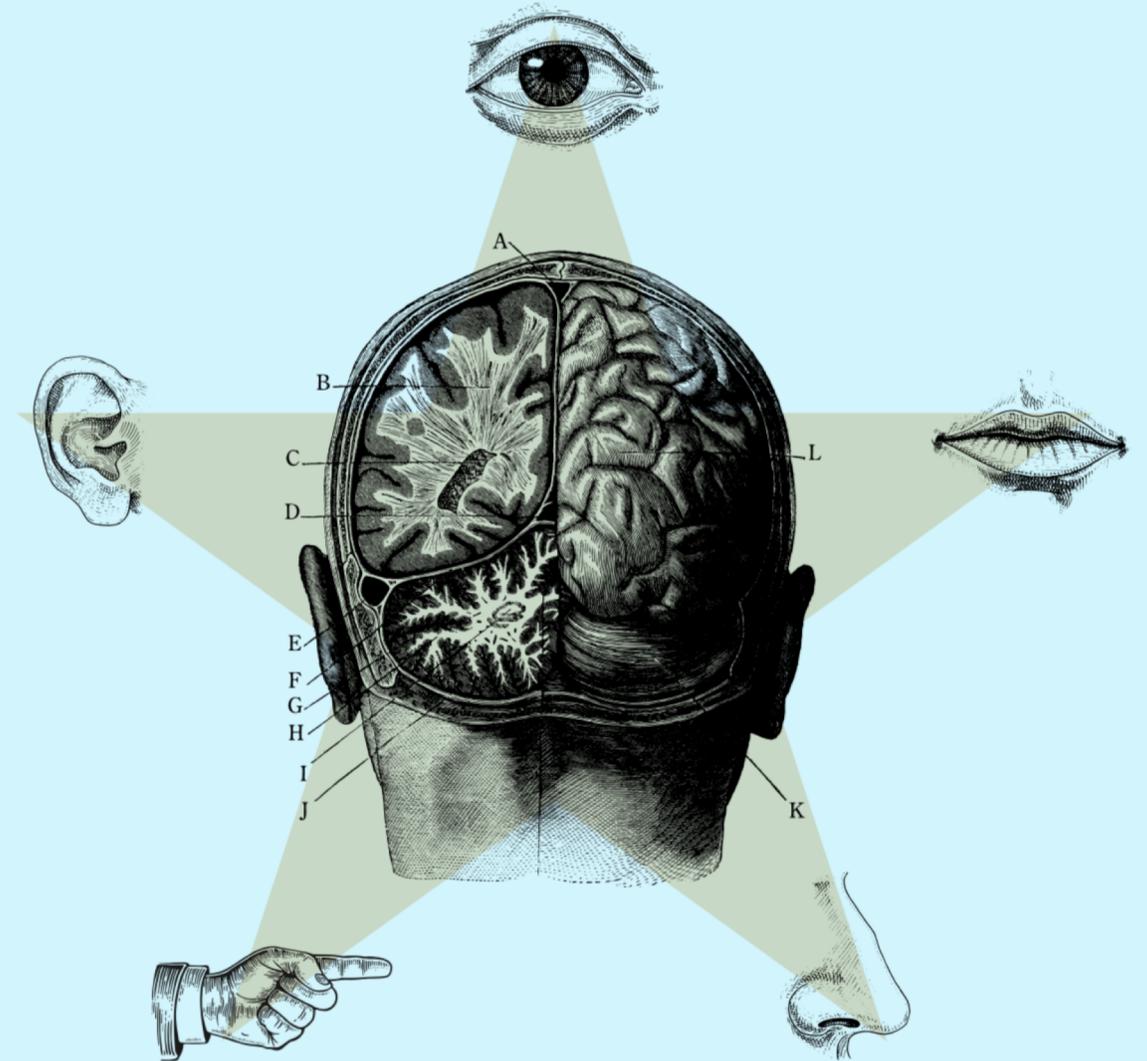
MULTISENSORIAL DESIGN

MULTISENSORIAL

DEFINITION

The main task of our sensory system is to make sense of the world around us. Every interaction with a product is a multi-sensorial experience.

Multisensorial Design (MSD) & Branding considers and activates our 5 senses: sight, touch, hearing, smell and taste. In doing so it is **the most holistic and all-encompassing design thinking approach.**



MULTISENSORIAL

DEFINITION

MULTISENSORIAL DESIGN focuses on exploring, innovating, designing and specifying color, materials, finishes and other sensorial assets to support both functional and emotional attributes of products, experiences & brands.

MSD has the capacity for **complex synthesis** (= to combine separate elements and abstract entities into an unified entity) that's relevant for a holistic human experience. Therefore MSD is also **a strategic tool** when positioning products, collections, portfolios and experiences for the customers and into the market.

MSD impacts and influences people's emotional states directly and unconsciously. It **builds instant emotional connection with customers.**

MSD is **in the core of innovation** which directly yields into higher brand value & company profits.

MSD is a key element of brand's DNA.



Tubu-tubu



Suku-suku



Zava-zava



Laga-laga



Goro-goro



Tuwa-fuwa



Poki-poki



Suka-suka



Zaku-zaku

MULTISENSORIAL

DEFINITION

The choice for consumers is increasingly complex, rich, varied and nuanced. **In order for a company to succeed in the 21st century it needs mastery in Multisensorial Design and expertise in creating total sensory synergies!**

Multisensorial Design injects every product, experience and brand with a personality, a clear point of view that's compelling, approachable and rewarding.

In other words multisensory design & branding connects company's business vision, values & mission to the consumer emotions in an intuitive, meaningful and tangible ways.



Sensory experiences are usually rapid, involuntary, intuitive & result in immediate assessments.

There is no universal hierarchy of the senses because **our senses intermix**. For example color plays a big role in our experience of flavour. It makes ice cream taste sweeter, veggies taste fresher and coffee taste richer.

