How to use colour associations as a source of inspiration when making a physical object

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Abstract

This bachelor thesis presents a method on how colour associations can be used as a source of inspiration when designing a physical object. The goal is to find an unexpected and surprising direction that differs from one’s personal routine way of creating. This was done by defining creativity and inspiration, understanding colour associations, utilizing workshops, visualisation (using mood boards), analysing data, and designing a lamp based on findings in a playful manner.

Working in an inspired mindset makes the creative process enjoyable and reduces the risk of leaving work unfinished. I have a tendency to do this, therefore this is a personally meaningful subject to examine.

The method resulted in bringing meaning and joy to the design process, however no radical changes in my way of working occurred.

Research question: How to use colour associations as a source of inspiration when designing a physical object?

Keywords: creativity, inspiration, colour association
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1. Introduction

The creative process of handcraft usually begins simply with an idea. The idea can be anything from wanting to try a new technique to an idea of a product. Working in an inspired mindset helps efficiency and opens eyes for new perspectives. But how do we become inspired? For the right pair of eyes, the source of inspiration can be anything and everything under the sun. Many of us find inspiration in colour. Colours are packed with emotions, associations, meanings, and messages, which can be breathed in and stored for later use. While some of these messages and meanings are more common and even practical, such as brightly coloured organisms communicating poisonousness, others are personal and unique. Colours as a phenomenon are inspiring, but perhaps the source of inspiration is not the colours themselves, but rather the feelings and associations they evoke in the viewer.

This thesis will focus on people’s associations to colour, presenting an experimental design process of how to use colour associations as a source of inspiration when designing a physical object. Part 1 will reflect on previous research regarding inspiration and colour associations in general, since understanding both how inspiration works and where colour associations come from is crucial for this project. Part 2 will open up the process of how colour associations are gathered and translated into a physical object. The method consists of gathering associations to five chosen colours through workshops, analysing the data, creating visualization, and finally designing a physical object based on findings.
Inspiration and motivation are important when creating to avoid the bad habit of leaving work half finished, wasting resources and time. I personally have no trouble starting new projects, while old unfinished work fills up space—others may recognize themselves in this. Therefore finding ways to avoid this is beneficial and this thesis will hopefully help others in finding inspiration and joy when creating.
Part 1: Research

2. Colour associations

People are guided by colour on a daily basis. Colours are constantly affecting actions and decisions through associations that are made both consciously and subconsciously. The human senses take in more than is ever registered or processed, therefore it is only natural for humans to draw connections and associate. For instance, people cross the street when lights turn from red to green. A conscious thought process is not necessary for the individual to cross over, since it has become automatic that red equals stop and green means go.

What is associated with a certain colour may vary depending on culture, history and personal experiences. There is for example research showing a difference in the associations of the colour purple in three Asian countries and the United States. The colour purple was in a research carried out by Osgood associated with expensive products in Japan, China and South Korea, while it was associated with inexpensiveness in the United States (Chen et al., 2019). However there are some associations considered as common knowledge all over the world, for example the colour red and its associations to danger. (Pravossoudovitch et al., 2014) Immense amounts of research can be found on the connection between the colour red and danger. This is based on how the colour is presented in society. This point of view is exemplified through sayings such as; ‘red flag’, ‘red herring’, ‘in the red’, and ‘code red’. Another factor is red being present when communicating stop signs, alarms, sirens, and warning signs (Pravossoudovitch et al., 2014).

Although some reactions to colours often seem to be quite personal, the universal reactions organisms have to certain colours can not be denied. Frank Mahnke (1996) argues over the importance of understanding people’s psychological reactions to colour when using colour in design and architectural environments. Yet, my opinion is that it is hard to acknowledge the significance of the impact that colours have on humans because there is no instant text message sent telling the
recipient that X amount of hormone Y was released because of the exposure to colour Z. Instead there is psychological research addressing the matter. Mahnke (1996) highlights this by stating that colour is essential to life, it goes deeper than expected, and is a part of human biology and psychology. He claims that organisms are either coloured for camouflage or for display and that because of the part that colour plays in an evolutionary aspect that humans are a part of, it is impossible to be objective and unaffected by the colours in one’s surroundings. Summarized, it is important to be aware of the effect of colours because they affect everyone.

