

YAŞAR UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
ART AND DESIGN PROGRAMME

MASTER THESIS

**A RESEARCH AND APPLICATION STUDY: THE
USE OF HUMAN BODY AS A SUBJECT IN
DIFFERENT FIELDS OF ART**

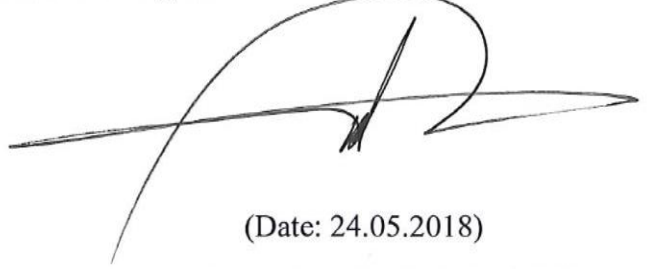
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2018 İZMİR.

MASTER THESIS JURY APPROVAL FORM

I certify that I have read this thesis and that in my opinion it is fully adequate, in scope and in quality, as a thesis for the Master degree.



(Date: 24.05.2018)

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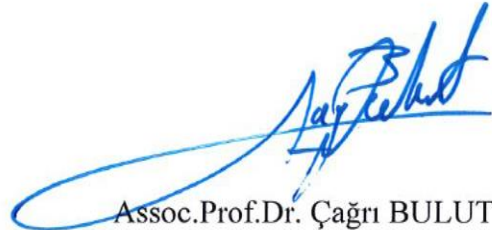
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ABSTRACT

A RESEARCH AND APPLICATION STUDY: THE USE OF HUMAN BODY AS A SUBJECT IN DIFFERENT FIELDS OF ART

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MSC, ART AND DESIGN PROGRAMME

Supervisor:rof. Dr. Lale Dilbaş

2018

This thesis focuses on the different representation of the body throughout history, from prehistory to the present time. It analyses the existential and divine theories given by the great Greek mathematicians; it also examines and compares the diverse canons of proportions that has been created by artists, physicist, and scientists to depict the body as perfect as possible.

In a chronological order of events, the study investigates how the canons and depictions of the human figure have been adapted in different cultures, evolved through time, and how they have been assimilated by people. In other words, how the body has been treated and perceived, not just by artists and scholars, but also by the societies in general.

Keywords: Representations of the human body, human figure, canon of proportions, aesthetic, golden ratio, symmetry, fine art.

ÖZ

ARAŞTIRMA VE UYGULAMA ÇALIŞMASI: İNSAN BEDENİNİN ÖZNE OLARAK FARKLI SANAT DALLARINDA KULLANIMI

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2018

Bu tez, insan bedeninin tarih öncesi devirden günümüze kadar farklı şekillerde nasıl betimlendiğini incelemeyi amaçlamaktadır. Bu incelemede ünlü Yunan matematikçilerin varoluşsal ve ilahi kuramlarının analizine yer verilmiştir. Aynı zamanda, sanatçılar, fizikçiler ve bilim insanlarının insan bedenini olabildiğince mükemmel bir biçimde tasvir etmek için oluşturdukları vücut orantı kanonları incelenmiş ve karşılaştırılmıştır.

Yapılan çalışma, kanonların ve insan figürü tasvirlerinin zaman içinde nasıl geliştiğini ve insanlar tarafından nasıl benimsendiğini; başka bir deyişle sadece sanatçıların ve akademisyenlerin değil, genel olarak toplumlar tarafından ne şekilde ele alındığını ve algılandığını incelemiştir.

ANAHTAR KELİMELEER: İnsan bedeni betimlemeleri, insan figürü, vücut orantı kanonları, estetik, altın oran, simetri, güzel sanatlar.

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And last but never least, to my supervisor, Dr. Prof Lale Dilbaş, for pushing me to be better, for guiding me, and for all the times she extended her helping hand; as my mother would say, for being an angel on my shoulder.

I will be forever grateful to all of you.

María José Cabezas Correa

TEXT OF OATH

I declare and honestly confirm that my study, titled “A RESEARCH AND APPLICATION STUDY: THE USE OF HUMAN BODY AS A SUBJECT IN DIFFERENT FIELDS OF ART” and presented as a Master’s Thesis, has been written without applying to any assistance inconsistent with scientific ethics and traditions. I declare, to the best of my knowledge and belief, that all content and ideas drawn directly or indirectly from external sources are indicated in the text and listed in the list of references.

María José Cabezas Correa

Signature

.....

May 24, 2018

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LIST OF ABBREVIATIONS

AN	: Anorexia Nervosa
BCE	: Before Common Era
BDD	: Body dysmorphic disorder
BN	: Bulimia Nervosa
CE	: Common Era
ED	: Eating disorder
MOI	: Ministry of Information
OWI	: Office of War Information
VD	: Venereal Diseases
WMC	: War Manpower Commission
WW2	: World War 2

INTRODUCTION

The history of the use of the human body in the fine arts is as ancient as the history of humankind itself, where the body is and has always been an object of artistic representation of itself. It is due to its symmetry, aesthetic, and beauty that many scholars from every epoch and culture have studied with a passion/obsession. This fascination has led artists, physicists, writers, philosophers, and scientists to create strict canon of proportions that allowed them to depict the body as perfect and as beautiful as possible. These systems, and consequently the body's representations have evolved repetitively throughout history. Greek sculptor Lysippus, the Italian artist and inventor Leonardo da Vinci, and the German Albrecht Dürer are just a few of the experts who have contributed with priceless information regarding the matter of proportion systems for the representations of the body.

The canons were created as a guide for artists, yet at some point in history they overstepped the limits of artistic conceptualization and became social references that defined the beauty of the human body. However, it is the opinion of some experts, among them Italian art critic Gian Pietro Bellori, that such perfection and beauty is impossible in a real body. Bellori asserts that every earthly body has defects and censures. Therefore, the ideal beauty can only be found in works of art (La Nación, 2017). Yet, that did not stop the new generations artists, designers, performers, filmmakers, and the like, especially from the late twentieth century and twenty-first century from embracing the measurements of famous representations of history and using them as standards to model the body and to redefine the concept of beauty.

It is for all these reasons that it is imperative to study not only the canons, the artists who created them, or in which year they were created, but also to know how these systems have been assimilated, how the body itself has been treated by artists and scholars, and how the societies have reacted to these representations.

THESIS OUTLINE

The thesis is divided into three chapters, the first two chapters follow a chronological order, while the last section third chapter describes the practical project that is the result of the analysis of the two previous chapters and the first section of the third chapter.

In the first chapter the study's focus is the creation and development of the canons of proportions throughout art history. Starting with the first representations from prehistory, the research goes through the Egyptian canons, Hindu canons, Greeks and Roman canons, and the renaissance until the twentieth century.

Chapter two has a socio-cultural approach, it deals with the usage of the body in the fields of photography, cinema, graphic advertisement, and performance arts in the twentieth and twenty-first centuries, and how these representations have shaped people's perspective of the human body

The third chapter is divided in two parts. The first part analyzes projects with new approaches to the human body. The second part is the conceptualization and creation of the practical project, which is the result of the study and analysis of the first two chapters and the first section of the third chapter. The project consists of photographs that recreate the most famous canons by using simple objects of daily life.

RESEARCH APPROACH

By means of the study of relevant books, texts and manuscripts an analysis of different theories (philosophical, mathematical, artistic) created to represent the body, concepts of beauty, canons of proportions, and modern tendencies for the human figure's depictions will be performed. Similarly, the use visual material such as photos and graphics of some of the most transcendental artworks in history will be very important for the analysis of the practical application of these theories and concepts.

OBJECTIVES

The objective of the research is to study and analyze the representations of the human body in the fine arts. To learn and compare the different canons of proportions throughout history, and to examine the repercussions that the application of these canons in the representations of the human figure have had in the society in general.

The objective of the practical is the conceptualization and creation of a set photos in which, by using everyday objects it is intended to recreate some of the most important canons of proportions in the history of art. The goal is to demonstrate that canons are relative, each body has its own canon of proportions that is individual and

not standardized, nor perfect, this project will revalue the natural beauty of the body and give recognition to its perfect imperfection.

METHODOLOGY

To perform the study of the usage of the body in the fine arts, specialized literature on the history of the body in art and in the creation of canons of proportions of the human body will be consulted. Moreover, photographic examples of sculptures, paintings, advertising campaigns, films that are considered relevant for the study, and different diagrams that show the application and construction of the canons will be analyzed.

For a better understanding of the systems of proportions, comparative tables that analyze the differences between the methods, and measures of the most important canons that have inspired the creation of new ones will be used. Finally, mathematical formulas and geometry in which the artists based their theories for the creation of the canons will be studied.

SIGNIFICANCE

By comparing the theories, canons of proportions, and representations, this study will contribute to the field of fine arts with new ideas, new perspectives, about the human body, its real beauty, and its proportions and representations, in order to create new ways of depicting it and perceive it.

LITERATURE REVIEW

The selection of literature started with three books that contain important information about the representations and proportions of the human body, these books were references for the develop of the entire research.

For the first chapter, the book "A Manual of Ancient Sculpture" by George Redford, written in 1886, was of great relevance for the study. It has been catalogued by scholars as one of the most important works of literature in the topic of proportions and representations of the body in ancient cultures. The book contains extensive

information about Egyptian, Assyrian, Greek, and Roman canons of proportions.

The second book is “*Varia Commensuracion para escultura y arquitectura*”, written in 1585 by the Spanish Goldsmith Juan de Arfe Villafañe. This is the artist’s the most important book, and Spain’s most consulted and reedited treatise from the nineteenth century. It consists of four books that deal with subjects like geometry, the study of human anatomy and its measurements, representation of animals, sun clocks, and the church’s cult pieces. The author contributes with new perspectives and opinions and theories about the human body.

The research for Chapter two, started with the book “The Body and the Lens Photography 1839 to the present” written in 1995 by John Pultz. The book covers a wide range of materials from the beginnings of photography to its current forms of depictions. The author analyses the tight relationship between the body and photography, he describes how the perception that people have over the human figure has been shaped and somehow manipulated by the lenses of the camera.

1. CHAPTER: DEPICTIONS OF THE HUMAN BODY THROUGHOUT HISTORY

There isn't a more mysterious topic for a person than the beauty and the perfection of his own body; it is due to its symmetry, aesthetic, and beauty, that it has captivated the interest of many scholars all around the world. The fascination for the construction of the human figure is a concern that has been present since ancient times, and it has been cause of study for artists, anatomists, philosophers, physicians, mathematicians, and physicists, who throughout history have aspired to decipher all its secrets.