MULTI-SENSORY DESIGN

enables people to feel more alive and human.

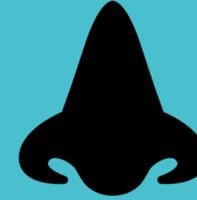
SIGHT

We have allowed sight dominate our design imagination and we've created and produced almost exclusively for the visual.

Color is a powerful visual stimulator that forms a major part of the consumer's decision-making process.



SMELL acts on the brain's limbic system, associated with memory and feeling. Smell perceptions involve an intimate relationship between the perceiver, the smell and the event. That's why we can remember smells four times longer than images.



TASTE

Sensors on our tongue pick up five basic tastes: sweet, sour, salty, bitter and umami. The full phenomenon of flavour also includes "mouth-feel" and chemosensory responses.



TOUCH is the first language and the first sense that we acquire. It is the universal connector. Importance of tactility has increased in our highly digital world.

HEARING

What does your brand sound like? Sound has the potential to provide rich and complex reactions almost instantaneously.





SMELL

can empower or over-power other senses such as vision, taste and sound.

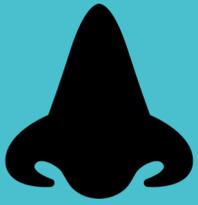
Smell is a sense that people cannot control, cannot stop; we cannot avoid being exposed to it, as opposed to the senses of vision and hearing. Each day, we breathe about 23,040 times and move around 438 cubic feet of air. It takes us about five seconds to breathe - two seconds to inhale and three seconds to exhale -and, that time, molecules of odor flood through our systems. Inhaling and exhaling, we smell odors. Smells coat us, swirl around us, enter our bodies, emanate from us. We live in a constant wash of them. It is now estimated that humans can smell at least one trillion distinct scents. Still **when we try to describe a smell, words fail us** like the fabrications they are.

In general, the speakers of Western languages find it easy to talk about the things that they can see, such as colours and shapes, but struggle to name the things that they smell. Mostly smells are described by referring to other things, for example to the origins of the smells such as orange, apple, wood. **We don't have specific terms for smells** as we do for colors: blue, green, pink."

We response to smell in the most visceral way - directly and unconsciously. The smells feed directly into the limbic system where both the long-term memory and emotions are located. The results of smelling are processed there and loaded with associations, before they even reach the upper cortex, where language is composed. This is very different than with the sense of sight, in which knowing and naming are intimately interconnected activities. In a way, **smelling short-circuits conscious thoughts. It bonds with memory and emotion before it subjects itself to concepts.**



Scentiment by designer Teddy Schuyers is a DIY kit that enables users to craft their own perfume using dried fruit peel and other fragrant edibles, offering a mindful and sensorial ritual.



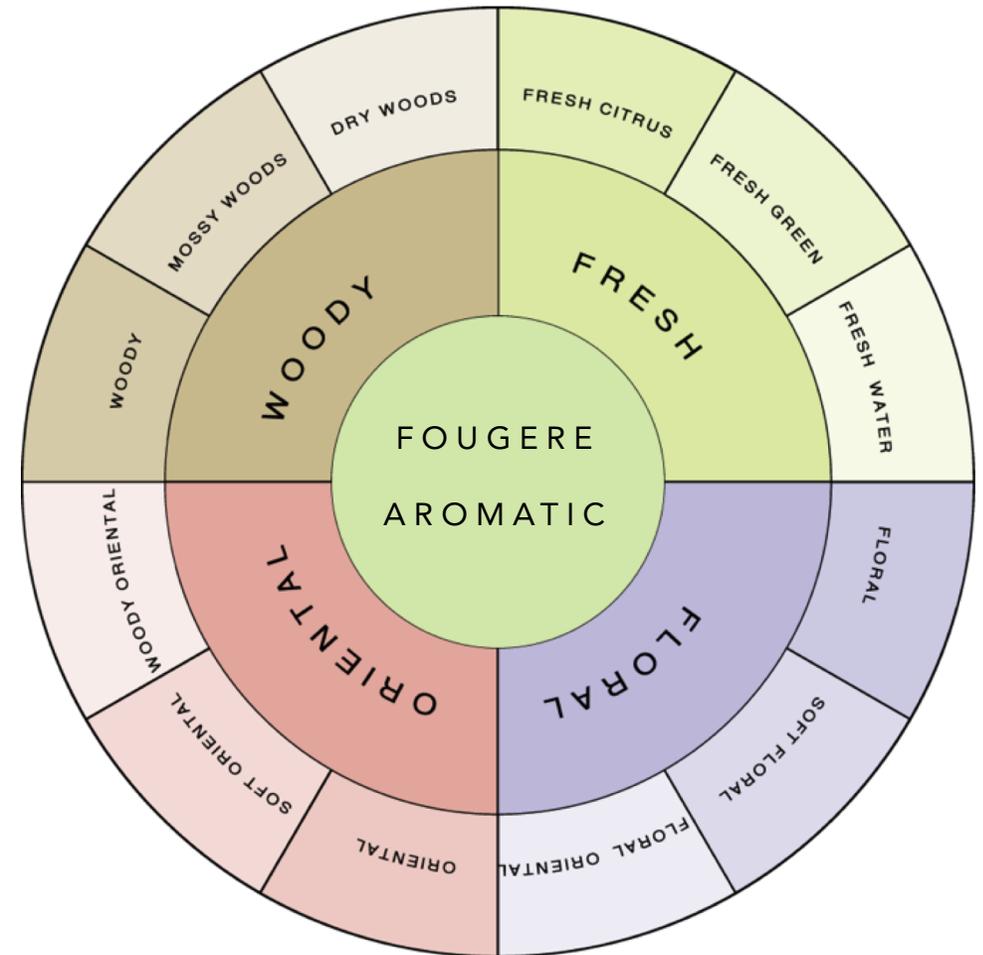
SMELL

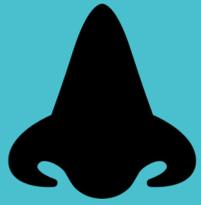
can empower or over-power other senses such as vision, taste and sound.

