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Josef Albers & Birgir Andrésón:
Influences of Environment on Color Perception

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Abstract

The color perception is influenced by many physical and psychological factors. This essay investigates how the social and natural environment influences color perception, based on Josef Albers's theories in his book *Interaction of Color*. In the light of Albers ideas, the works and concepts of the artist Birgir Andr sson on Icelandic colors are analyzed.

Josef Albers (1888-1976) was a pioneer artist of twentieth-century modernism and best known for his innovative publication *Interaction of Color*. His book was first published in 1963 and, according to Albers, the book works around the fact that color is the most relative medium of art. The same color evokes innumerable readings depending on its surroundings, due to the constant interaction between colors, the interdependence of color with form and placement, the importance of quantity and qualities of color and its pronouncement.

Supported by Albers's theories on colors, the works by the Icelandic artist Birgir Andr sson (1955-2007) on *Icelandic Colors* are analyzed focusing on the influences of environment in color perception. In the last decade of his life or longer, Andr sson explored elements of national identity which is reflected in his art, such as the archetypical Icelander, icelandic birds, horses, excentric people, nature and original culture. In many of his works, he used the *Icelandic Colors*, that derive from Andr sson's ideas on the national colors. These colors represent the leftovers of the Icelandic culture, elements that have disappeared or are about to, due to the translation of foreign models or prototypes.

The perception of color is influenced by light, distance, volume, movement and interaction with the environment. This essay is a result of a personal need to investigate colors and how the social and natural environment influences my use of colors. The study has opened my spectrum of color comprehension, in which the surroundings and mind have the main role.

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Introduction

Colors are everywhere: in our surroundings, body and memory. Colors carry emotions and psychological meanings. Color is the most relative medium of art. We live in a world of colors and, yet, I feel, as a graphic design student, that this subject has not been given its importance in the graphic design education at the Academy. This essay resulted from my personal need to learn more about color thoughts and theories.

I was born in Brazil and I lived there most of my life. Colors are fundamental part of our culture and it can't be taken apart from it. Colors, in different intensities and combinations, are present in our folklore, carnival, paintings, literature and musical heritage - from popular traditions to contemporary and conceptual art. We breath and sing the beautiful colors of the nation and natural environment. The use of colors has never been problematic for me. It always came naturally in my paintings and drawings, maybe by the fact that I just needed to look out of my window to find in nature and the city the sources of my inspiration.

Until I moved to Iceland, I never thought I could loose this ability of using colors, but I believe I did. I first noticed this difficulty when I went to Edinburgh College of Arts as exchange student in Drawing and Painting Department, where the demand for use of colors was more noticeable. After three years living in Iceland, I asked myself: have I lost my sensibility for colors?

All these cultural changes and difficulties, compounded with the lack of formal education on colors for graphic design students at the Academy, influenced my decision to investigate how the environment can influence our color perception and use of colors.

In this search, I found some colors theories, but most of them focused only on psychological or physicals and mathematical aspects of colors, such as Newton and Goethe. It was in Josef Albers theories that I found the inspiration to develop the subject of this essay.

Alber's approach to colors is unique and different from most of the writings on colors. In 1963, he published *Interaction of Colors*, in which he compiled the results of years teaching colors in Bauhaus, Black Mountain College and Yale University. Albers ignores, on purpose, the use of color wheels and all the physical explanations. His aim was to teach the students and readers to have an 'eye for color', to learn from experiencing and feeling colors. Although he doesn't formally describe how the environment influences our color perception, the answers to my questions can be found in the ideas underlying his theory.

As Iceland was the starting point of my observation on the changes in my perception and use of colors, I decided to analyze the use of colors by an Icelandic artist. The name of Birgir

Andrésson came across as one of the most prominent artist exploring the use of colors. He developed his concepts of *Icelandic Colors*, which is the subject of our analysis in the light of Josef Albers ideas. Andrésson's *Icelandic Colors* are influenced by social and natural environment.

This essay consists basically of a search for answers and explanations for the influence of environment on our use and perception of color, but this search leads to a wider perspective, in which colors also live in our minds. As Albers said: '*Our experience of color is essentially perceptual, and it's the perceptual results that count.*'¹

¹ Frederick Horowitz, *Josef Albers : to open eyes : the Bauhaus, Black Mountain College, and Yale*. Phaidon, 2006, pp. 215.