When thinking of the colour yellow, the vivid colour of a banana would most likely emerge in one’s head instead of a gray, desaturated yellow. This happens because yellow is a primary colour and therefore people are most likely to associate the word yellow to something resembling the bright and clean primary yellow. Still, there are plenty of different shades that go by the same name, yellow, but have a different effect on people. A research paper supporting this is a case study by Banu Manav (2006) in which 50 participants were asked to combine colours from a catalogue with adjectives. One of the findings showed that the saturation and value levels affected the adjectives selected by the participants. In the study a yellow with low value and high saturation levels were associated with “boring, fearful, tiring, anxious, annoy-ing, depressive, and being serious” (Manav, 2006) while a yellow with medium value and low saturation was associated with adjectives such as “vivid, dynamic, striking, warm, cheerful, and enjoying” (Manav, 2006). Therefore, even if yellow has its universal associations, such as sunshine (positive association) and cowardice (negative association), by changing the shade the associations could be manipulated in a certain direction.

Because of colour’s clear effect on humans it is vital to acknowledge the impact and use this consciously in design. Even if the focus of the design project in this case is not necessarily functionality (since the final product is unknown at the starting point), and therefore the importance of using the right colour for the right purpose is irrelevant, it is beneficial in understanding the associations and future possibilities in the field of design. In addition it is helpful to recognize possible associations to certain colours when choosing colours for the workshops (more in Chapter 4. Data and methods).
3. Creativity & Inspiration

To understand the creative process it is necessary to attempt to understand and discuss creativity itself. There are many definitions of creativity. What they seem to have in common is the connection to great achievement and recognizing novel or unique ideas. Eysenck (1997) presents two different approaches to describing creativity, one in which matters such as intuition, unconscious processing, and wide associative horizons are concerned and another, in which creativity is connected to personality traits such as extroverted or introverted personality, psychopathology, and ego strength. A word salad of a schizophrenic person is novel and unique but it is not the results of creativity (Eysenck, 1997). In other words, creativity is seen in randomness, but not all randomness is creative. On the other hand Rawlinson (2017) suggests that everyone has the ability to think creatively and that the barrier blocking it simply has to be found and lowered. The barrier represents learned routines, for example how schools teach students to solve a math problem. Even if the problem could be solved in various ways, students are taught to solve problems in specific ways, lifting the barrier and blocking creativity - the alternative way of solving the problem.

Even though creativity is often defined as having a unique approach, I consider it to be very creative to have multiple ideas and being able to produce them on command even if most of the ideas are ordinary. If you are able to spit out idea after idea, some of them are most likely going to be unordinary. This would mean that having multiple ordinary ideas (which is not creative according to previously mentioned definitions) would be creative thinking. Being able to produce several ideas in a short amount of time is something that in my opinion can be trained. It is trained by learning to feed creativity with inspiration and inspiration on the other hand is an individual fuel, meaning not everyone sees inspiration in the same situations.

For the purposes of this paper, it is not important to understand what exactly every single source of inspiration is, or to fully understand the psychology behind creativity, but to realise that in order to consciously sustain this type of behaviour it helps to find patterns in where fuel can be found. Some individuals tend to have more ideas and find fuel consistently, while others need to explore where it can be found. However, boosting one’s creative thinking is possible for anyone. This can be done in a multitude of ways, out of which some are not intentional. For example, children who experience boredom during childhood tend to get more creative. Other more intentional ways are for example, going outside one's comfort zone, solving problems (through puzzles and games), and spending time in an interactive environment. By doing this one might face inspiring conversations or evoke feelings that will later be explored and recreated in some form. I asked my sister what her fuel was and she answered: “When I am in an environment that has a distinct and strong atmosphere or feeling, it makes me want to recreate it through colour”. It made sense since she is an artist specialized in environments, colour, and lighting, but at the same time our conversation itself was more inspiring to me than her answer. Us talking about her fuel became my fuel.
4. Data and Methods

This chapter presents the method used to collect colour associations, how the colours were selected, and how the data was analysed. Since the collected data works as a source of inspiration, this chapter also reflects on personally interesting findings.

Choosing Colours

When choosing the colours for this project different approaches were considered. What colours to choose depends on the purpose, and in this case the purpose was for inspiring associations. Inspiration for me personally is often found in the element of surprise and in emotions that lead to meaning. Therefore I chose colours that I have a personal connection to, colours I often use in my own work. Because of the already existing strong personal associations the contrast to the participants’ associations (participants of the colour association workshops) would most likely evoke a range of feelings.

Four colours were selected based on personal preference; green, light pink, black, and vibrant yellow. The fifth colour, red, was added as a warm up colour.
Illustration describing which colours were chosen.

The words in the illustration represent my own associations or predictions for the colours in the workshop. The colours were consciously selected based on these words, concepts I wanted to see the associations for:

“Crazy” – for neon colours that I tend to use in my work. For this association a vibrant lime yellow was chosen.