There is little agreement on the details of how smell works. Therefore there is multiple different systems categorizing smells. Crocker-Henderson smell system from 1927 consist of four categories: fragrant, acid, burnt and caprylic (goaty). Another system separates smells into minty, floral, ethereal, musky, resinous, foul and acrid categories. Perfume industry has developed several fragrance wheels as marketing tools for customers (see on the right).

For Sissel Tolaas, an olfactory artist at Smell Re_SearchLab in Berlin, the great thing about smells is that they bring you down to earth. "Disembodiment is the defining illness of our time," she says. "We live so much of our lives through our devices. But smells can't be experienced on screen. They put you right back into the body."

We no longer need smell to survive but we grave it beyond all reason. Not only do we perfume our bodies and homes, we perfume almost every object that enters our lives, from our cars to our toilet paper. **Odor greatly affects our evaluation of things. Even so-called un-scented products are in fact scented to mask the chemical odors of their ingredients or the manufacturing processes, usually with a light musk. In fact only 20% of the perfume industry's income comes from making perfumes to wear, the other 80% comes from perfuming the objects in our lives.** (D. Ackerman) Smell is big business for the fragrance industry however it is not possible to patent a scent.





SMELL

can empower or over-power other senses such as vision, taste and sound.

According to a recent study at Yale Psychophysiology Center, certain smells can decrease stress and increase alertness. However **our sense of smell weakens as we get older**. Alzheimer's patients often lose their sense of smell before they lose their memory. The ability to recognize common smells is now used as a diagnostic tool to identify neuro-degenerative diseases.

Most smells are fleeting. Even the most penetrating perfume becomes undetectable to the wearer after a short period of time.

Decades of scientific studies have shown that women have superior olfactory abilities, including the ability to remember smells.

One of the most underutilized senses in the realm of brand experiences is right under your nose. Literally. Smell has been long proven to evoke powerful emotions as it ties into nostalgia. When paired correctly with a brand personality, it can have a powerful impact. Think of Cinnabon. What comes to mind? Can you smell the aroma of freshly baked goods? This positive association is not a byproduct of simply conducting business, it's built in by design and amplified to draw you in.





TASTE

We are living in **the era of enlightened eating**. Taste has evolved from a primitive sense that sustains life to a sensorial experience that brings everyday moments to life. It has the power to transport, comfort, and excite. Today's modern consumer has a bolder and more diverse palate thanks to the abundance of ethnic cuisine in globalised cities, as well as social media's encouragement of new taste sensations.

Much of the taste of food depends on its smell. The human tongue **registers five primary or basic tastes: sweet, salty, sour, bitter and umami** – the savoury taste found in foods like Marmite and parmesan, and the most recent addition to the industry-accepted taste receptor list. **Everything else we call "flavour" is actually "odor".**

The full phenomenon of flavour also includes **"mouth-feel"** and chemosensory responses. Tactile characteristics such as **the sensations on the tongue as well as chewing sounds are of nearly equal significance in the taste experience.**

Color plays a big role in our experience of flavour. It makes ice cream taste sweeter, veggies taste fresher and coffee taste richer. Savvy use of color, branding and packaging can be used to accurately convey taste nuances to consumers.



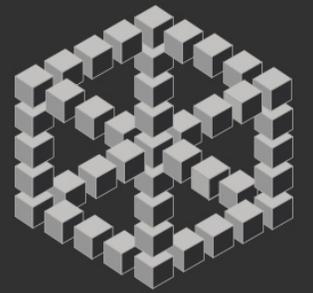
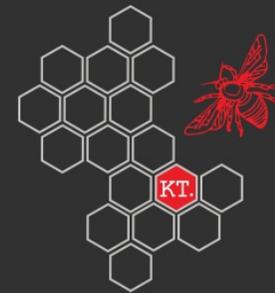
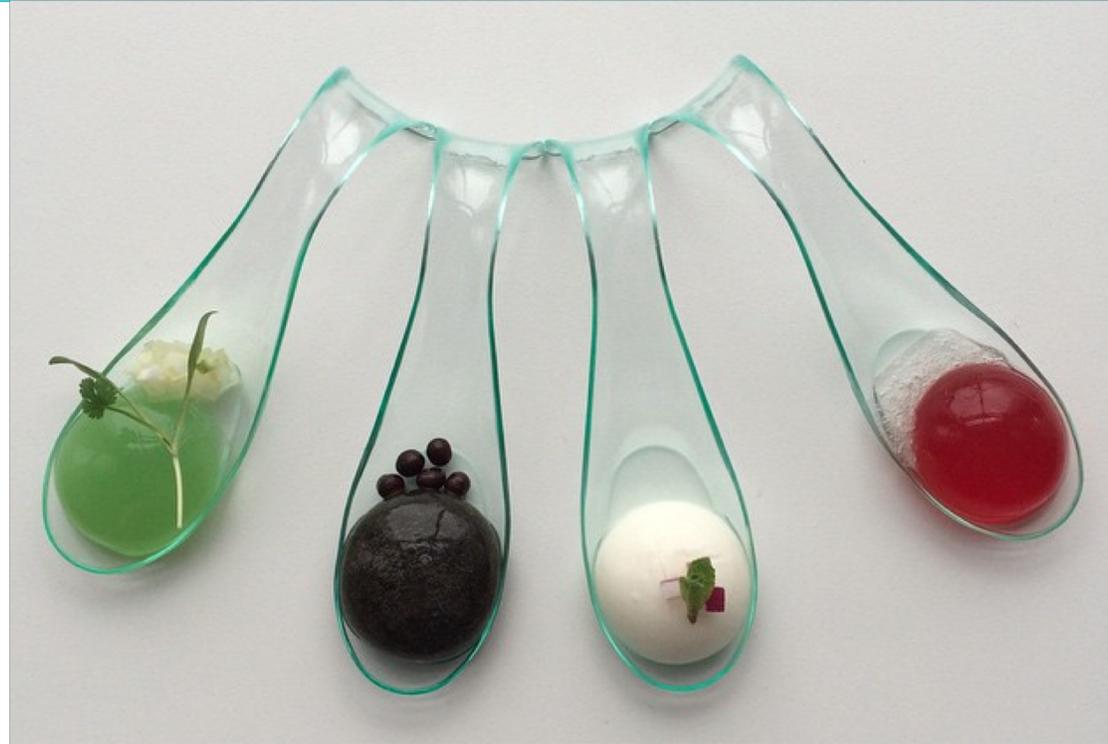