1. Josef Albers on *Interaction of Colors*

My first contact with Josef Albers' work was through a video *The Full Spectrum for Dwell*² in which Nicholas Fox Weber, executive director of The Albers Foundation, talks about his works and theories on colors. I had seen his works in books before, but this video had a great impact on me. That was the moment I met Albers and I decided to investigate Albers' life and theories.

Josef Albers (1888-1976) is considered one of the pioneers of twentieth-century modernism. He was an influential teacher, writer, painter, and color theorist—best known for the *Homage to the Squares* he painted between 1950 and 1976 and for his innovative 1963 publication *The Interaction of Color*, the subject in this essay.

Before enrolling as a student at Bauhaus in 1920, Josef had been a school teacher in his hometown of Bottrop, in the northwestern industrial Ruhr region of Germany. Initially he taught a general elementary school course; then, following studies in Berlin, he taught art. In the course of his teaching years, he developed as a figurative artist and printmaker. While he was at Bauhaus as a student, he worked primarily in stained and sandblasted glass, but he also designed furniture, household objects and a typeface, and developed a keen eye as a photographer. Josef Albers met his wife Annie in 1922 in Bauhaus, where she was also a young student. In 1925 he was the first Bauhaus student to be asked to join the faculty and become a "master" there.

In 1925 Bauhaus moved to the city of Dessau to a streamlined and revolutionary building designed by Walter Gropius, architect and founder of the school. In Dessau, the Alberses lived alongside the families of artist teachers Lyonel Feininger, Paul Klee, Wassily Kandinsky, Oscar Slemmer, and others in one of the masters' houses designed by Gropius.

By 1933, when the pressure from the Nazis forced the school to close, Josef Albers had become one of its best-known artists and teachers. In November 1933, the Alberses emigrated to the United States of America, where Albers had been asked to make the visual arts the center of the curriculum at the newly established Black Mountain College near Asheville in North Carolina. They remained at Black Mountain until 1949. Josef continued his exploration of a range of printmaking techniques and took off as an abstract painter, while continuing as a captivating teacher and writer. About Albers as a teacher, Frederick Horowitz, author of *Josef Albers: to open eyes*, wrote:

² Gary Nadeau, *The Full Spectrum for Dwell: Josef Albers* . <http://vimeo.com/13706738> Last entry: 10. January 2011.

*'When Albers first headed up the path to Lee Hall at Black Mountain College, a student asked him what he was going to teach. Mustering what little english he knew, Albers replied, "To make open the eyes". Albers would repeat some version of this phrase again and again over the years, never deviating from his conviction that teaching art was not a matter of imparting rules, styles or techniques, but leading students to a greater awareness of what they are seeing or doing.'*³

During this time Josef and Annie Albers traveled widely both in the United States and Mexico, a country that captivated their imagination and had a strong effect on both of their art.

In 1950, Josef and Annie moved to Connecticut. From 1950 to 1958 Josef Albers was chairman of the Department of Design at the Yale University School of Art. Albers's color course was a method intended to sharpen the eyes and provide some understanding of how color behaves, not a theory course. What mattered for Albers was that his students experienced color. There, and as guest teacher at art schools throughout the United States and in Europe, he trained a whole new generation of art teachers. Meanwhile he wrote, painted, and made prints. He retired in 1958 and was named emeritus professor of art, a position he held until his death.

In 1971, he was the first living artist ever to be honored with a solo retrospective at the Metropolitan Museum of Art in New York. He was still working on his Homages to the Square at the time of his death in New Haven, Connecticut in 1976.

1.1 Alber's *Interaction of Color*

Albers' passion for color prompted his decision to launch what was possibly the first color course based exclusively on direct observation of color's behavior. His color course, which he launched at Black Mountain College reached its fullest development at Yale University, where the publication of Albers's landmark *Interaction of Color*, crowned thirty years of effort. His book, first published in 1963, is a record of his "*experimental way of studying and teaching color*".⁴

According to Nicholas Fox Weber, in the last edition Foreword of *Interaction of Color*, '*For over forty years, it has been a best-selling book, demonstrably altering lives of its readers over the world.*'⁵ Later he writes that the book expands the way that colors are used and perceived in art, architecture, textiles, interior design and graphic media.