An important book for the study of the human body is "*De Varia Commensuracion*", by the Spanish author Juan de Arfe y Villafañe¹, who exalts the virtue of the body, not only for its proportions, but also for its spiritual value:

"It is a well-known fact, that the structure and the composition of the body of the man, is where the nature took more care, and showed more artifice, than in other corruptible works of his, because it had to be vessel and instrument of such an excellent entity, as the rational soul is; and so it gave it such proportions, that there is not part in the body that doesn't correspond to its whole..." (Villafañe, 1795: 93).

According to Villafañe, the human body is beautiful not only because of the figure it exhibits, but for the precious gift (the soul) it cradles. However, the meaning of beauty changes constantly, the idea itself evolves along with the time, parallel with

¹ Born in León in 1535, he belonged to the most important family of silversmiths in Spain in the 16th century. Arfe was soon interested in the theoretical foundations of goldsmithing and the proportions and architecture of the human body as canon and "measure of all other things"

In his student years in Salamanca (1555), this marked interest led him to study anatomy, a discipline that would have much influence in his literary works. In addition, he also studied Latin, mathematics, arithmetic, geometry, astrology... and grafidia (drawing), knowledge that along with the architectural orders, he applied in his activities of goldsmith and sculptor in bronze.

Of all the works published by Juan de Arfe, the most important was his *De Varia Commensuracion para la Sculptura y Architectura*, it was, of the old artistic treatises published in Spain, the one that reached greater diffusion and number of editions. Its success in Spain and Latin America was extraordinary, for being at the same time a compendium of different artistic and scientific knowledge, so much so that it is of outstanding form the most reedited Spanish theoretical book until beginnings of century XIX, with eight editions until 1806. Intended for sculptors and silversmiths, it served to all those who wanted to have models and measures, in both, bodies and classic orders (Colegio Oficial de Arquitectos de Madrid (COAM), 2005).

the artistic techniques, societies, fashion, culture and tastes. All these factors have influenced the way the human figure is understood, idealized, and portrayed.

1.1. Canons of Proportions of the Human Body Through History

Throughout history, men have sought to represent the body as beautiful as possible. This interest has led artists of all times and periods to establish certain rules of proportions, known as canons. Tomoko Nakamura (2015: 29) explains that the purpose of these canons is to fix what a symmetrical body is, based on the mathematical concept that harmony of the whole produces ideal beauty. If that is the case, then the construction of the human figure consists on a series of rules in which each part has an exact relation with the other and with the body as a whole. However, this applies only if the body is beautiful.

Although mathematics has been of great importance in the study of human figure, not all the canons are based on mathematical concepts. Accordingly, canons are also based on culture and society.

1.1.1. 28000 BCE.: Prehistoric Times and the Idea of Beauty

The first depictions tend to link the human figure with nature and link idealized corporeal attributes with socialized gender roles. Man is associated, while woman with fertility. Scholar Shawntelle Nesbitt (2001: 53) believes that these prehistorical artworks symbolize women who birth strong progenies; hunters that not only survives but thrive, and provide for their tribe.

It can be said that people from this period of time probably considered that a woman was beautiful when her attributes as female were evident. She should be robust because a malnourish mother meant a short future for her children, broad hips will facilitate the birth of future offspring therefore it was a symbol of fertility, and large breasts that ensure plenty and warm food for the newborn.

All these characteristics can be seeing in the statuettes that archaeologists have discover all over Europe, like the Venus of Willendorf (Figure 1) found in Austria in 1908, dated to circa 28,000-25,000 BCE (Kuiper, 2016), or the Venus of Dolní

Věstonice (Figure 2) dated about 27,000-24,000 BCE., discovered in Moravia, Czech Republic, in 1925 (Králík, et. al., 2002: 107).

Figure 1. Venus of Willendorf



Source: <https://goo.gl/McQ8jJ>, Date Accessed: July 7, 2017

Figure 2. Venus of Dolní Věstonice



Source: Králík, Novotný, & Oliva, 2002: 109.

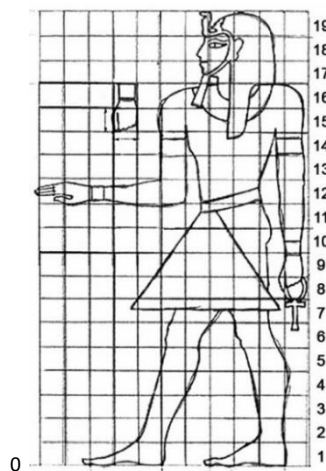
These sculptures demonstrate that the existence of a canon to regulate the construction of the body's depictions was already present in prehistory. Although this system wasn't mathematically accurate but rather a representation that linked the form with its symbolic function.

1.1.2. 2500 BCE. - 525 CE.: Egyptian Canon

The representations from ancient Egypt had nothing to do with survival or fertility, they associated the body and beauty with harmony and perfection, thus the prehistorical concepts of beauty fades away. For the Egyptians, the statue or paint of a person has as much value as any living being because it was much more than just a memory made image (Lissanmar, 2012). Their art was dedicated to the afterlife, consequently it was of great importance to depict the most identifiable features of the person for the gods to recognize him or her in the “great beyond”.

The use of canons was well established in ancient Egypt; they had strict guidelines to represent the human body. There were three basic units of measurement used for the representations that were based on the length of the hands, feet, and arms (Weingarten, 1995: 250). Judith Weingarten explains that this canonical system consisted in a grid. Each square of the grid is equal to one clenched fist (palm) with the thumb; accordingly, this canon dictated that the length of the body was formed by 18 fists, or 18 horizontal lines of the grid (counting from 0), from the base of the foot to the hairline (Figure 3).

Figure 3. First Egyptian Canon of proportions,



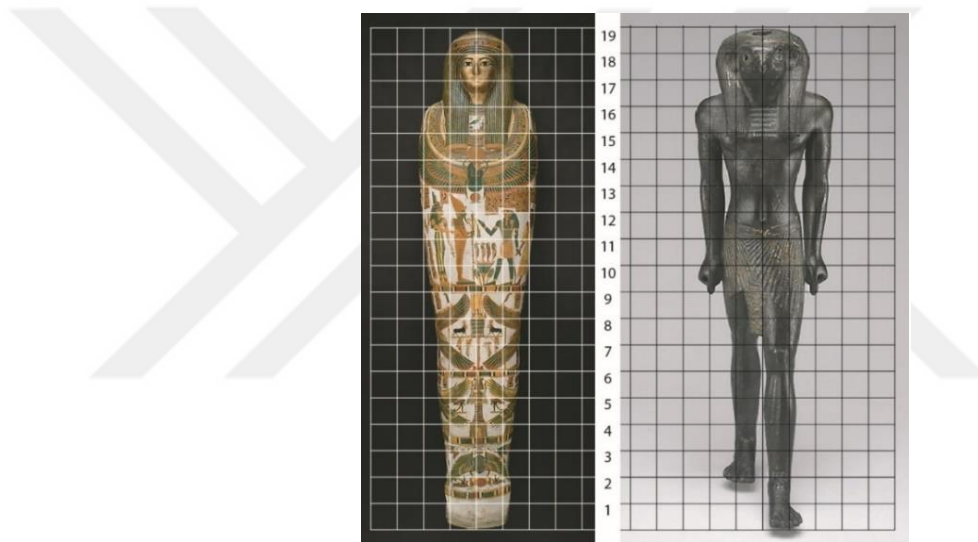
Source: <https://goo.gl/A6XTud>, Date Accessed: July 9, 2017

The reason that the measurement was taken until the hairline and not to the top of the head is because of the crowns and other headdress that pharaohs, queens, and other people usually wear. Such adornments made impossible to know the exact

position of the top of the head, thus, to ensure a correct measurement the hairline was taken as the highest part of the body.

From the 5th to the 26th Dynasty (2500 BCE-525 CE.), this set of proportions were standardize for all the human depictions whether in paint or sculpture. The statuette of Re Horakhty, 21st-26th Dynasty (1069-664 BCE), and the coffin case of Paankhenamun from 22nd Dynasty, about 945-715 BCE (Department of Museum Education the Art Institute of Chicago, 2000:1) (Figure 4), are perfect examples of the usage of the Egyptian canon.

Figure 4. Mummy coffin of Paankhenamun and Statuette of Re Horakhty



Source: <http://www.artic.edu/aic/collections/>, Date Accessed: July 7, 2017.

During the 18th Dynasty (1353-1336 BCE.), known as Amarna Period, the depictions of the human figure changed dramatically by order of the Pharaoh Akhenaten² (Hill, 2014) (Figure 5) whose peculiar appearance has been a case of study among physicians and scholars for years.

² Son of Amenhotep III, he began his reign under the name Amenhotep IV. Nefertiti's husband, and father of both Tutankhamun (by a lesser wife named Lady Kiya) and Tutankhamun's wife Ankhsenamun (by Nefertiti)...He established a new cult dedicated exclusively to the God Aten (the sun's disk) abandoning the traditional polytheism, known as the "Heretic King", in the generations following his death his name is omitted from the Official king lists. (Ancient History Encyclopedia Limited, 2014)

Figure 5. Nefertiti and Akhenaten balustrade relief



Source: <https://goo.gl/1ejrac>, Date Accessed: July 7, 2017.

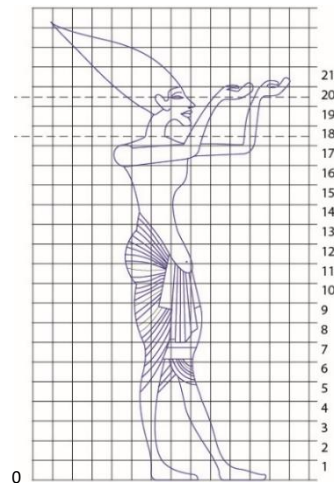
The most popular belief is that the pharaoh suffered from Marfan syndrome³ or maybe Frohlich syndrome⁴. These theories might explain the reason behind the abnormal appearance in the representations (Braverman, et. al., 2009: 557), (Seiler, 2008). For example, the elongated head, long neck, prominent chin and thick lips. Narrow shoulders and hips, female-like breasts, small torso, saggy belly and long limbs without evident muscle mass (Figure 6). For the first time in history, the body is depicted not as ideal but as real. Consequently, the Amarna canon added 2 extra squares to the classic grid creating a new system of 20 vertical squares or 20 horizontal lines from the sole of the feet to the hairline (McArthur, 2011: 15).

“The extra squares were added, one... between the neck and the shoulders extending the neck, and the other in the torso for the saggy stomach” (McArthur, 2011: 15).

³ Heritable condition that affects the connective tissue. The primary purpose of connective tissue is to hold the body together and provide a framework for growth and development. In Marfan syndrome, the connective tissue is defective and does not act as it should... People with the syndrome are typically very tall, slender, and loose-jointed... arms, legs, fingers, and toes may be disproportionately long in relation to the rest of the body. A person with the syndrome often has a long, narrow face, and the roof of the mouth may be arched, causing the teeth to be crowded. Other skeletal problems include a sternum (breastbone) that is either protruding or indented, curvature of the spine (scoliosis), and flat feet (The Marfan Foundation, n.d.).