TASTE

Food is an emotional experience. It is a deep and defining part of our culture. Food plays a central role in bringing us together. Designing a taste is an opportunity to design an inspirational and meaningful social experience and to draw people together.

Flavor engages all the senses and more: texture, aroma, temperature, appearance, language and memory all contribute to the complex experience of flavor.

According to Jozef Youssef, founder & chef patron of Kitchen Theory, reconceptualizing **flavor as a multisensory experience opens exciting possibilities for redesigning our food systems and encouraging people to eat more healthily and sustainably.** "Chewing, smelling and tasting are all associated with eating and the resulting sensations are in the mouth, but we know that we need much more than taste and smell to achieve a real expression of food. All our senses need to act at the same time to create a rich image of taste in our minds and to trigger, in turn, our associations, opinions and expectations. True flavor is by far a construct of the mind."





TOUCH

Designing for touch creates a human and inclusive world.

The feel of a product has the most profound effect on humans. Touch plays an important role in the experience as familiar and somebody's own. Tactility is most important in the development of product attachment. However tactility & the sense of touch are underused in design.

Skin, the main instrument of touch, is the largest organ of our bodies (weighing from 6 to 10 pounds). Feeling/touch does not take place in the topmost layer of our skin but in the second layer. **Fingertips and the tongue are the most sensitive to touch.** The receptors in our fingertips gather hyper-detailed data about everything we touch.

In fetuses, touch is the first sense to develop. All people crave touch. It conveys meaning and content that can not be easily transmitted through formal language. Infants deprived of touch fail to thrive.

The tactile perception, **haptics**, enables an analysis of the temperature and heaviness of an object.

Other haptic dimensions include:

Geometrical dimension (smooth, rough, etc)

Physical - Chemical Dimension (hard - soft, dry - moist, fresh - rotten)

Emotional Dimension (cool - ugly)

Associative Dimension (fast - slow)



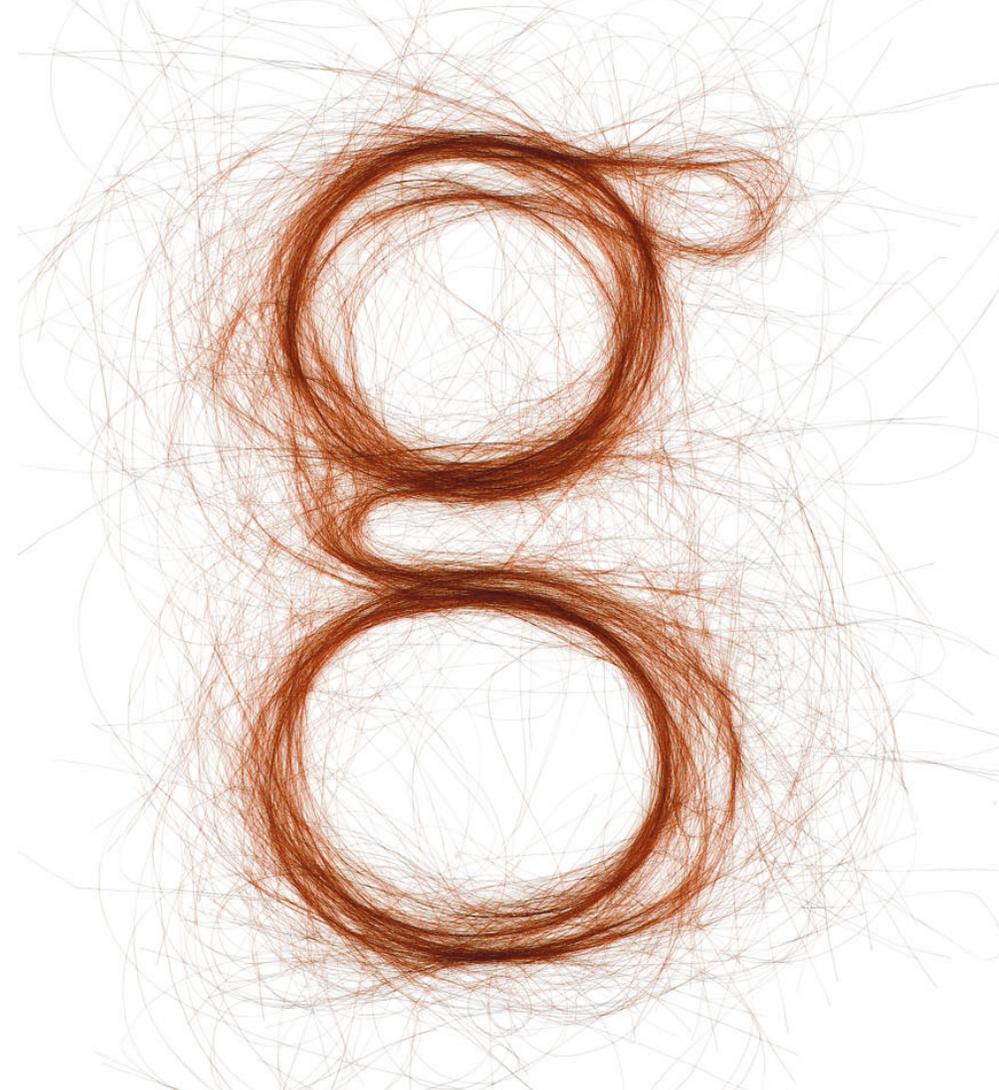


TOUCH

Designing for touch creates a human and inclusive world.