The book caught attention in the art and education scene because it does not follow an

3 Frederick Horowitz, *Josef Albers : to open eyes : the Bauhaus, Black Mountain College, and Yale*, pp. 73.

4 Josef Albers, *Interaction of Color*, Yale University Press, London, 2006, pp.1.

5 Josef Albers, *Interaction of Color*, Foreword.

academic conception of theory and practice. It places the practice before theory to lead the reader to realize from a visual realization the interaction between colors, the interdependence of color with form and placement, the importance of quantity and qualities of color and its pronouncement.

When it was initially published, *Interaction of Color* was the subject of controversy, as everything Albers did. Among many critics, Alan Lee wrote in *Leonardo magazine* in 1981,

*'However, the part of his account of color that I believe to be most in need of revision is the central part: the fundamental claim that one is always being deceived in the perception of color. ...His concepts on color might be characterized as a pathology of color perception, and, viewed in this way, it seems an unfortunate base upon which to try to build artistic practice.'*⁶

But in general, Albers work was highly praised. Howard Sayre wrote an review that appeared in the following publication of the first edition, *Interaction of Color* was 'a grand passport to perception... essentially a process: a unique means of learning and teaching and experiencing'.⁷

1.2 Influences of Environment in Color Perception

Our everyday experiences of color are tenuous and imprecise. In visual perception a color is almost never seen as it really is - as it physically is. Our perception results from influences of light, distance, volume, movement and interaction with the environment. In the light of Josef Albers's book *Interaction of Colors*, I intend to investigate how the environment can influence our perception of colors.

By environment I mean external conditions or surroundings, such as natural or physical environment (landscape and nature) and social environment (culture and traditions). Although Josef Albers never mentioned this subject directly in his book, the answer to our research questions can be found in many chapters of his work, underlying his ideas of color as the most relative medium of art that continually deceive us. "*Colors influence and change each other forth and back. They continuously interact - in our perception.*"⁸

To better organize this investigation, the subject will be divided in two parts: the physical environment influences and the social environment influences in color perception.

1.2.1 Natural and Physical Environment Influences

The natural and physical environment can influence the way we perceive color for the simple

6 Allan Lee, 'A Critical Account of Some of Josef Albers 'Concepts of Color'', *Leonardo*, Vol.14/1970, pp. 99-105.

7 Josef Albers, *Interaction of Color*, Foreword.

8 Josef Albers, *Interaction of Color*, pp.72.

reason that color is susceptible to change based on the influence of its neighbor. This susceptibility can result from the value of color, physical changes in the environment or conditions, changes of adjacent colors and interaction between neighboring colors. '*Colors present themselves in continuous flux, constantly related to changing neighbors and changing conditions.*'⁹

According to Frederick Horowitz, author of *Josef Albers: To Open Eyes*, the central theme of Albers color courses was the fact that there is no positive and absolute color. Each color changes, that is, appears changed to our eye as a result of its surroundings. Each color establishes a lively and reciprocal relationship with its surroundings. It is continuous dynamic.¹⁰

Horowitz also claims that in addition to many lessons in color interaction, Albers book projected a sense of color's endless possibilities. It demonstrated that color could be more than an adjunct to form and shape. That colors are not absolute, that they change in varying circumstances; that they can be made to appear lighter, darker or transparent; that they can appear to advance or to recede relative to other colors.¹¹

In our daily experiences, colors are always deceiving us through their quantity, quality, pronouncement (by separating or connecting boundaries), interdependence and interaction. To illustrate these continuous changes, Albers mentions the Impressionists works in which they never presented, for example, a green by itself. Instead of using green paint mixed mechanically from yellow and blue, they applied yellow and blue dots unmixed in small dots, so they became mixed only in our perception - as an impression. That the dots mentioned were small indicates that this effect depends on size and on distance.¹² A similar effect takes place in many of our daily experiences, for example when we view objects from a distance the colors as a whole appear different from the individual colors of the objects and mixed elements of nature, such as the colors of mountain and sea as whole.