⁴ Rare childhood metabolic disorder characterized by obesity, growth retardation, and retarded development of the genital organs. It is usually associated with tumours of the hypothalamus, causing increased appetite and depressed secretion of gonadotropin. The syndrome occurs most frequently in boys and, because of the close association between the pituitary and the hypothalamus, may be associated with reduced pituitary function (The Editors of Encyclopædia Britannica, 1998).

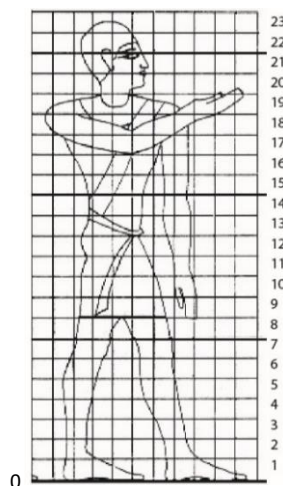
Figure 6. Amarna Canon



Source: <https://goo.gl/1ejrac>, Date Accessed: July 7, 2017.

After the death of Akhenaten in 1336 BCE, the Amarna period is quickly forgotten, and the representations returned to the classical system of 18 squares. However, during about the sixth century BCE, in the second half of the 26th Dynasty, the distribution changed once more, this time to 21 squares from the sole of the foot to the eye (Figure 7).

Figure 7. 26th Dynasty canon



Source: <https://goo.gl/ZhbYoq>, Date Accessed: July 9, 2017.

With these additional squares the proportions became more graceful, and the body more elegant. For a better appreciation of these three canons, it has been thought appropriate the creation of a table in which the proportions could be studied side by side. The difference between the 6th-26th Dynasty's canon, 26th Dynasty's canon, and Amarna Period's canon is as following:

Table 1: Comparison between the Egyptian Canons of body's proportions

Body	6th -26th Dynasty Canon	26th Dynasty Canon	Amarna Period Canon
To the top of the head	19	23	21
To the hairline	18	22 ½	20
To the eye	17½	21	19 ½
To nose	17	20 ½	19
To shoulder	16	19	17½
To chest (armpits)	15	17	16
To navel	11	14	11
The hips	9	11	10
To upper knee	6	7	6

Source: Weingarten, 1995, 250-252.

The Amarna period's proportions shown in the table are the result of the study performed by the author of this study on the Nefertiti and Akhenaten balustrade relief's image (see page 6). The table shows that the last canon doesn't share any similarity of proportions with the other two. All the systems aim to create an ideal body with perfect proportions, but the latter one enlarged the torso to achieve a more stylized appearance.

In addition of these well-structured canonical systems, there were standards of beauty where women had to be thin, have wide hips and small firm breasts; and also rituals that both men and women perform daily to not get old, like the use several creams, essences, and oils.

1.1.3. 1500 BCE. - 450 CE.: Hindu Iconography

One of the oldest systems of proportions comes from an old Sanskrit manuscript called *ŚilpaŚāstra*⁵. It contained a collection of copious treatises of

⁵ *Shilpa* (शिल्प) refers to any art or craft in ancient Indian texts, while *Shastra* means science. Together, *Shilpa Shastra* means the science of art and crafts, it deals with arts and crafts such as forming statues,

architecture, sculpture, etc. Unfortunately, the texts were lost in time and just a few traces of them remain. However, it is suggested that the origin of the manuscript may come from the *Vedic*⁶ texts (Oijevaa, 2007: 4).

An example of how rich the information contained in the *Vedic* texts is, can be seen in the “Hymn 163”⁷ (Book 10) of the *Rigveda*⁸ verses, the most important text of the *Vedas* manuscripts. This hymn reveals how extensive was the information that Hindu priests possessed in anatomy. Knowledge that probably was obtained from dissections and autopsies performed during ritual sacrifices (Entralgo, 2012).

The Hindu canon of proportions is called “Iconography” or “Iconometry” due to the role played by the images (Figure 8) in Indian society and in religion.

Figure 8. Statues of Hindu Gods



Source: <https://www.thoughtco.com/top-hindu-deities-1770309>, Date

Accessed: December 27, 2017.

icons, stone murals, painting, carpentry, pottery, jewellery, dying, textiles and others (Revolvvy.com, n.d.).

⁶ Collection of hymns, liturgical material, and other religious manuscripts composed in India about 1500-1200 BCE. that were considered sacred by the Vedic religion (Doniger, 2017).

⁷ Here is the correspondent hymn: 1. FROM both thy nostrils, from thine eyes, from both thine ears and from thy chin, Forth from thy head and brain and tongue I drive thy malady away. 2 From the neck-tendons and the neck, from the breast-bones and from the spine, From shoulders, upper, lower arms, I drive thy malady away. 3 From viscera and all within, forth from the rectum, from the heart, From kidneys, liver, and from spleen, I drive thy malady away. 4 From thighs, from knee-caps, and from heels, and from the forepart of the feet, From hips from stomach, and from groin I drive thy malady away. 5 From what is voided from within, and from thy hair, and from thy nails, From all thyself from top to toe, I drive thy malady away. 6 From every member, every hair, disease that comes in every joint, From all thyself, from top to toe, I drive thy malady away. ("Book 10, hymn 163," 1896: 500)

⁸ In Sanskrit: “The Knowledge of Verses”, it is the oldest of the sacred books of Hinduism, composed in an ancient form of Sanskrit about 1500 BCE, in what is now the Punjab region of India and Pakistan. It consists of a collection of 1,028 poems grouped into 10 “circles” (mandalas). It is generally agreed that the first and last books were created later than the middle books. This long collection of short hymns is mostly devoted to the praise of the gods (The Editors of Encyclopædia Britannica, 2017).

The iconography was supposed to be any type of body. Consequently, there is a variety of texts containing numerous systems of proportions. (Basu, 2014).

The *Āgamas*⁹ literature is one of these texts, it contained at least 30 different sets of proportions (Rao, 1920: 35). Each set is divided into 3 categories respectively. *Uttama* or the superior, *Madhayama* or the middling, and *Adhama* or the inferior. For example, deities, goddesses, common people, children, dwarfs, or deformed people.

The *Āgamas* “insist on the necessity of making the icon as beautiful as possible” (Ramanuja, 2015: 9). The proportions were based on a system called *Tālāma* which basic unit is the *tala* (1 *tala* = the length from the tip of the middle finger to the wrist knot). Each *tala* is formed by 12 *angulas* (1 *angula* = the width of a finger), (Manimala & Ravi Kumar, 2013: 147), equally distributed.

The following is a list of the proportions given in the *Āgamas* texts:

Table 2. Āgamas iconography

Name of the Measure	Division of the Tala Measure	Total length Angulas	Length of the face	Number of Tala. Approx.
Daśa-tāla	Uttama	124	13 1/2	9
	Madhayama	120	13	9 1/4
	Adhama	116	12 1/2	9 1/3
Nava-tāla	Uttama	112	12	9 1/3
	Madhayama	108	11 5/8	9 1/3
	Adhama	104	11 1/4	9 1/4
Ashta-tāla	Uttama	100	10 3/4	9 1/8
	Madhayama	96	-----	-----
	Adhama	92	-----	-----
Sapta-tāla	Uttama	88	-----	-----
	Madhayama	84	-----	-----
	Adhama	80	-----	-----
Shat- tāla	Uttama	76	8 1/2	9
	Madhayama	72	-----	-----
	Adhama	68	-----	-----
Pañcha- tāla	Uttama	64	-----	-----
	Madhayama	60	-----	-----
	Adhama	56	-----	-----
Chatus-tāla	Uttama	52	7	7 1/2
	Madhayama	48	8	6

⁹ Sanskrit: “tradition” or “received knowledge”, is a post-Vedic scripture conveying ritual knowledge and considered to have been revealed by a personal divinity...The Agamas provide a considerable amount of information on the earliest codes of temple building, image making, and religious procedure (The Editors of Encyclopædia Britannica, 1998).

	Adhama	44	-----	-----
Tritāla- tāla	Uttama	40	-----	-----
	Madhayama	36	-----	-----
	Adhama	32	-----	-----
Dvitāla-tāla	Uttama	28	-----	-----
	Madhayama	24	-----	-----
	Adhama	20	-----	-----
Ekatāla- tāla	Uttama	16	-----	-----
	Madhayama	12	-----	-----
	Adhama	8	-----	-----

Source: T. A. Gopinatha Rao, 1920: 36-37.

The table above shows how each division is four angulas smaller than the one that precedes it. Going from the largest body used for divine beings and deities (124 angulas), to the smallest (8 angulas) used for inferior beings.

In the next table a deeper explanation of the Hindu iconography's proportions is given by taking as reference the *Madhayama* or middling division from the *Daśa-tāla* (Figure 9), *Nava-tāla*, *Ashta-tāla*, and *Sapta-tāla* measurements.

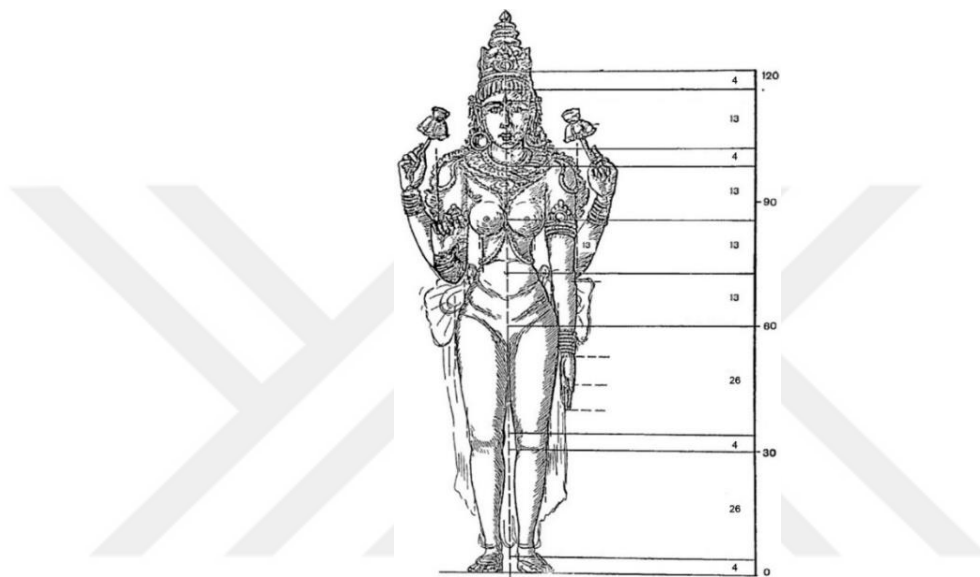
Table 3. Madhayama division for the proportions of the body

BODY PARTS	ANGULAS			
	Daśa-tāla	Nava-tāla	Ashta-tāla	Sapta-tāla
Top of the head	4	3	-----	-----
From the jaw to the hair line	13	12	12	12
Height of the neck	4	4	4	3
From the lower end of the neck to the chest	13	12	10	9
From the chest to the navel	13	12	10	9
From the navel to the genitals	13	12	10	9
The length of the thighs	26	24	21	18
The length of the knee	4	4	4	3
The length of the foreleg	26	24	21	18
Height of the foot	4	4	4	3
TOTAL OF ANGULAS IN MADHAYAMA DIVISION	120	108 Feet to hairline	96	84

Source: Gopinatha Rao, 1920: 59-99

Two hypotheses could be deduced from the tables. One: The meticulous attention paid to details of the body is a clear indication of the profound knowledge that Hindu artists possessed on anatomy. And two: Hindu iconography follows a strict hierarchical order where the largest being occupies the highest position on the scale, while the smallest is in the lowest position of the hierarchy.