The eye is a surrogate for the skin. We can look at things and see how they feel before we ever touch them (sticky, slick, nubby, smooth, etc). Visible textures add depth to flat printed page or a screen (see image on the right).

Materials & touch contribute to our experience of flavour and our memories and beliefs about a brand. A simple texture can open up the tongue in new ways allowing consumers to enjoy a new taste dimension.





TOUCH

Designing for touch creates a human and inclusive world.

Touch Trademarks

The embossed Epi Leather, Louis Vuitton

In 1996 Louis Vuitton filed for (and ultimately received) trademark protection for its "distinctive man-made textured Epi leather pattern utilized as a surface feature" i.e. the "feel" of a Louis Vuitton bags & vallets.



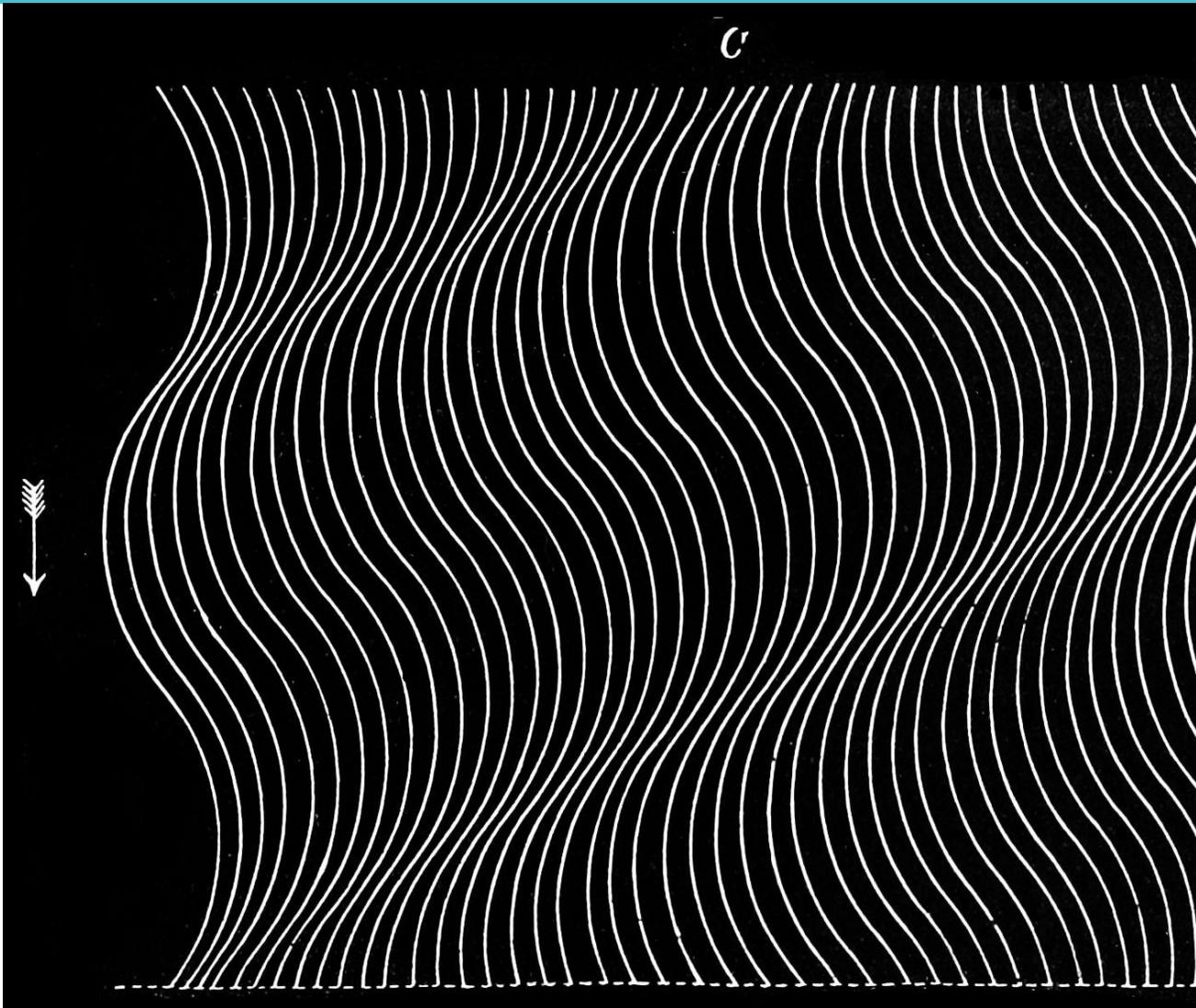


HEARING

Sound has the potential to provide rich and complex reactions almost instantaneously. Radio ads, voiceovers, and in-store music are top of mind when we examine a brand's sound. But what about when a consumer calls your business and is put on hold? Do they hear silence? Music? A sales pitch? You may not realize it, but even your hold-time recording is a part of your brand experience. Your audience will connect with—or resist—this subtle difference whether it registers as a conscious thought or not, so be sure to choose something that reinforces your brand.

More to come on:

- Storytelling.
- Tone-of-voice.