It is understood that different basic conditions of media such as light, size, distance, volume and movement, result in different behavior of color, therefore, different color perception. Albers goes even further making analogy to constellations: '*Color appear connected predominantly in space. Therefore, as constellations they can be seen in any direction and at any speed. And, as they remain, we can return to them repeatedly and in many ways.*'¹³

In order to experiment how the physical changes in the environment can influence our color perception in a short period of time, Albers proposed to observe the reactions of color perception

9 Josef Albers, *Interaction of Color*, pp.5.

10 Frederick Horowitz, *Josef Albers : to open eyes : the Bauhaus, Black Mountain College, and Yale*, pp. 196.

11 Frederick Horowitz, *Josef Albers : to open eyes : the Bauhaus, Black Mountain College, and Yale*, pp.200.

12 Josef Albers, *Interaction of Color*, pp.33.

13 Josef Albers, *Interaction of Color*, pp.39.

to changes of quantity, form and recurrence of a color. Further changes can derive from reflection of light and of colors; changed and changing light (even worse); several simultaneous lights; direction and sequence of reading; presentation in varying materials; constant or altering juxtaposition of related and unrelated objects.¹⁴ The conditions mentioned in Albers work, if permanent or for longer period of time, could affect not only our color perception, but the way we express or use colors.

The light - value of a color - how light or dark the color is - is also affected by its surrounding. A color of medium value will look darker on a light color and lighter on a dark color. A color's intensity is also affected by its neighbor. A bright color placed on a dull color will look brighter. Placed on a brighter color, it will appear dull.

Therefore, it is understood that in searching for new color design we have come to think about the influences of the natural environment. The quantity, value, intensity, or weight, as principles of study, can lead similarly to illusions, to new relationships, to different measurements of color and perceptions.

1.2.2 Social Environment Influences

We live in a world of colors and no one reads colors the same way. Color deceives continually and one and the same color evokes innumerable readings, depending on our surroundings and personal experiences. These personal experiences are related to the cultural and traditional influences, that is the influences of the social environment.

Albers mention the importance of study the Masters works, because it provides to the student an opportunity to learn about tradition, cultural heritage and society. It opens the possibility of developing a sensitive and critical eye for color relatedness, that certainly will influence the way we use and perceive colors.

In his color courses, Albers often began by discussing the elusive nature of color telling his students: *"We constantly see color in relation to color... Seeing is not only a visual affair, it is a psychological affair... It is impossible to remember a color precisely... Color is a psychic effect."*¹⁵ As a psychological effect the deep influences of culture in color perception can not be ignored.

In addition to the psychological relation of color seeing, Albers also demonstrated in his classes that the phenomenon of color change is also physiological, it happens in our brain, and, therefore, automatically. Horowitz describes this experiment in his book:

14 Josef Albers, *Interaction of Color*, pp.42.

15 Frederick Horowitz, *Josef Albers : to open eyes : the Bauhaus, Black Mountain College, and Yale*, pp.201.

'Albers asked the students to stare fixedly at a red circle, then look a nearby white circle of the same size. Inevitably, predictably, and to a general delight, the white circle appeared to be filled with luminous pool of green- the after image of red.

Content to have shown that color existed in the eye, not on the paper, Albers didn't explain the physiological causes of this demonstration.

Those curious enough to investigate this phenomenon learned that afterimages appear because the photoreceptors in the eye- the cones- having become fatigued by predominant color, manufacture its complement as reaction. The small patch of color changes appearance because the large surrounding color, having saturated the eye, causes its complement to mix the color of the patch.¹⁶

Whether psychological or physical, Albers's color studies focused on experiencing colors and from these experiences, he claims that the perceptual results are what count after all, *'A sensitive eye for color became our first concern.¹⁷*

16 Frederick Horowitz, *Josef Albers : to open eyes : the Bauhaus, Black Mountain College, and Yale*, pp.203.

17 Josef Albers, *Interaction of Color*, pp.65.

2. Birgir Andr sson and 'Icelandic Colors'

In order to observe the influence of environment on color use and perception, I intend to examine the concepts of 'Icelandic Colors' in the work of the Icelandic artist Birgir Andr sson, from the perspective of Josef Albers theory.

Birgir Andr sson (1955-2007) is considered to be among the most productive Icelandic artist of his time. Although he died young, he had a retrospective exhibition at the National Gallery in Iceland the year before his death and also represented Iceland in Venice Biennale in 1995.