Figure 9. Madhayama Daśa-tāla



Source: T. A. Gopinatha Rao, 1920: Plate IX

1.1.4. 570-430 BCE.: THE GOLDEN RATIO

Also known as Divine proportion, Golden Number, Divine Section. The Golden Ratio is considered the proportion of beauty as it frequently appears in nature. It has been material of study for many scholars, mathematicians and artists since antiquity because of its unique properties (National Geographic, 2015), (Akhtaruzzaman & Shafie, 2012: 1)

The Golden Ratio is of great importance for the study of body's proportions. It has been the basis for the creation of many canons therefore is necessary to understand it, starting from the conception of the Idea planted by Pythagoras, and developed by the Pythagoreans¹⁰.

¹⁰ Pythagoras' followers were commonly called "Pythagoreans."... The Pythagoreans were known for their teachings of the transmigration of souls, and also for their theory that numbers constitute the true

Pythagoras and the Concept of Dualities

Around the sixth century BCE. Greek mathematician and philosopher Pythagoras of Samos (570-496 BCE.) presented the idea that beauty and number are closely related.

His theory had metaphysical approach because Pythagoras believed that "To reduce numbers to quantity also reduces life to quantity, with predictable dehumanizing consequences" (Critchley, 2010: 45). Accordingly, he created a careful system that brought together matter and spirit. A numerical doctrine in which each number is endowed with qualitative characteristics.

This concept is known as "Polarities or Dualities". It arises with number **One** that symbolizes UNITY, it harmonizes all parts. DIVERSITY and INEQUALITY are represented by number **Two** or Duad, it is expressed as 1:1. **Three** or Trinity is the Holy number, it represents everything that has a beginning, middle and end. For example: the conditions of existence (the soul, the intellect and the body), or the division of time (past, present, and future). **Four** or Tetraktys is SOLIDITY. **Five** is an UNSTABLE and itinerant number, it is the union between odd and even numbers. PERFECTION is **Six**, it is a perfect number as is the effect of the sum of 1+2+3. **Seven** is called the VEHICLE OF LIFE, because it contains the body, that is formed by 4 elements (Spirit, Flesh, Bone, and Temperament which has four qualities: Anger, Happiness, Tranquility, and Sorrow.); and the soul that has 3 qualities (reason, passion, and desire.). JUSTICE is represented by number **Eight**. The highest MYSTERIES are symbolized by number **Nine**. Finally, number **Ten** or Decad is the PERFECT number, it is the result of the sum of 1+2+3+4. Number ten was the most perfect of all numbers "as it comprises all diverse numbers, reasons, species, and proportions" (Guthrie, 1920: 146). Vitruvius himself said that "this number was held to be perfect, as there are 10 fingers or digits in the hands and feet" (Story 1864: 3-5).

Pythagoras introduced this aesthetical-mathematical vision of beauty to the world. In fact, the dualities are present in many sculptures from the classical Greek era. (McCague, 2009).

nature of things. The doctrine of transmigration of souls is constituted by the following core beliefs: the soul is immortal... the human body is like a prison of the soul, and bodily desires impede the freedom of a soul (New World Encyclopedia contributors, 2015).

Pythagoreans believed that beauty harmonizes the body with the soul (McCague, 2009), that a physically beautiful person was also beautiful of heart, mind and soul, beauty of the body matched the goodness of the soul. Nevertheless, harmony doesn't mean the absence of contrasts but the balance between two contradictory aspects. Like the odd and even opposition, limitless and unlimited, good and bad, right and left, straight and curved.

Plato and the Concept of Beauty

As a continuator of the Pythagorean philosophy, Athenian philosopher Plato (427-347 BCE) shaped what will become the most important concept of beauty for centuries (Eco, 2010: 50-51). Beauty is related with goodness; beautiful things are good and bad things are ugly. This idea will have a big impact on philosophy, aesthetics, and arts until the middle ages (Buenaga, 2012).

Plato says that to appreciate the absolute beauty one must start from the visual beauty (the body). Next, the spiritual beauty (intellect and moral) will be intuited, only then the supreme beauty will be admired as it is. (Monografias.com, 2010) Nevertheless, his theory of beauty is more complex, he insists that true beauty is in harmony and symmetry, in geometric figures based in the proportion and in a mathematical concept of the universe and that art is an imperfect imitation of beauty (RTVE, 2009).

The body is, in fact, an extraordinary composition of geometric figures and mathematical proportions. However, artistic depictions cannot be underestimated, artists have always sought to represent the body with precision. That fascination led them to study mathematics, geometry, and anatomy to create more accurate depictions.

Phidias and the Golden Ratio

Represented with the Greek letter Phi (Φ) in honor of Greek sculptor and mathematician Phidias of Athens (490-430 BCE) who studied the Golden Ratio very closely. The Golden Ratio, 1.618, is the number that has erected most fascination throughout history because is used not as a unity but as a relation or proportion. Phidias made great use of this proportion in his two masterpieces: The statue of Zeus at

Olympia (about 435 BCE.), and the statue of Athena in the Parthenon (about 440 BCE.) (Figure 10), of which only replicas remain.

Figure 10. The *Varvakeion* Athena



Source: <https://goo.gl/HiqsH6>, Date Accessed: July 11, 2017.

The properties of Phi can be explained in a very short quote: “Short is to long as long is to the whole” (Jarvis & Naested, 2012: 130).



$$A/B = (A+B)/A$$

The numerical value of this ratio is:

$$\phi = \frac{1+\sqrt{5}}{2} = 1,618034\dots$$

In 1202 CE., Italian mathematician, Leonardo de Pisa, better known as Fibonacci (1170-1250 CE), discover the succession of numbers that contain the golden ration. This sequence is known as the “Fibonacci sequence”, it starts from 1 and each number is obtained by summing the previous two in the series (Golden Ratio, 2009).

1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89...

Applied to the human figure, the Golden Ratio and the Fibonacci Sequence can be found in every proportion of the body. The ratio from the sole of the feet to the navel and from the navel to the top of the head is 1 to 1.618. The relation between the

length and the width of the head is the golden ration. The Fibonacci Sequence is found in the relation between the three phalanges and the metacarpals: 2cm (distal phalange), 3cm (medial phalange), 5cm (primordial phalange), in continuation the metacarpal has an average of 8 cm. (Javier, 2014).

1.1.5. 450-330 BCE.: Greek Canons

Unlike the Egyptians that venerated the dead, or the Indians who recognized every type of body, the Greek canons celebrate the living beauty of the body. They believed that proportion and symmetry were gifts from the Gods, and that a perfect body meant perfection of thought and spirit. In the book “Changing Bodies, Changing Meanings Studies of the human body in the antiquity”, Dominic Monserrat (2003: 21) makes the following observation:

“Male beauty contests in Greek culture were essentially about stressing difference(s) and selecting excellence via perceived ideals of beauty, and how these physical ideals were intimately connected with leadership, whether in a religious or political context. Beauty contests thus also served to marginalize and disempower the disabled by their divergence from perfect somatotypes.” (Monserrat, 2003: 21)

In the first place, this passage confirms what has been said before: the rhetoric of the body is an idealization of the divine, and a demonstration of power. In the second place, is obvious that male figure served as a theoretical and sculptural model for the aesthetic idealization of the body.

The case was very different when the possessor of such beauty was a woman. In that situation, the concept changes, it was not a symbol of goodness anymore but a signal of evilness and danger. In the epic poem “The Iliad”, by the legendary Greek author Homer. The beauty of Helen is the cause of the fall and destruction of the kingdom of Troy. While in the poem “*Theogony*” by Greek poet Hesiod¹¹, beautiful women are called the “beautiful evil” (Caldwell, 1987: 63):

¹¹ 700 BCE. Is one of the earliest Greek poets, often called the “father of Greek didactic poetry.” Two of his complete epics have survived, the *Theogony*, relating the myths of the gods, and the *Works and Days*, describing peasant life (Solmsen, 2014).

“He [Zeus] had the beautiful evil... he brought her out, to the place where the gods and men were. And wonder took hold of the deathless gods and mortal men when they saw that which was sheer guile, not to be withstood by men. For from her is the race of women and female kind: of her is the deadly race and tribe of women who live amongst mortal men to their great trouble, no helpmeets in hateful poverty, but only in wealth.” (Hesiod, 2008: 14)

Hesiod is referring to Pandora, the first woman on earth according to Greek mythology, created by Zeus to punish humankind because of Prometheus’ offense against the Olympian God. Pandora, who opened the box that contains all the evils and diseases letting them escape into the world.

The origin of the canons and systems proportion of greater relevance are situated in Classical Greece period. The systems were born from the metric study used to create the works of art. These canons will offer many information of anatomy, and proportions for the study of beauty in the upcoming centuries.

1.1.5.1. 450 BCE.: Discobolus By Myron

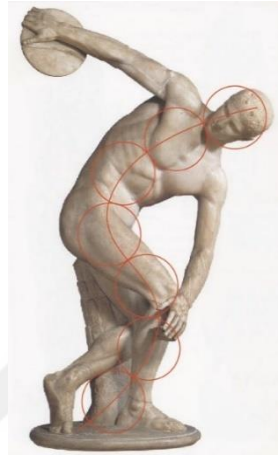
The first canon or system of proportions of ancient Classical Greece was created by Myron of Eleutherae (480-440 BCE.), who is considered the earliest of the great masters of Greek sculpture (Gardner, 1910: 59). He was famous for his knowledge of symmetry and balance, knowledge he used in the creation of his work (Villafañe. 1795: 93).