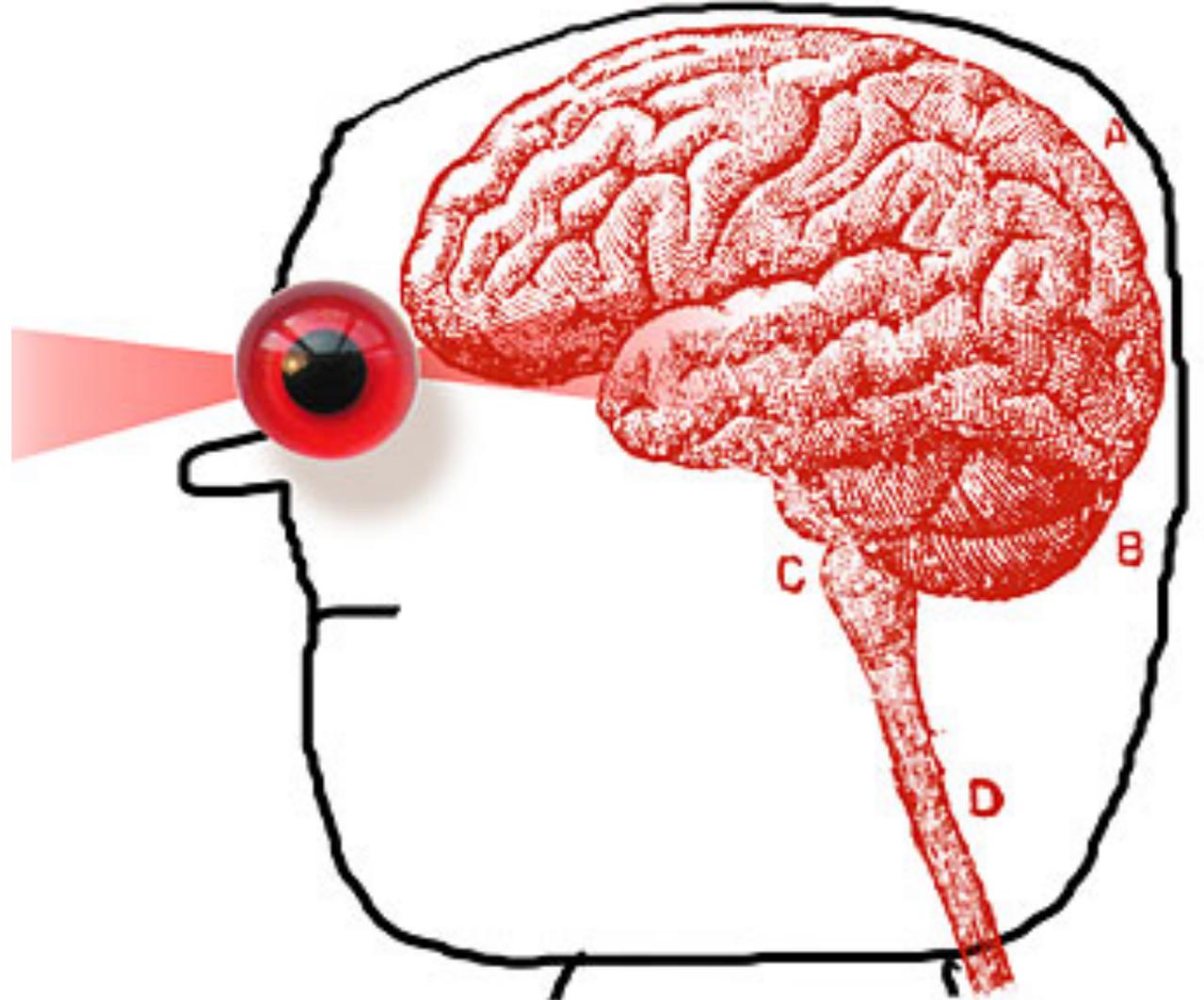


SIGHT

The senses have long been dominated by vision. In the Western tradition, the eye symbolizes knowledge and enlightenment.

Humans instinctively look for novelty and surprise, because any shift in what we see could be a source of danger or delight. Despite many advances in recent research, the precise roles of the rods and cones of the retina as well as melanopsin in the control of circadian cycles remains to be determined.

The first impression of a product does not occur by virtue of logical thinking but through utilization of intuitive models, often dominated by vision. Judgements are made within great speed/fast with high emotional involvement. **The first impressions have a lasting influence on the purchasing decisions.** Even before the details can be studied, the overall conclusive judgement has been reached.





SIGHT - COLOR

Color and vision are inseparable.

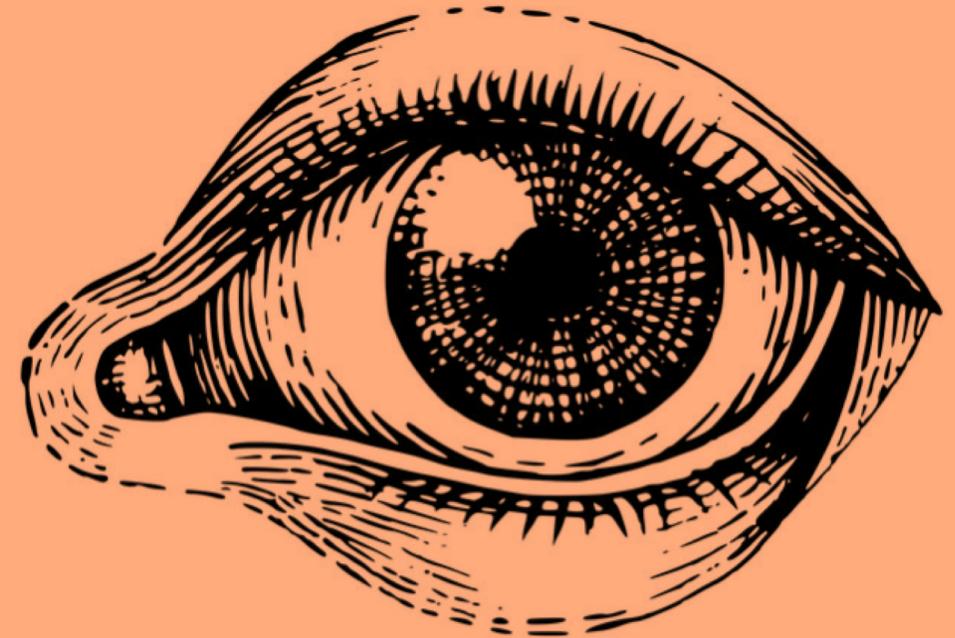
People make up their minds within 90 seconds of their initial interactions with products. About 62 – 90 % of the assessment is based on color alone!