Born in Westman Islands in 1955, Birgir left the small island in south of Iceland to live on the main island, at age of three after his father got blind from accidentally drinking toxic alcohol. He was brought up by his father and his stepmother who was also blind. These unusual circumstances definitely influenced his approach to art and his ways of seeing. Andr sson studied at the Icelandic College of Arts in 1973-1977 and subsequently at the Jan van Eyck Academy in Maastrich 1978-79.

The most common themes in Andr sson's works are Iceland, the Icelandic cultural condition and national identity- deconstructed in form and structure. In his works, it is noticeable that the 'Icelandic Colors' concepts appear repeatedly and in different contexts

In his book *Nearness: Colors*, Andr sson briefly explains the 'Icelandic Colors': '*In this book you find twelve samples of the colors of Icelandic culture. They are not prepared of natural material such as herbs or minerals. They are, however, derived from the color spectrum that seems to me the most striking in the creation of this nation through the ages.*'¹⁸

According to the curator Eva Heisler, Andr sson's method in *Nearness: Colors* was an innocent attempt to recreate the 'past' mechanically and it evolves into a critical process which undermines the idea of national identity.¹⁹

The attempt of Birgir Andr sson to collect the predominant colors of Icelandic cultural heritage leads directly to the subject of our study and to some aspects of Albers' theories on color interaction. The colors observed in the Icelandic culture are results from the perception of the Icelandic artists and craftsmen. Their perceptions certainly were deeply influenced by their natural and cultural environment. In his book, Albers also emphasizes the importance of studying

18 Birgir Andr sson, *Nearness: Colors*, Birgir Andr sson, Reykjavik, 1990.

19 Pr stur Helgason, *Birgir Andr sson:   Islenskum Litum*, Crymogea, Reykjavik, 2010, pp.40.

the Masters and our cultural heritage in order to observe the influence of cultural environment in our color perception:

'As we begin principally with the material, color itself, and its action and interaction as registered in our minds, we practice first and mainly a study of ourselves.

Thus, we replace looking backward by looking first at ourselves and our surroundings, and replace retrospection with introspection.

Though our own development and our own work are closest to us, we see and appreciate encouragement from achievements of the past, and gratefully pay practical respect to their originators, as often as the opportunity arises.

To honor the masters creatively is to compete with their attitude rather than with their results, to follow an artistic understanding of tradition- that is, to create, not to revive.²⁰

On the subject, the philosopher and art critic Jón Proppé wrote that *'The 'Icelandic Colors' are one of the strangest and most contradictory subjects in Birgir's art and, like so many of his themes, turn up again and again in different contexts.'*²¹ The appearance and development of Andrésón's concepts of *Icelandic Colors* can be found throughout his art, such as in his text works or character-descriptions of the archetypical Icelander. His descriptions were made up out of the old Icelandic parliament publications, where they occasionally had wanted notices. In these notices, the character descriptions of people who had law problems were often hearty, in concise language that reminds character descriptions in the Sagas. Each description made by Andrésón is a composite of many notices and the results is the "typical Icelander". In this series of work, the text and the background are in solid colors identified in color code at the bottom of each picture (example: Colors: Icelandic Pantone 173, Icelandic Pantone 533). *'But these are numbers, not original, natural Icelandic colors. Icelandic colors do not exist, anymore than the typical Icelander. At least not any more.'*²², mentioned Þröstur Helgason, author of the book *Birgir Andrésón: Í íslenskum litum* in the notes for a lecture on Jean Baudrillard's theory of disappearance.

On Birgir Andrésón's use of the *Icelandic Colors*, Proppé also wrote:

'To begin with, this was perhaps just characteristic irony, making fun of pseudo-national trends in interior decoration. Later, however, these colors became a sort of signature that Birgir could

20 Josef Albers, *Interaction of Color*, pp.52

21 Jón Proppé, 'Listamaður í íslenskum litum:eftirmæli: Birgir Andrésón', *Herðubreið*, Nýtt land, Reykjavík 2007, pp. 71-74. Art News http://www.artnews.is/issue016/016_birgir.htm Last entry 23. January 2011.

22 Þröstur Helgason, Lecture held in The University of Swansea at a conference on Jean Baudrillard, September 2006.