Myron was known for his sculptures of athletes in motion. The main focus of his work was movement and proportion; by combining these elements he meant to create a sculpture that was pleasant as a whole (Gardner, 1910: 61). In the “*Discobolus*”¹² (450 BCE.) (Figure 11), Myron shows movement and contrast. With geometric perfection and impeccable balance the sculpture presents the exact instant an athlete bent in preparation to make a disc launch (Macaulay, 2015): the right arm is in outstretch position of holding the disc while left arm is free. The torso and muscles are contracted in a twisted position creating a contraposition with the narrow hips; the

¹² Original Greek. Translated to English: Discus thrower (Sooke, 2015).

left leg is bent and free of weight whereas the whole body is supported on the right foot, although with so many things happening at once this detail may go unnoticed.

Figure 11. “*Discobolus*”, Roman marble



Source: <https://goo.gl/VVqzi4>, Date Accessed: November 29, 2017.

The symmetry between the members, the implicit movement, and the balance of the position make of this sculpture an object of study in terms of the body's proportions and canons.

1.1.5.2. 440 BCE.: “The Canon” of Polykleitos

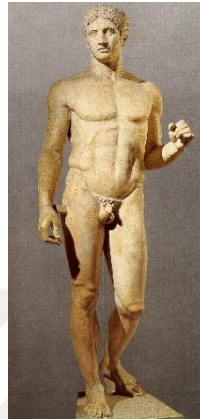
Despite of the mastery and knowledge with which Myron modeled the “*Discobolus*”, Polykleitos surpassed him by knowing the exact proportion, measure, and symmetry of the body.

Great sculptor Polykleitos of Argos (450-415 BCE) is considered the father of Classical Greek anthropometry. He created a system known as “*THE CANON*” that is considered the most important and known study of proportions of Classical Greece. Unfortunately, all the records of the homonymous treatise were lost and only Roman copies in marble remain.

In 440 BCE. Polykleitos sculpts his most famous work, the “*Doryphoros*” (Figure 12). For its creation he took basic concepts of proportion and symmetry and he developed a system that used geometric concepts in continuous progression. (Tobin,

1975: 307). He took a specific part of the body (the distal phalange) as basic unit of measurement. From this, he resolved that the proportions of all body parts follow a principle of geometrical symmetry and are in perfect relationship with each other.

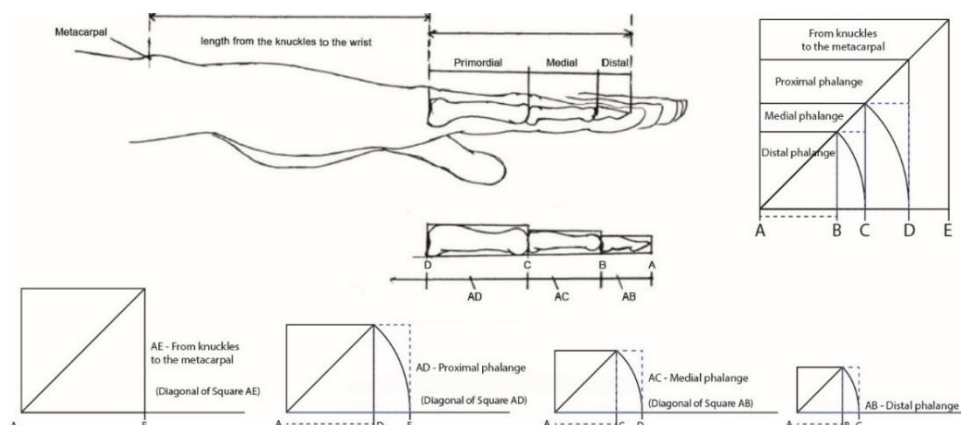
Figure 12. “Doryphoros”, Marble Roman copy



Source: <https://goo.gl/yWNh1p>, Date Accessed: November 29, 2017.

Polykleitos started by determining the length and width of the distal phalange. Then he used the measurement of the length (A-B) to draw a square, the diagonal/ratio of that square is the length of the next phalange (C), the medial phalange (A-C). The ratio of this new square (D) is the length of the third phalange, the proximal phalange (A-D). The diagonal of the proximal phalange is the metacarpal's length (A-E) (Tobin, 1975: 307) (Figure 13).

Figure 13. Canon of Polykleitos, measurement of the hand

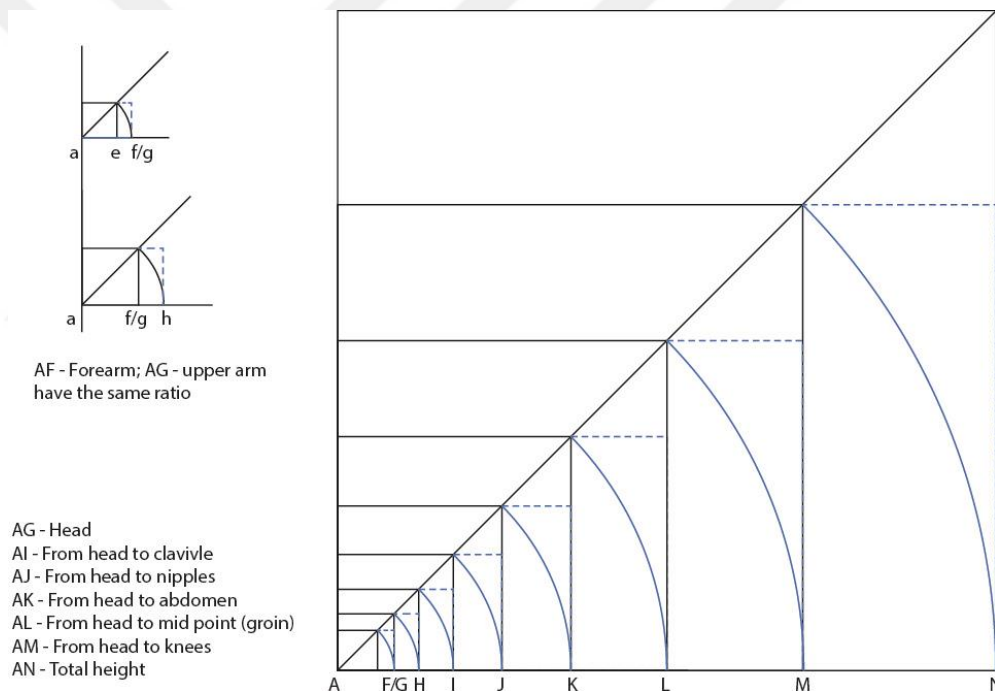


Source: Tobin, 1975, 308.

The hand's ratio (F) is the length of the forearm (A-F) that has the same ratio of the upper arm (A-G) from the elbow to the top of the shoulder, the acromion. This is the same length of the head from its top to the juncture of the clavicles.

The ratio of the head will reach the nipples (A-J). The diagonal of this square is the distance from the top of the head to the abdomen, above the navel. Consequently, this ratio will reach the groin (midpoint of the body). The diagonal of this new square is equal to the length from head to kneecaps. Finally, the total length of the body is equal to the resulting square's ratio from head to kneecaps (Tobin, 1975: 308) (Figure 14).

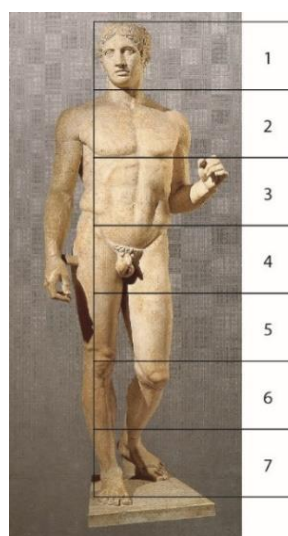
Figure 14. Canon of Polykleitos: Measurement of the body



Source: Tobin, 1975: 309.

Accordingly, the “*Doryphoros*” dictates that the size of the head is one-seventh of the total height of the body, or that the body is form by seven times its own head (Figure 15).

Figure 15. “Doryphoros” proportions



Source: <https://goo.gl/yWNh1p>, Date Accessed: November 29, 2017.

Polykleitos built the “Doryphoros” full of contrasts: on the left side of the body, the hand holds the spear, the shoulder is tense and slightly raised, the leg is relaxed free of any weight, the hip leans down and the torso slightly stretched out to the right. On the right, the arm is free. The shoulder hangs down relaxed. The leg supports all the width of the body and the hip is raised. The torso is squeezed, and the head is slightly turned to the right.

Every detail in the “Doryphoros” shows perfect coherence. Harmony is created by the tranquility on the right side and the tension of the left (Woodford, 1990: 19) this effect is known as *CONTRAPPOSTO*¹³.

The canon of Polykleitos represented the body as a measurement of beauty and perfection that can be found in everyone’s body. The perfect body is the direct result of balance and harmony, because perfect proportions are a gift from nature. On the contrary, ugliness means lack of balance, and asymmetry in the body symbolizes illness (Montserrat, 2003: 21).

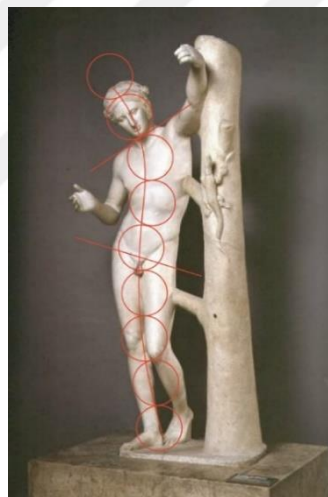
¹³ Italian term that means opposite. It is the posing of figures in sculpture and painting that imitates the natural human stance. When the human body stands in a relaxed pose, one leg bears its weight (the engaged leg) while the other remains free. In this position, the hips and shoulders form opposing diagonals (Zirpolo, 2016: 108).

1.1.5.3. 350 BCE.: Apollo Sauroktonos by Praxiteles

During the early Hellenistic period, Praxiteles of Athens (375-335 BCE.) introduced a new set of proportions. His figures were taller and slenderer, more graceful and without the heroic characteristic printed in Polikleitos' sculptures.

This change is clear when comparing the bodybuilder figure of the "*Doryphoros*" and the chiaroscuro¹⁴ effect of the composition, with the delicate body of Praxiteles's "*Apollo Sauroktonos*"¹⁵ (350 BCE.), where the contrast of light and shadow gradually attenuate until the light and dark softly fuse. It is observed a proportion of 8 ½ (heads to body). (Erestain, Guillermo, Montano, Ortiz, & Pilar, 1976: 174). (Figure 16)

Figure 16. "*Apollo Sauroktonos*" Roman copy



Source: <https://goo.gl/ijHY2v>, Date Accessed: October 28, 2017.