“Kind” – for a softer pastel colour, for contrast in the associations to the screaming yellow. A light pink was chosen for this purpose.

“Boring but nice” – for a colour that I am neutral to, and therefore predicting neutral associations – a grassy green was selected for this.

“Predictable” – for a colour with cultural meaning with predictable associations. I wanted to include a predictable colour to either confirm my prediction (based on my own associations: dark, hard, cold) or to be surprised by unique associations. Black was chosen for this.

“Easy” – for a warmup colour that would be presented first, activating the participants. Red was chosen for this purpose.
4.1 Workshops

Workshops are a commonly used tool in the field of design, especially in service design where the focus is user-friendliness. When designing a workshop the most important question to keep in mind is; what is the goal? Once it is clear what the workshop should provide for the designer every step of planning should support the main goal (Chang, 2017).

Colour Association Workshops

The associations were gathered through a workshop that was held on the video communication platform Zoom. It was not held in person because of the corona pandemic restrictions. Three workshops were held in the form of group interviews for three different age groups; 11–13 year olds, 20–25 year olds and 45–55 year olds. The purpose of having different age groups was to get a range of different associations, since the associations from a 11 year old compared to a 55 year old can be expected to vary. The groups were kept small (4–7 participants) to minimize talking over each other and for creating an as comfortable setting as possible for spontaneous associations. Small groups were also preferred over large because people tend to participate more actively in this setting (Chang, 2017).

Each workshop lasted for approximately twenty minutes in which five different colours were shown one at a time. The participants were not told what purpose the associations were gathered for until the end of the workshop. Before starting they were asked to express their associations in any way they preferred, for example by writing, speaking or drawing. Once the instructions were clear five guiding words were visible for everyone to see with the purpose of activating the association flow: feeling, touch, attitude, sound, and weight. These words were repeatedly shown before each new colour.

The colours were shown in the order red, black, green, light pink, and yellow. The colour red was used as a warm up colour for the participants. The warm up colour’s function was to further activate the participants. Red was chosen since it is a colour with many cultural associations, as mentioned before (danger, stop signs etc.), and therefore would be an straightforward colour to start with. After this the other selected colours were shown one at a time. The participants reacted to each colour with words, drawings and answering questions such as “How would this feel to touch? How would this colour sound? What kind of attitude would this colour have?”. The interviews were recorded for allowing me to interact and participate in the conversation without having to take notes.

4.1.1 Group 1

The first workshop’s participants were seven children of the ages 11–13. Associations made are based on a person’s daily surroundings and challenges. Since there are differences in how the world is seen depending on age, children tend to have a refreshing and playful point of view and this was no exception.
4.1.2 Group 2

In the second workshop seven 20–24 year olds participated. The only significant difference to the younger participants in regards to what type of associations were made, was that characters and movie references were named (a scene from “The Shining” (Stanley Kubrick movie) and the Groke, “Mörkö” (character created by Tove Jansson).

Picture: Lists of associations to each colour from Group 2.
4.1.3 Group 3

In the third and last workshop four 45–55 year olds participated. The group associated as Group 2 also described the colours with adjectives, substantives, and references to pop culture. What this group added was associating with life situations, such as “where are my glasses?” (association to black) and brands, for instance Kawasaki and Lamborghini.

**Group 3**
Age: 45–55y.
Participants: 4

- love, heat, hell, China, Soviet
- Union, soft, warm, shiny, a little scary, sweaty, heavy shit,

| Homely, night, darkness, rock 'n' roll, where are my glasses?, I cannot see, soft, see-through, infinity, outer space, scary, calm, water, deep water | energetic, hard, cool, bugs, grass, salad, garden, moist, wet, sharp, brisk, happy, rad, moves like a cat, Kawasaki |
| Prince, Purple, rain, marshmallows, soft, light, balloon, cotton, candy, festive, careful, dreamy, clouds |
| Raw banana, Lamborgini, sporty, fresh, fast, hard, sour, lime, energetic, bicycle, phosphor, plastic, kinder egg |

*Picture: Lists of associations to each colour from group 3.*

4.2 Data analyses

During the workshops the other participants’ words most likely affected the associations, since they could all hear and see each other. The effect can be dismissed in this case since the data were to be used as a source of inspiration and not as research data of how an individual reacts to certain colours. If anything it promoted associations, which in this case was positive. Therefore I will not differentiate between what was an original association versus a thought association provoked by another participant.