In the hierarchy of human visual perception, color is the first element that the consumer perceives on a package, followed by shape, numbers, and finally words. Great brands exploit this hierarchy again and again to create a winning visual language that engages the consumer, differentiates it from the competition, and influences purchases.

Regional color preferences are less important due to global access to information and quick distribution of products & services. While larger cosmopolitan cities will be the quickest to invent and adopt new color and material trends, these will promptly circulate across the globe.

Where regional color preferences exist, the influencing factor seems to be sunlight.

Where sunlight is abundant, the colors wanted are strong, rich and brilliant/vivid. Where sunlight is scarce, the wanted colors are softer and duller.



SIGHT

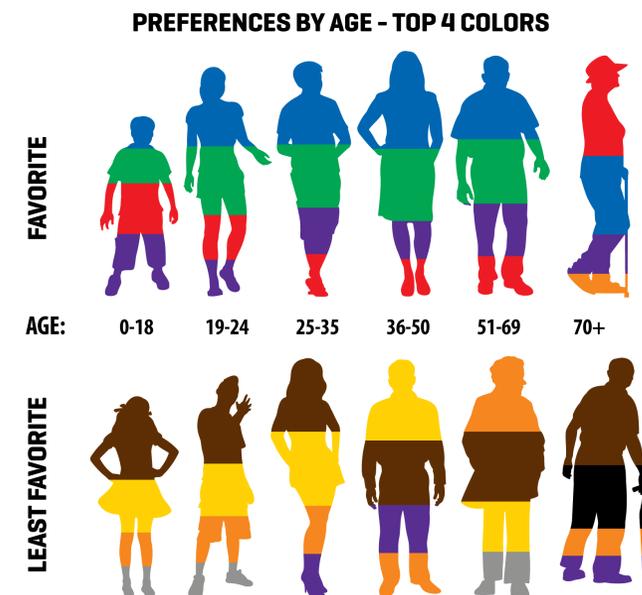
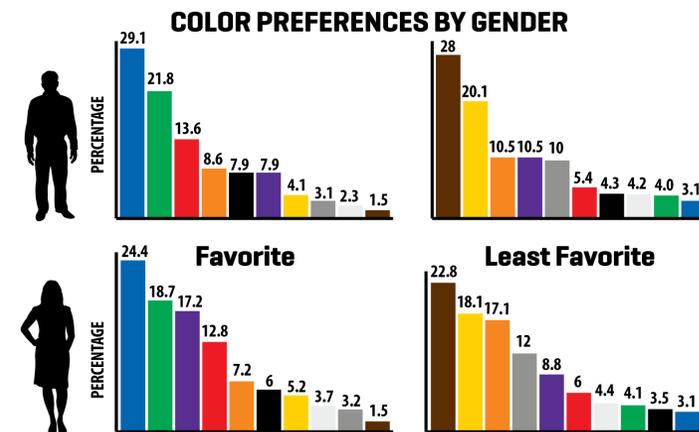


SIGHT - COLOR

The equilibrium of the human body, the pulse rate, heart action, respiration, nervous tension and digestion are all affected by color.

Although a person may feel that his particular likes and dislikes for color are personal to him - **color preferences are almost identical in human beings of both sexes and in persons of all nationalities.** Studies by on color effects on emotions reveal that men and women reacted in highly similar emotional ways to color brightness and saturation as well as hues.