The appearance of the God is youthful and somewhat feminine. The hair, held with a ribbon is arranged like that of a woman, knotted above the nape. The attitude of the statue denotes a sensual gesture, soft and graceful. The weight of the body rests partially on the right foot while the left foot is slightly withdrawn aligned with the other foot. Praxiteles replaces the contrapposto with a pose in S, very relaxed and

¹⁴ Italian term that refers to the contrast of light and dark in a painting. This means that the forms are not defined by contouring lines, but rather juxtaposition of light and dark areas (Zirpolo, 2016: 95)

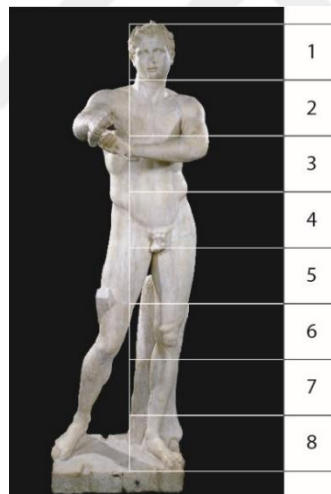
¹⁵ Original Greek. Translated to English: Apollo The Lizard-Killer (Litt, 2013).

graceful, known as the Praxitelean Curve. The graceful abandonment of the body and the disinterest of the position makes the representations too “perfect” to be real.

1.1.5.4. 330 BCE.: Apoxyomenos by Lysippus

Later, Lysippus of Sikyon (390-305 BCE), the last great master of the Hellenistic era, known for his innovation and excellence in the creation of the *Apoxyomenos*¹⁶ (330 BCE.), changed the “conventional proportion of the human figure”. Instead of using the proportion 7:1 (heads to body), resulted from the canon of Polykleitos, he created his own of 8:1 proportion. He based his canon on people’s perception and not on the real measurements of the body (Gardner, 1910: 210), (Mach, 1903: 296). The outcome was a slenderer body, with longer limbs, smaller head, and a less athletic body. (Figure 17)

Figure 17. “*Apoxyomenos*”, marble roman copy



Source: <https://goo.gl/dL9rN1>, Date Accessed: November 24, 2017.

The composition is quite innovative: The legs are longer and thinner; the left leg is rigid supporting most of the body’s weight. The knee of the right leg is slightly bent leaning towards the left. The head is tilted to the left as well, and the gaze is lost in the distance. The arms are raised at shoulder’s height, the left arm is bent, and the

¹⁶ Original Greek. Translated to English: The Scraper (Worland, n.d.).

hand holds a bar towards the right arm that is extended and tens. The balance of the parts gives the body an appearance of lightness.

With the “*Apoxyomenos*” the sculpture from the last stage of the Hellenistic Era reached the cusp in the representation of the body. Sadly, in the opinion of many scholars, among them Ernest Gardner (1910: 235), after Lysippus and the great sculptors before mentioned, Greek art entered in a stagnation state. This statement cannot be refuted given that after the fourth century no sculptor reached the same category of mastery.

The next table shows the changes that Greek canons have undergone throughout history. The table is based on the replicas created from the original sculptures by Roman artists.

Table 4. Greek Canons of Body’s Proportions

PERIOD	ARTIST	CANON	HEIGHT (MTS)	PROPORTIONS (Heads)
Classical	Myron	Discobolus	1.65	7
Classical	Polykleitos	Doryphoros	2.02	7
Hellenistic	Praxiteles	Apollo Sauroktonos	1.49	8 ½
Hellenistic	Lysippus	Apoxyomenos	2.05	8

Source: Erestain, 1976: 174; Gardner, 1910: 59-210; Tobin, 1975: 307.

The evolution of Greek canons has been constant and diverse. Each system has contributed with new techniques, different approaches and new knowledge for deeper studies, not only in the subject of body’s proportions but in the study of human behavior.

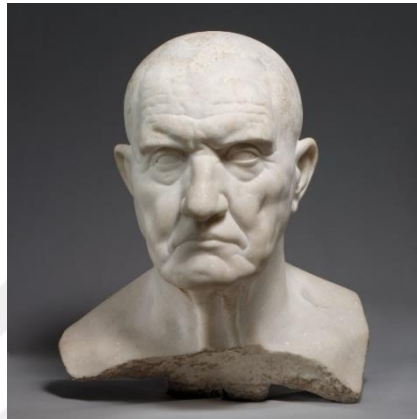
1.1.6. 300 - 44 BCE.: Roman Canon

Roman art emerges under the influence of Etruscan¹⁷ art and Greek art. Artists adopted the basic Greek standards for the human figure’s representation: symmetry,

¹⁷ The Etruscan civilization flourished in central Italy between the 8th and 3rd century BCE. The culture was renowned in antiquity for its rich mineral resources and as a major Mediterranean trading power. Much of its culture and even history was either obliterated or assimilated into that of its conqueror, Rome. Nevertheless, surviving Etruscan tombs, their contents and their wall paintings, as well as the Roman adoption of certain Etruscan clothing, religious practices, and architecture, are

proportion, and harmony between the parts and the whole (Zanker, 2008:29). Unlike the Greeks that idealized the body, Roman canons pursued a more realistic and aesthetic value, embracing the naturalism. Like the Egyptians they sought to create their depictions as a faithful copy of the person they were portraying (Figure 18).

Figure 18. Marble bust of a man from mid-1st century BCE.



Source: <https://goo.gl/VKguqi>, Date Accessed: October 30, 2017.

The Republic times

A general belief among the experts is that portrait busts were created in the city of Rome (Trentinella, 2003). During the third century BCE. in the Republic, these representations became very popular among the wealthy class for commemorative purposes. However, the imperial authority used them as a sign of power (Thompson, 2007: 29) with political connotations and a propagandistic use.

For centuries the full-length sculptures, the busts placed in public places, and even the coins engraved with the faces of the imperial authority, were used as a political propaganda with the sole purpose of reaffirming the power of the Republic. A clear example is emperor Julius Caesar (100-44 BCE.), who is considered one of the greatest military strategists in history. His image remains immortal in different statues, and his portrait was used in numerous busts and carved in coins (Figure 19) scattered throughout the Empire.

convincing testament to the great prosperity and significant contribution to Mediterranean culture achieved by Italy's first great civilization (Cartwright, 2017).

Figure 19. Roman Denarius from c. 42 BCE



Source: <https://goo.gl/zteUdo>, Date Accessed: October 30, 2017.

1.1.6.1. 100 BCE.: De Architectura by Vitruvius

In some point of the first century, Vitruvius wrote a treaty for the Roman civilization. For many years he worked for the emperor Julius Cesar (Lester, 2011: 13), so he aimed to “provide the theoretical basis for an architecture that could represent the values of Caesar's republic.” (Dripps, 1987: 19). This treaty is the oldest script of architecture known to this date, and the only one from classical antiquity preserved at present with these characteristics. Titled “*De Architectura*” the manuscript covers almost every aspect of architecture. It consists of 10 books divided into chapters (Losardo, 2015: 17).

The information that is of the interest of this dissertation is found in the first chapter of the third book: “On symmetry: In temples and in the human body”. Here Vitruvius states that no building can be well constructed without the elements of proportion and symmetry found in a well-formed body. He based the entire measurement for the creation, design, and construction of temples on the human figure (1914: 73):

“Since nature has designed the human body so that its members are duly proportioned to the frame as a whole, it appears that the ancients had good reason for their rule, that in perfect buildings the different members must be in exact symmetrical relations to the whole general scheme” (Vitruvius. 1914: 73)

Vitruvius studied the thoroughly Greek proportions, their symmetry and their units of measurement such as the finger, palm, and foot. He based his study on the Greek canons, the Pythagorean concept of *Duality* (perfect 6 and perfect 10), and the properties of the Golden Ratio (Phi). Furthermore, the study proved to be so precise and detailed in symmetry and proportion that it served as a guide not only to architects but also to sculptors and painters (Azarpay, 1990: 96), (Hernández, 2005: 99).

Descriptive data about the proportions given by Vitruvius is detailed in the following tables:

Table 5. Proportions or the height of the body

MEASURE	PROPORTION
From the chin to the top of the forehead. The lowest roots of the hair	1/10
From the wrist to the tip of the middle finger	1/10
From the chin to the top of the crown.	1/8
From the top of the breast to the lowest roots of the hair	1/6
From the middle of the breast to summit of the crown	1/4
The length of the foot	1/6
The length of the forearm	1/4
The breadth of the breast	1/4

Vitruvius, 1914: 74.

Table 6. For the height of the face

MEASURE	PROPORTION
From the bottom of the chin to the base of the nostrils	1/3
From the base of the nostrils to the line between the eyebrows	1/3
From the eyebrows to the hairline (forehead)	1/3

Vitruvius, 1914: 74.

Despite how detailed Vitruvius was in his descriptions, certain scholars believe that his explanations are not clear enough or entirely exact. The architectural theorist, Joseph Ortiz y Sanz is one of them. In his translation of “De Architectura” titled “*Los diez libros de arquitectura de M. Vitruvio Polion*” (pp. 58-60), he comments: if “from the top of the breast (he interprets this to mean that it is from the clavicles) to the lowest roots of the hair is a sixth of the body” like Vitruvius affirms, then the portion of the hairline to the top of the head should be equal to one thirty-second part of a body’s

length. Considering that, then adding this portion to the one sixth proportion to make it equal one fourth of the total length of the body would be impossible to do.

He explains that from the clavicle to the hairline, the proportion is five-and-one-third thirty-seconds of the total length of the body, and adding the portion of the top of the head is six-and-one-third thirty-seconds the body's length. Distributing that proportion (six-and-one-third thirty-seconds) throughout the body, the result is one-fifth and a little more of the total length of the body, not one fourth, as Vitruvius claims (Ortiz, 1787: 58). However, it seems that the author made a mistake: written in "*De Architectura*" is, "from the **middle of the breast** to the summit of the crown is a fourth", but Ortis' explanation says from the clavicle or top of the breast.

Nevertheless, Ortis' comment is an important observation that must be considered in the study of this canon. Perhaps part of the confusion is due to the absence of drawings to demonstrate and clarify Vitruvius' words. In the opinion of Ramón Sánchez Pérez (2015: 184), the logic on which Vitruvius based his study is simple: the height is equal to the wingspan.

According to the treatise, if a compass is placed on the navel (which is the natural center of the body) as a center point while a man lays flat, a radius can be extended to the limit of the limbs. Then, a circle can be drawn inscribing the body where the fingers and toes touch this circumference (*homo ad circulum*) (1914: 78). Similarly, if the length from the sole of the feet to the top of the head is measured and drawn, the line can be duplicated and made perpendicular, aligning with extended arms. The height and width would equal obtaining a perfect square (*homo ad quadratum*) (Ortiz, 1787: 59). This theory is tested many centuries later by Leonardo da Vinci in his study on the body and the Vitruvian Man (see page 41). The impact that the treaty had on future artists is undeniable. The rule of 10 faces or 8 heads for the height of the body has been used in the representation of the human figure until the present. (Redford, 1886: 31-32).

1.1.7. 400 - 1428: Middle Ages and the Sinner Body

During the Middle Ages also known as the "medieval period" the study of the proportions and harmony of the human figure lost importance, the body was nothing but a container that weakened the soul.