The most interesting findings were colours that did not receive the same associations in the different groups. For instance, yellow was associated with sticky slime in Group 1, it was called the “definition of an ugly yellow” by Group 2 and described as hard plastic in Group 3. This immediately activated a creative thinking process in which I started to explore different ways to combine the associations into one idea, and so the first frame had been formed for the final object.
Colours like the light pink were not as powerful for boosting creativity, since all the associations gathered were rather similar to each other, both within the groups and when comparing the different age groups to each other (pink was mostly associated with fluffy, soft and kind). Another colour that did not create space for problem solving was black. These colours would produce an object with quite a literal connection and is therefore not personally tempting or exciting. These common associations to black were words such as darkness, death, deep, cold, and hard. These are all predictable associations since black as a colour has symbolic meaning in society and therefore it is harder to find associations that would be unique. The colour itself could be used as a source of inspiration, but because the associations were predictable, a workshop would not be needed. It could without a workshop be translated into, for example, a ceramic deep vase topped with a dark glaze (black: dark, deep, hard). The problem is that there is no creativity in the translation – it is a literal and uninspiring translation, in my opinion.

Emotions also played a part in what associations caught my attention. The yellow colour received negative feelings from Group 2. The colour was described as “ugly” and as a “boring book”, and this led to me empathizing with the colour, as if its feelings were hurt. The negative comments stood out and therefore the colour and all its associations became more inspiring to work with compared to the other colours that all received neutral or positive associations.

The workshop’s goal was to inspire and work as a push in some unknown direction, and if the colours produced associations too predictable this could not be done. Either the workshop would have to be redesigned with, for example, specific questions (and move away from the free discussion format as it was now) or the colours would have to be selected more carefully with that specific goal in mind.
5. Production Process

The following chapter reveals how the frame was set for the translation of inspiration into an object with a physical form.

5.1 Mood boards

Mood boards are used to communicate the general mood or feeling in the fashion industry. This is done by combining colours, proportions, cultural connotations and so on, often around one central image capturing the wanted overall aesthetic impression. Images in mood boards can play different roles, they can for instance be included for visual properties or cultural properties (Eckert & Stacey, 2000).

Even though mood boards are often used for communicating ideas within a team or to a client (Eckert & Stacey, 2000), I personally believe that the benefits of making a mood board as a personal assignment can boost creativity significantly and work as fuel. When feelings and moods are transformed from a non material into a visual form, the brain is forced to combine bits that for sometimes unknown reasons fit together, creating a mood that does not necessarily have anything to do with the motive of the image. Mood boards can also be used in reverse, meaning instead of expressing a certain mood through visualisation, the starting point can be visual matter that itself creates the unknown mood when combined and played with. However, it is challenging to choose visual content for a reversed moodboard randomly, ignoring a possibly already existing idea in mind. This can still be achieved for example by opening a random spread in a magazine and only using that specific spread for inspiration, or asking a friend for five random words and using it as a starting point. The opportunities for creating randomness are infinite.
Reversed mood board created with screen captures from the workshop (Group 1). No particular mood was chosen in advance to be communicated, instead playing with the participants’ drawings created this blurry childish mood that I wanted to develop through the remaining parts of the production.
5.2 Formgiving

I often spend my time on the border between art and function. I enjoy expressing myself through artistic work, but often feel the need to give an additional purpose to the creation, a function. This by itself already defines a part of the framework for the final product and so I did not try to silence my artistic identity intentionally.

Another factor framing possibilities for this project are the associations and all the ideas that came with them, the inspiration.

Before beginning the exploration of possible forms for the area marked by the green smiley face, the most personally inspiring associations were selected to lead the way. These were the reactions to the yellow colour. Specifically the associations “slime” and “hard plastic” gave the direction for choice of material; plaster. When plaster is mixed with water it thickens and hardens slowly. At a certain point of the hardening process, plaster when poured resembles slime. Once it hardens and dries completely it has an appearance and feeling close to plastic.
Following the choice of material, I started playing with empty cans to visualise proportions and size. Cans are easily available and can be stacked on top of each other almost like Legos, and therefore I often find myself sitting on the floor building rough shapes with cans. In my earlier work I have found that they can also be used as a skeleton when working with plaster to lighten the overall weight, improving durability since plaster has a tendency to break easily, especially when making heavier pieces.

When exploring and playing one thing tends to lead to another and this was no exception. When stacking cans the possibility of what the hollow tube-like structure could achieve function-wise came to me in a flash. An electric wire could travel through the cans to the top of the design, a bulb could be lit, a lamp was born. Lamps have a special place in my heart in general since there is something spectacular about their power in creating atmosphere. Especially in this case, with the combination of the material (plaster) that is not the most commonly used when designing lamps, and the function (lamp). The combination was compelling and worthy of exploring further.
5.3 Texture development

To find the most desirable aesthetic effect four different experiments were made. This was done by pouring plaster over cans, in different states of its hardening process.