*use to put his mark on almost any subject he chose. They came to function much like the pre-made stamps the Fluxus artists created and used to connect their eclectic assemblages and notes.' But Birgir's Icelandic Colors also reflected his genuine interest and thorough research into colors and their significance in every context.*²³

Andr sson's genuine interest in colors resulted in a color study compiled in his book *Gr nt = Green*, published in 1993. Although he did not write any text about his studies nor his concerns on colors, Andr sson added to his publication a text by Gunnar J.  rnason, art critic and philosopher, called *Light- Matter-Eye-Mind*.  rnason's ideas on color meet Albers theory on the aspect that *'the part played by the mind in the perception of color can not be overlooked'*²⁴

 rnason's ideas on color perception stand on the search for the balance between physical world and the mental, focusing on processing of signals received from the eye. *'The question arises whether the indeterminacy of our understanding of color could be resolved by a rigorous science of color. Optics and physiology are established scientific disciplines, but the study of light and the eye do not give a comprehensive account of color. The possibility of a color science depends on a philosophical theory of mind.'*²⁵ Although  rnason's ideas meet Josef Albers's theory, Albers states that the way we use and perceive colors also depends on our relationship to colors and past experiences. These experiences are kept in our mind and reflected in our use of colors. The fact that Andr sson had blind parents and was raised in an institute for the blind, makes his relationship with vision and color unique and original, as an artist. It can be understood that, for Andr sson, color is not only what we see, it also reflects the past, nature, tradition and national identity. So, when Andr sson talks about colors, he is talking about colors in your mind.²⁶

The nature and its color observation is also a common theme in Andr sson's works and Albers theory. As Albers claims:

'Though sometimes it may appear hopeless to find equal light intensities in paint and painting, in color paper, or in our surroundings, we have found that nature occasionally provides an opportunity to see them on cumulus clouds against blue sky.

When these clouds, often lined up in horizontal groups, appear gleaming white in their upper part in full sunlight, separated from and rising against a distant deep blue, then underneath they show grey tones as shaded white. These shades merge, or even hinge, with the same but

23 J n Propp , 'Listama ur    slenskum litum:eftirm li: Birgir Andr sson', pp. 71-74.

24 Gunnar J.  rnason, 'Light-Matter-Eye-Mind', *Green*, Birgir Andr sson, Reykjavik, 1993.

25 Gunnar J.  rnason, 'Light-Matter-Eye-Mind', *Green*.

26 Pr stur Helgason, *Birgir Andr sson:    slenskum Litum*, pp.48.

*here very close blue. Why very close? This grey is of the same light intensity as the neighboring blue bellow. Thus the boundaries between grey and blue vanish, and we do not see where the clouds end and where the sky begins. With such clouds, this is best observed with the sun in our back.*²⁷

Instead of observing the nature in order to look for color changes, Andrésón's observation of colors leads to a different path. He was inspired by colors of nature, specially sheep's colors, to knit the National flags of the United States of America, Britain and Iceland. This work was first exhibited in Venice Biennale in 1995, in which he knitted those flags in the most common colors of the Icelandic sheep to criticize the adoption of foreign culture. When Andrésón presented the Icelandic flag with sheep colors he was defending, in my opinion, that these colors should be considered the true *Icelandic colors*, because Icelandic people have lived for centuries relying on sheep farming to keep themselves warm and fed. The sheep colors represent the tradition, the culture and the relationship between the Icelandic people and nature - a relationship that has been changing throughout the years.

It is also noticeable that these works also open a political dialogue on Icelandic foreign policy. When Andrésón knitted the American flag in Icelandic sheep color, he opened the interpretation of his works to some radical ideas on the Icelandic foreign policy, that has from the very beginning of Independence been in line with the American one (for example, the support of Iceland to the North Atlantic Treat Organization- NATO, American Army Base in Keflavik, support of the Invasion into Iraq and other policies).

For many years, Andrésón worked on the idea of Icelandic translations of foreign models, such as a series of pictures he calls *Black and White Classics in Icelandic colors*. These works compiled the title of novels and film classics, all in his *Icelandic colors* on a solid background. About these works, Helgason wrote: *'Like the character descriptions – but in a certain sense unlike the knitted flags – this Icelandic make is not genuine, not original; the classics are off the mark in its reference to the fabricated Icelandic colours; the pictures are not a part of Icelandic culture, they are imported, they are “immigrants”.*²⁸ According to Helgason, Andrésón's colors are fictional results, fabricated by the artist.