People lived in deep religiosity, Christians saw the body with censure, and a cause of temptation (Boureau & Semple, 1994:5), thus, susceptible to sin. Beauty was not a divine gift anymore, it was an impediment to get in touch with God (Hatzaki, 2009: 48). Nudity was associated with the fall of the humankind (Figure 20).

Figure 20. “The Last Judgment” by Giotto di Bondone, 1307



Source: <https://goo.gl/gTX6VQ>, Date Accessed: May 24, 2018.

The female figure was related to Eve and the first sin; therefore, it was seen as weak, damaged physically and morally. (Strickland, n.d.). Examples of this perception can be observed in the pieces of art created during this period. One of them, a representation of the first sin, from the book of Genesis, at the entrance of the Notre Dame Cathedral (1240) in Paris (Figure 21) depicts Eve being tempted by the devil, portrayed as half-woman, half-serpent, to eat the forbidden fruit from the Tree of knowledge. While Eve, with her seductive attitude induces Adam to take the apple and eat it, sentencing them both to be expelled from Eden.

Figure 21. Adam, Eve, and the serpent in Notre Dame Cathedral, Paris



Source: <https://goo.gl/8q7jXf>, Date Accessed: October 31, 2017

1.1.8. 1440 - 1660 CE.: Renaissance and the Study of the Human Body

It took almost one thousand years for the artists from the Renaissance to revive the Greco-Roman culture: their systems of symmetry, proportions, and ideals of beauty. Thinkers, writers, and artists left behind the denominated “Dark ages” and started perceiving the body as a fantastic enigma that deserves to be studied.

The Florentine artist Donato di Niccoló, commonly known as Donatello (1386-1466), is the one who reintroduced the Greek characteristics of the body to the Renaissance art. His statue of David¹⁸ (Figure 22), built in 1440 in Bargello, Florence, was the first depiction that followed a proper system of proportions in centuries, (Mason, 2001: 14). Donatello used Polykleitos’ canon and the Contrapposto technique in his sculpture (Sorabella, 2008).

¹⁸1 Samuel 17: 1-54: In a battle between the Philistines and Israelites the best Philistine warrior, Goliath, persistently challenges the Israelites to send their best warrior to fight him... When all of the seasoned Israelite soldiers, terrified by the giant's size and strength, refused to fight him, David, a shepherd boy who had no experience in battle, stepped forward and offered to fight. He refused armor and weapons and faced the giant clad in only a tunic and armed with a slingshot. He knocks the giant to the ground with one shot, and then grabbed Goliath's sword and cut off his head. In effect, the Philistines turn and run. The Israelis run after them and win the battle.

Figure 22. “David” statue by Donatello, 1440



Source: <https://goo.gl/8q7jXf>, Date Accessed: October 31, 2017.

The torso of David leans slightly to the right, and the head turns in the opposite direction. The left foot is bent and it rests on the severed head of Goliath while the right leg is extended, supporting the weight of the body. The left arm is bent, and the hand rests on the hip. The right arm is far from the body with the hand holding a sword. Donatello shows the biblical hero with a youthful and somewhat feminine appearance, with a graceful posture.

Italy and the Anatomy of the Body

In the Italian Renaissance (C. XV-XVI), the urgency of knowing the body in depth to represent it in all its proportions and as an organic unit, led artists to become anatomists by their own merit. Such it was their need to discover the truth of the body that until approximately 1510 artistic research exceeded by far the knowledge of anatomy imparted in the universities (Bambach, 2002). Domenico Laurenza in his book "Art and anatomy in Renaissance Italy: Images from a scientific revolution" (2012: 5) calls this century the "century of anatomy" and it certainly was. Never, neither before nor after this time, has the anatomy been so important.

In this era, a grotesque attitude towards the body was developed, it was considered a complex machine that had to be dissected, explored, and measured in order to be understood. The dissections became popular among physicians, and the increase of medical students meant a greater demand for corpses to be

studied (Carreras, 2011). Since criminal executions did not provide enough bodies, they reached the point of obtaining them by any possible means. Consequently, the robbery of corpses became a very lucrative enterprise (Sellmer, 2001: 84).

It is said that even the famous Belgian anatomist, Andreas Vesalius (1514-1564), author of the first illustrated book of anatomy titled “*De Humani Corporis Fabrica*”¹⁹, (Figure 23) (Righthand, 2008) published in 1543 and illustrated by John of Calcar, stole the body of an executed criminal and took it home to study its structure for his book. (Florkin, 2017).

Figure 23. Cover of “*De humani corporis fabrica*” by John of Calcar, 1543



Source: <https://goo.gl/rRwAAz>, Date Accessed: October 31, 2017.

In the cover of the book, Calcar draw Vesalius performing a dissection. The corpse lays on a table in the center of an amphitheater that is crowded with people whose faces showed different expressions; from interest, amazement, boredom to even morbid expectation. In the lower right part of the illustration a man holds a dog. The cover illustrates the attitude of that society towards the human body. It was considered

¹⁹ Original Latin. Translated to English: The Fabric of the human body (Righthand, 2008).

fascinating on paper, canvas or marble, but it was no more than a tool of study in real life.

Doctors and artists developed a cooperative relationship (Righthand, 2008): physicians hired artists to illustrate the muscles, bones, nerves and other structures of the human body, for the learning books and anatomy texts (Arenas & Bozo, 2009: 90). Artists, eager to know the human body with anatomical accuracy watched the doctors work on the bodies.

The three great titans of the Renaissance: the anatomist Andreas Vesalius who was mentioned before, and the artists Leonardo da Vinci and Michelangelo Buonarroti took their fascination for the human body to the next level.

Leonardo da Vinci (1452-1519), born in Florence, Italy, preserved approximately thirty cadavers to conduct his anatomical studies. He was the first great medical illustrator, his sketches (Figure 24) not only are exceptional works of art but also precise observations of the human being's nature (Gross, 1997: 347). Part of his research; at least 268 pages of written and illustrated anatomical studies, are part of the Royal collection of Queen Elizabeth II of England. (Breton, 2002: 49)

Figure 24. Sketch bones of the foot by Da Vinci,



Source: <https://goo.gl/R1DZvw>, Date Accessed: November 7, 2017.

Michelangelo Buonarroti (1475-1564), native of Caprese, Italy, was a painter, sculptor, architect, and poet. In his search for the understanding of the body he performed multiple dissections and his discoveries were so innovative that his studies

changed the norms for the portrayals of the human anatomy (Bambach, 2002). His understanding in sculpture and anatomy gave him absolute control in the body's depictions, knowledge that permitted him to create some of the most spectacular and dynamic works in the history of art, like his colossal statue of David (Figure 25), built between 1501 and 1504 in Florence.

Figure 25. “David” by Michelangelo, 1501-1504



Source: <https://goo.gl/4y5gpA>, Date Accessed: November 9, 2017.

Michelangelo created the statue thinking more of the perspective rather than the actual proportions. The work was shaped from the people's point of view which would be seen from down below, due to the large size of the statue (5 meters) and its location in the Cathedral of Florence. This is the reason why the head, shoulders, and right hand are disproportionately larger than the rest of the body, as such to prevent a distorted view of the work (Accademia Gallery, 2016).

In his masterpiece “The Last Judgment”²⁰ (Figure 26), which is widely considered to be one of the epic achievements of Renaissance (1536-1541), located in the Sistine Chapel in Rome (Reis & Barreto, 2012: 318), the artist shows his great knowledge of anatomy one more time. He painted, with exceptional anatomical accuracy, a huge number human figures in different positions (Eknoyan, 2000: 1192).

²⁰It consists in 4 frescoes along the longitudinal apex of the vault, which completed a series of 9 central panels depicting scenes from the Book of Genesis, Revelation 15:6. (Reis & Barreto, 2012: 318).

Figure 26. “The Last Judgment” by Michelangelo, 1537-1541



Source: <http://totallyhistory.com/the-last-judgment/>, Date Accessed: November 9, 2017.

The chaotic scene represents the apocalyptic passages from the Bible. On the left are the chosen ones, their bodies are outstretched climbing and being escorted to heaven by the angels. On the right are the condemned, writhed bodies being sent to hell. In the center of the composition is Jesus with his mother Mary and down below are angels in different positions blowing their horns.

The fascination towards the body was not restricted only to Vesalius, da Vinci and Michelangelo. Between 1482 and 1485 the Florentine, Sandro Botticelli, painted "The birth of Venus" (Figure 27) as a reference of feminine beauty (Martínez, 2016). Until that moment, female nudity was associated with an act of shame, in this painting, the opposite is depicted for the first time in centuries: The Venus is radiant, and its image is full of vitality, it transmits a sense of harmony between the mind and the body.

Figure 27. “The birth of Venus” by Botticelli, 1445-1510



Source: <https://goo.gl/QfnVCy>, Accessed: November 15, 2017.

In Italian Renaissance culture, the abstract tradition, the mathematical knowledge, and the religious beliefs come together with the intention to express the perfection of the body (Gent & Llewellyn, 1995: 2).

This strong attraction towards human anatomy prevails until nowadays, and it continues turning scientists into artists and artists into anatomists. One example would be the Polish scientist, anatomist, and plastinator, Gunther Von Hagens, who took his passion to another level. In 1977 he invented a procedure for the conservation of biological material called “Plastination” (Sosa, 2010), which consists of extracting bodily fluids by means of solvents such as acetone, and then replace them with a reactive polymer that will freeze the body in the desired position when it hardens (Figure 28) (Betancourt, 2017).

Figure 28. Exhibition “Body Worlds” by Von Hagens, 2014



Source: <https://goo.gl/CqHifA>, Accessed: November 16, 2017.

Since his first exhibition, held in Pforzheim in 1988, Von Hagens has performed the process in over 100 corpses; he considers himself a Renaissance artist, "a continuator of the tradition of anatomical artists from whose works a better knowledge of the structure of the human body was extracted". (Jeffries, 2002). His work has traveled all over the world, shocking, fascinating, scaring people, and creating controversy regarding the treatment that the artist/scientist gives to the human body. Catalogued as a genius by some because of his innovative conservation methods and criticized by others for his "lack of respect" for the dead, there is no doubt that "his bodies" provide a different perspective of the human figure.

England and the Lyrics of the Body

English Renaissance began at the end of the fifteenth century (1550-1660), long after the Italians', also known as the "Elizabethan era". In this period, the perspective and the usage that is given to the body is very different from that of the Italian Renaissance. It moves away from the empirical science, and Greek representations, and takes the human figure as an essential element in the lyrics and music (Sawday, 1996: Preface). The body was read as an interpretation of the society and religion rather than an actual anatomic study. It possessed humanistic characteristics, metaphorical purposes, and psychoanalytic theories. The body lost its unique transcendental particularity and became a creation modeled at the whim of the author's mind (Gent & Llewellyn, 1995: 6).