Experiment 1. Three layers of runny plaster over a can

Experiment 2. Three layers of runny to milkshake-like consistency plaster poured over a can

Experiment 3. Three layers of whipped cream-like plaster poured over a can

Experiment 4. Based on the textures of experiments 1 and 2, which gave the most optimal results.
Experiment 4 consisted of two cans glued together, whereas the three first experiments were made of only one can each. This allowed for exploring the technical part of designing the lamp. Holes were cut in the bottom and top part of the cans for the electric cable to travel through (see picture on the left). An additional hole was cut on the side of the lower part of the object to allow for the cable to exit/enter.

5.4 Creating the final product

When designing the final product I went back to my sketching Legos; my empty cans. Since the cuts on experiment 4 were sharp and could possibly damage the electric cable and therefore cause danger, I decided to soften all cut edges using a file and adding tape to the edges before gluing the pieces together.

Both building the form with cans and adding plaster was done in a carefree way. By carefree I mean letting my hands do the thinking as they work. It is important for me not to be afraid of making mistakes since this restricts creativity. Learning from mistakes is part of human nature and this has been stated by many philosophers including John Stuart Mill, Bertrand Russel, John Dewey, and Karl Popper (Swartz, 1976). Making mistakes is also not really making mistakes, more than it is going in a direction that helps with decision making in the process. By doing something that does not look or feel right, the realisation of what should not be done is just as great of a finding, as stumbling upon something that does feel right. For instance, I added too much plaster and lost the original form of the design. When sculpting the parts where I thought too much plaster had been added, the contrast of soft organic lines and sharp lines from sculpting with a knife was created. This was an unexpected and unplanned detail and it became something I wanted to include and even highlight in the design (see picture on the next page). A happy mistake.
Picture: organic lines from the plaster running freely in contrast to sharp knife cuts.
5.5 Painting

I wanted to bring my lamp to life. The lamp channelled a slime monster persona and this was highlighted through painting. Spray painting in particular enables soft colour shifts and shadowing, which felt appropriate for enhancing the visual slime effect. Because this work was inspired by the associations to the yellow colour, I wanted to communicate feelings that arose from comments to this particular colour. Group 2’s negative words towards the colour stuck with me throughout the production process and led to me wanting to paint a sad face on the plaster (photo, page 23). The yellow colour was called the ugliest possible yellow, therefore it felt appropriate to use a screaming neon yellow colour to paint a sad face with. To accent the yellow sad face, I used its complementary colour, purple, to make the yellow stand out even more. Because I did not want to lose the sliminess of the piece, I used green (also associated with slime by Group 1) and finally white to add highlights.

Picture: slime effect highlighted by green in contrast to purple.
Presenting the final product, The Ugliest, he is hurt and sad, yet here to light up your day.

Photo: Ada Lehtinen
Photo: Ada Lehinen
6. Conclusions

Colours are frequently used in design as a way of communicating. As this paper shows, there is research revealing the effect of colours on humans, therefore it is vital to acknowledge the impact and use this consciously in design. Through knowledge the future possibilities expand.

This thesis looked at one way to use colour associations as a source of inspiration. Colour associations were translated into a physical object, a lamp. The revealed method was successful in terms of making the design process exciting. In addition, the production process became meaningful because of the emotions that the workshops awoke. An area the workshops did not guide and inspire with was form (the form came more from my previous experience with cans, plaster, and from the material testing, rather than directly from the associations). It is also important to note that the participants of the workshops were mainly acquaintances from the past, which automatically made the workshop setting more comfortable for them knowing the host. In this case it was a positive, resulting in an active association flow, however it was not possible to measure the quality of the designed workshop because of this. For instance, had the participants been completely randomly selected, they may not have felt as comfortable to express their impulsive associations. It would also be worth a try to reattempt hosting the workshops with participants from a field unfamiliar to the host, i.e. changing the expectations. The colour choices leading to the associations could also be further experimented with, since a small adjustment of the shade could change the associations completely.

Even if all the steps of making the final piece can be connected to the inspiration (the associations), the process resembled my typical way of working, which was disappointing in the manner that I was hopeful to find a more surprising and unusual direction based on the workshop associations. However I enjoyed the process and wish for this thesis to further motivate myself and others in finding inspiration.
7. References