P Valdez & A Mehrabian

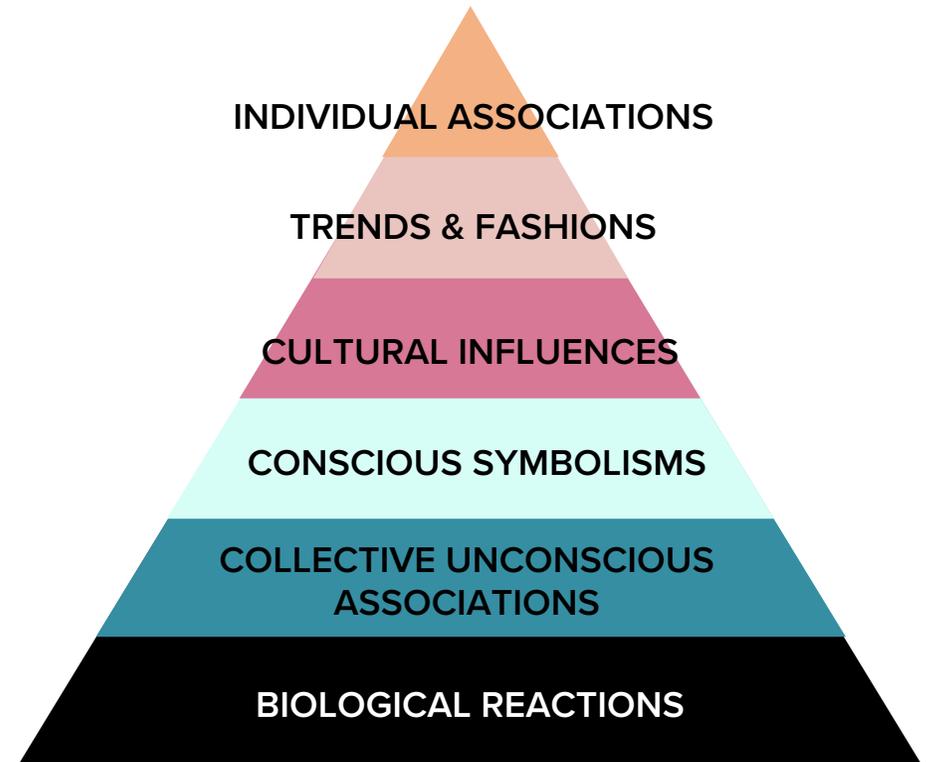


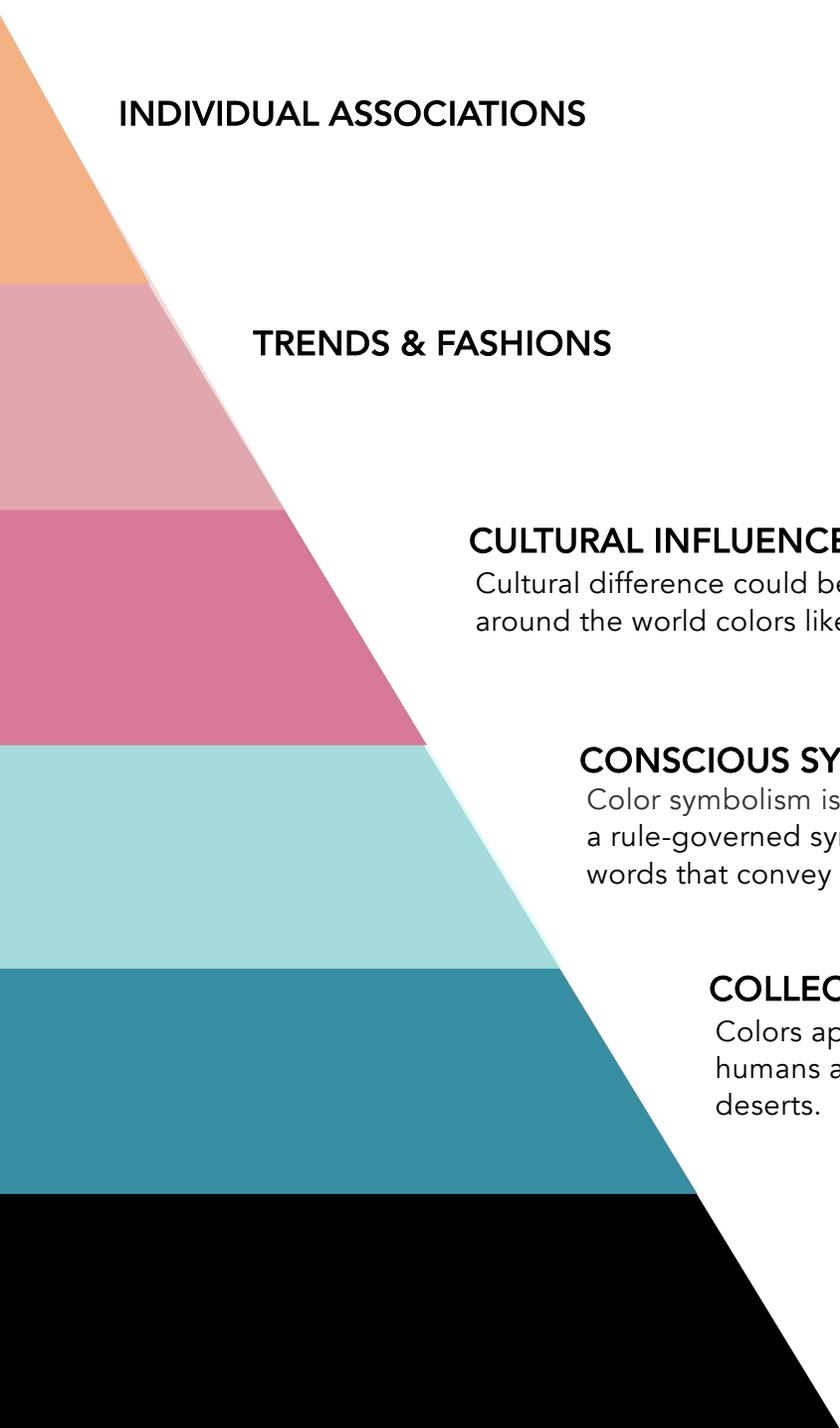


SIGHT - COLOR

COLOR EXPERIENCE PYRAMID

Color perception involves aspects of visual, associative, symbolic, emotional, and physiological awareness. Mahnke (1996) divided the human experience of color into six basic interrelated levels and illustrated it with the "Color Experience Pyramid". The model indicates that personal reaction to color is an interwoven experience





INDIVIDUAL ASSOCIATIONS

Color Experience Pyramid

Color, Environment & Human Response by Frank H. Mahnke

TRENDS & FASHIONS

CULTURAL INFLUENCES

Cultural difference could be the colors that are associated with mourning. In the United States, black is associated, but in other cultures around the world colors like white, purple, and gold are used during the mourning period.

CONSCIOUS SYMBOLISMS

Color symbolism is important in art, religion, politics, and ceremonials. Symbols carry strong emotional connotations. Language is a rule-governed symbol system that allows users to generate meaning and to define reality." By this definition, we can see that words that convey color bring meaning to the person deriving information from that word.

COLLECTIVE UNCONSCIOUS ASSOCIATIONS

Colors appear warm, cool, dry, and wet (to name a few). This reaction is inherent in the psychological make-up of most humans and that perhaps it's build upon the association of earthly elements such as the sun, fire, water, sky, and even deserts.

BIOLOGICAL REACTIONS

The biological reaction refers to behaviour regulated by body functions and brain processes. Most biological factors for colors refer to animal and plant studies, where colored components are used for survival: the warning signals on poisonous animals, the green of photosynthesis, the colors displayed when certain animals look for mates, etc... Factors like age, mental health, and mood affect the colors we see.

Sixth sense is DELIGHT

**Multisensory is rich vein of
product branding and
competitive advantage.**

PRE-ASSIGNMENT

KIITOS!