Another aspect of Birgir Andrésón's ideas on *Icelandic Colors* is the artificial creation of color systems. Helgason mentions in his book that Ólafur Gíslason, art critic, wrote an article correlating Birgir Andrésón's ideas of color to the ideas of the Austrian philosopher Ludwig

27 Josef Albers, *Interaction of Color*, pp.63

28 Þróstur Helgason, Lecture held in The University of Swansea at a conference on Jean Baudrillard, September 2006.

Wittgenstein. The Austrian argued that people do not sense color with their eyes, they create them. The concepts used to describe colors (purple, blue...) have in other words nothing to do with the vision, but belong to a certain organizational system, which society, culture and nation create together. Wittgenstein called this system Mathematics of Colors. When children learn to use the concepts of this system, they are being introduced to a social custom which you could call a language game. The children learn the four primary colors and that black and white are not one of them. These are rules says Wittgenstein that have been created to adapt language to visual perception. These are made up rules, just like the traffic rules, but not a natural phenomenon.²⁹

This is the system Josef Albers tried to avoid in his courses pointing out to students and readers that colors constantly interact with each other and with the environment and these interactions influence our perception. But when Andr sson recreated this system in his artistic works repeatedly using code numbers in his colors descriptions over, he gives the audience a chance to reflect on the cultural influence on people's idea of colors, such as imposed rules on color names and codes.

Andr sson's works on *Icelandic colors* results from his search for the national colors. In his search, Andr sson actually went to the National Museum to select and collect them. But do the results of his works reflect the national colors or does it reflect Andr sson's ideas of the national colors?

Concerning Andr sson's attempt to find the national colors, there is a passage in Albers's book in which he makes an analogy between color and music to support his argument that a person can not see and isolate a color. For Albers, color and hues are defined, as are tones in music, by wave and length. Albers points out that we are able to hear a single tone in music, but almost never (that is, without special devices) see a single color unconnected and unrelated to other colors and its surroundings.³⁰ He also states that a person '*who claims to see colors independent of their illusionary changes fools only himself, and no one else*'.³¹ According to Albers, the color registered in our mind is a result of our perception.³² So Andr sson's attempts to isolate and catalogue the *Icelandic colors* throughout his works demonstrate that these colors are the results of ideas registered in his mind about the national colors, which are fictional.

Despite the fact that the *Icelandic colors* do not exist, Andr sson's concept of *Icelandic color* exists. They represent the values, tradition, cultural heritage, nature, people, literature and society, that are under rapid changes, disappearing or about to. With his works he attempts to

29 Pr stur Helgason, *Birgir Andr sson:    slenskum Litum*, pp.46.

30 Josef Albers, *Interaction of Color*, pp.34.

31 Josef Albers, *Interaction of Color*, pp.22.

32 Josef Albers, *Interaction of Color*, pp.72.

document the changes in society and make the audience aware of the disappearance of many aspects of Icelandic culture.

The elements behind Andr sson's concept are the same that Albers states as sources of influences on color perception: the nature, cultural heritage and society. Andr sson's concept brings to colors a power to generate a reflection on rapid changes and on the disappearing of our ideas on being Icelandic. Therefore, Andr sson's works on *Icelandic Colors* are all about color awareness and its meaning, as well as the central idea of Albers's theory: *'In an age in which increased human sensibility has become such an obvious need in all areas of human involvement, color sensitivity and awareness can constitute a major weapon against forces of insensitivity and brutalization'*³³

Although Albers and Andr sson had different approaches to colors, they both shared a passion and respect for its importance in art and in life. While Josef Albers systematically developed his studies and theories on color interaction with a great respect for the discipline and the mechanics of arts, Birgir Andr sson's approach is more reflexive on the national identity, relating to Baudrillard's idea that behind every image something has disappeared..³⁴

³³ Josef Albers, *Interaction of Color*, Foreword. According to Nicholas Fox Weber this is the main point of the *Interaction of Color*.

³⁴ Jean Baudrillard, *'On Disappearance.'* *Fatal theories*, Edited by David B. Clarke, Marcus A. Doel, William Merrin and Richard G. Smith, Routledge, New York, 2009, pp. 29.

Conclusion

We live surrounded by colors, that constantly change according to the physical changes in the environment, such as light, movement, distance and size. These changes affects our perception of colors. Another aspect that also interferes in our perception is the constant interaction between colors and the surroundings. It is difficult to prove how the environment influences our color perception. According to my study and experience, it is a fact that the surroundings and past experience influence the way we use and perceive color. But many factors are involved in the way we read and use colors, such as physical and psychological aspects. According to my observation, perception belongs to the psychology of our minds, as Albers and Andrésson proved by theory and practice. Albers was very interested in the idea of how one educates and he was always encouraging people to experiment with colors to develop their sense for them. In this way, I feel that Andrésson did it successfully, bringing to colors a meaning and awareness of changes in the Icelandic culture.

Colors are always deceiving us. Colors are relative and our perception subjective. Each interpretation of colors is unique, different from anyone else. The colors we see and perceive are not the same as others do. It might be similar, but not the same. Each person reads colors differently. So the color translation of traditional art works in Andrésson's *Icelandic Colors* are results of many relative interactions: color interactions in his original sources of inspiration, influences of natural and social environment on the originals and the perception of Andrésson in assimilating these colors and translating them to his catalogue of *Icelandic Colors*. These are all mind actions - subjective and relative, therefore difficult to prove.

It is also a fact that a color cannot be isolated, it always interacts and changes according to its surroundings. '*Life happens with couples.*'³⁵, Albers told one class, reiterating his theme that all things are in a state of perpetual interaction.

According to Albers there is no positive and absolute color. Each color continuously changes, that is, appears changed to our eye as a result of its surroundings. Therefore, Andrésson's attempts to isolate and catalogue the *Icelandic Colors* reflects just his perceptions and ideas on the subject. I understand that Andrésson was not too worried about being scientific or precise on his use of colors. In his works, he played with national signs and political affairs, such as when he knitted the Icelandic, British and American flags in Icelandic sheep colors. He also painted Black and White Classics film titles and the descriptions of the Icelandic archetypical, horses, birds and bird noises, all in his fictional *Icelandic Colors* to raise an awareness on the

35 Frederick Horowitz, *Josef Albers : to open eyes : the Bauhaus, Black Mountain College, and Yale*, pp. 200.

disappearance of national identity elements.

Once I read in an Icelandic magazine a passage in which the owner of a photography store said that Icelandic people go to his shop looking for black and white landscape pictures, while tourists look for colored images of Icelandic landscape. Although I do not agree with national stereotypes, this made me think if there is a connection between nationality and the way people senses the color of natural environment. After this study, I understand that one of the possible reasons for these different choices results from the cultural environment influence on color perception.

In my experience, the natural and cultural environment influences, directly and/or indirectly, my use and perception of colors in a positive and also in a negative way. Positively, when new combinations are found and colors that I used to avoid take part in my design by influences of culture and environment. Negatively, when the natural environment (especially weather and winter landscape) influences my perception so that my use of color does not satisfy me. It is a constant and continuous process that starts outside, goes through our minds and in the end influences the way we sense and use colors. The mind has the most essential role in the perception and it is up to us to decide in which direction we want to go. These daily challenges of color perception are well described by Horowitz: *'To look out the window or scan a room was to experience an on going drama of color interaction, perhaps the more marvelous for its being staged in the theater of everyday life.'*³⁶

If there are ways to avoid the influences of the environment in our color perception, I did not succeed in finding them. The use of colors in my design work will remain a challenge, but certainly the way I face these challenges has changed. After all, in color use, what matters to me is remembering my past experiences, feeling the colors and being aware that they are all in my mind. According to Árnason, *'What makes the color enigma fascinating is that it touches on and overlaps such divergent fields as science, philosophy and art.'*³⁷ With Albers and Andrésón I came closer to the magic of colors, its very soul.

36 Frederick Horowitz, *Josef Albers : to open eyes : the Bauhaus, Black Mountain College, and Yale*, pp.234.

37 Gunnar J. Árnason. 'Light-Matter-Eye-Mind', *Green*.

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