The most famous words used for the interpretation of the human figure belong to the infamous English writer William Shakespeare. In his work *Hamlet* he uses diction as a literary element to portrait, described, and illustrate the body as the basis of the existence that forms the human experience; a mean for passion (Hunt, 1988: 27-28), to suffer, and for madness. John Hunt in his article "A Thing of Nothing: The Catastrophic Body in *Hamlet*" (1988: 30) cites Montaigne who said: "the human body in *Hamlet* forms human experience, being the medium through which men suffer and act. But the body also deforms human beings and threatens ultimately to reduce them into nothing" (Hunt, 1988: 30).

In the English Renaissance the behavior towards the human figure is not very different from that of the Italian Renaissance; the colors turn into letters, the brush, and chisel in pen, but the same dehumanizing attitude prevails. Once again, the body

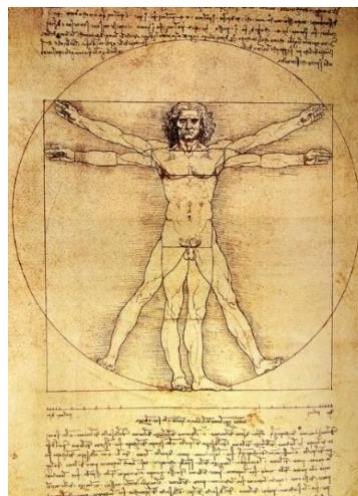
is only the mean for a goal. Although paradoxically, this graphically crude and sometimes violent portrayal given to the body was the key for some of the most beautiful artistic body representations, whether in literature, drama, sculpture, paint, or architecture (Sawday, 1996: IX).

1.1.8.1. 1490: The Vitruvian Man by Leonardo Da Vinci

Probably the most amazing and brilliant mind of the Italian Renaissance was that of Leonardo da Vinci. There was nothing in the world that did not interest him: from the wings of a fly to the design of a city. However, his deepest fascination, bordering in obsession fell on the human body (Grant, 1971: 18). His interest and knowledge of the body has already been briefly discussed in this paper. Nevertheless, it wasn't the anatomist, but Leonardo the artist was the one who created the most important canon of proportions of the Renaissance.

Da Vinci studied in depth Vitruvius' famous treatise "*De Architectura*", (McMurrich, 1930: 104). He tested, interpreted, and corrected the Roman architect's anthropometric system. His analysis is presented in the form of one of his most famous works: "The Vitruvian Man" (Figure 29). This drawing, created in 1490, is an amazing interpretation of an albeit confusing text.

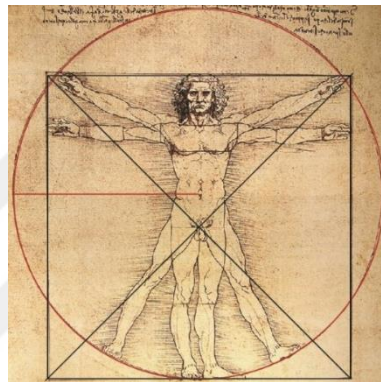
Figure 29. "Vitruvian Man" by da Vinci, 1490



Source: <https://goo.gl/WLUPo4>, Accessed: November 16, 2017.

Da Vinci drew Vitruvius' *homo ad circulum* and *homo ad quadratum* with beautiful delicacy. The depiction shows the symmetry, and proportions, of the body as it is outstretched, inscribed in a circle and square (McMurrich, 1930: 104). However, Leonardo disagrees with Vitruvius about the navel being used as the center point to draw the square and the circle. He found that the navel is the center of the circle, while the genitals are in the center of the square (Figure 30) (Pérez, 2015: 184).

Figure 30. *Homo as quadratum* and *homo ad circulum* by da Vinci, 1490



Source: <https://goo.gl/WLUPo4>, Accessed: November 16, 2017.

He drew the geometric forms so that the proportion between the side of the square (height of the man) and the radius of the circle (distance from the navel to the tip of the hand) is equal to the Golden Ratio (Benavente, 2014), (Fernández, 2013). In the text that complements the drawing, Leonardo states that the proportions of the body are arranged by nature, and he describes them as follows: “4 fingers make 1 palm, 4 palms make 1 foot, 6 palms make 1 cubit, 4 cubits make a man’s height, 4 cubits make 1 pace, 24 palms make a man” (Bagwell, 2006). For the proportions of the face, Leonardo agrees with Vitruvius that it is divided into three equal parts: from the chin to the base of the nose, to the eyebrows (like the ear), and to the roots of the hair.

These annotations in da Vinci's folio (da Vinci, 2004: 343) are an interpretation of the Vitruvian canon. However, he didn't just correct some of the proportions of the treatise, he also added new information. The descriptions of the next table are an explanation of the “Vitruvian man” drawing, written by da Vinci himself, translated by P. Richter:

Table 7. Vinci's corrections on the Vitruvian canon

MEASURE	PROPORTION	
	VITRUVIUS	DA VINCI
From the top of the breast to the roots of the hair	1/6	1/7
The length of the foot	1/6	1/7
From the elbow to the tip of the hand	1/4	1/5
From the roots of the hair to the bottom of the chin	1/10	
The whole hand	1/10	
From the bottom of the chin to the top of his head	1/8	
From the nipples to the top of the head	¼	
The greatest width of the shoulders	¼	

Source: Da Vinci, 1888: 343.

Da Vinci's descriptions are exact "From the elbow to the tip of the hand will be the fifth part of a man". Vitruvius on the other hand said: "the length of the forearm is one quarter of a man", however, he didn't specify from where to where. This demonstrates that either the proportions given by Vitruvius are not accurate or that his explanations in the treatise are not clear enough.

It was probably da Vinci's wide knowledge of anatomy, geometry, and mathematics that allowed him to contribute to the canon of Vitruvius with new proportions. These measurements possibly helped him to perform a more accurate study, taking as a guide the parts of the body that Vitruvius did not consider or simply didn't think was necessary.

Said proportions have been translated in the following table:

Table 8. New proportions in da Vinci's "Vitruvian Man"

MEASURE	PROPORTION
From the sole of the foot to below the knee	1/4
From below the knee to the beginning of the genitals	1/4
From the top of the breast to the top of his head	1/6
From the elbow to the angle of the armpit	1/8

Source: Da Vinci, 1888: 343.

Furthermore, he adds: "The length of a man's outspread arms is equal to his height... The beginning of the genitals marks the middle of the man; If you open your legs so much as to decrease your height 1/14 and spread and raise your arms till your middle

fingers touch the level of the top of your head you must know that the center of the outspread limbs will be in the navel and the space between the legs will be an equilateral triangle” (da Vinci, 2004: 344).

For a long time, Vitruvius' treatise was considered the perfect canon for the representation of the human figure. It wasn't until the fifteenth century when da Vinci performed his analysis, that artists turned their interest to his study and abandoned the thought that the canon of the Roman architect presented the perfect measurements of the human body. From then on, they took da Vinci's proportions as a guide. In fact, it has been the basis for the following systems of proportion measures since then.

Other Vitruvius' Men

Given the lack of drawings in the treatise of Vitruvius to illustrate the proportions proposed by the author, many artists emerged over time to propose their own interpretations and solutions for the placement of the legs and arms, in order to inscribe the figure into the circle and the square (Hernández, 2005: 103). These are some of the artists who were captivated by the proportions of Vitruvius:

Italian architect, sculptor, and painter Francesco di Giorgio Martini (1439-1502). He illustrated the proportions of Vitruvius in 1470 (Figure 31). Although his drawing doesn't follow the descriptions, the man is placed within the circle and neither his body nor his arms are completely extended.

Figure 31. Vitruvian man's Interpretation by Martini, 1470



Source: <https://goo.gl/fwf4yK>, Accessed: November 19, 2017.

In 1511, Veronese architect and classic scholar Fra Giovanni Giocondo (1433-1515), performed the first printed illustrated edition of the treatise (Figure 32) (The Editors of Encyclopædia Britannica, 2012).

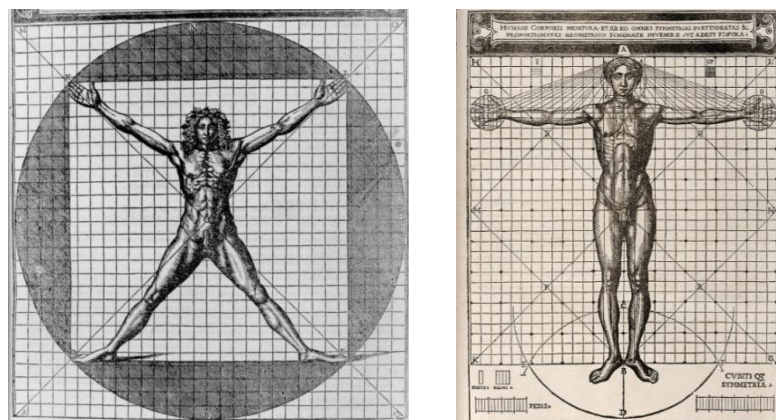
Figure 32. Vitruvian man's Interpretation by Giocondo, 1511



Source: <https://goo.gl/fwf4yK>, Accessed: November 19, 2017.

Italian architect Cesare Cesariano (1475-1543), who in 1521 translated *De Architectura*, incorporated many of his ideas into his illustrations, ("Prólogo. La Obra de Vitruvio," 2010: XVI) where the navel is perfectly aligned with both the circle and the square (Figure 33).

Figure 33. Vitruvian man's Interpretation by Cesariano, 1968



Source: <https://goo.gl/fwf4yK>, Accessed: November 19, 2017.

Italian architect Francesco Giorgi (1466-1540) created his own version in 1525 (Figure 34). In this, the man has been placed within the circle that is too small, making him unable to outstretch his limbs (Losardo, 2015: 18-19).

Figure 34. Vitruvian man's Interpretation by Giorgi, 1525



Source: <https://goo.gl/fwf4yK>, Accessed: November 19, 2017.

1.1.8.2. 1528: Albrecht Dürer and the Mathematical Symmetry of the Body

Dürer, contemporary of Leonardo da Vinci, was born in Nuremberg, Germany in 1471; painter, draftsman, and writer, he was a versatile artist of the Northern European Renaissance period. The artist visited Italy twice where he was influenced and absorbed by some of the greatest artists and works of the Italian Renaissance (Wisse, 2002).

His print "Adam and Eve" (Figure 35) was completed in 1504, shows this impact as well as his fascination for the human form. The artist spent 4 years working on this piece, studying with mathematical precision how each segment of the body is partitioned. The positions of the bodies are idealized and symmetric: each figure lays the weight of the body on one foot while the other is slightly bent, and each one has one arm tilted up (Spira, 2013).

Figure 35. “Adam and Eve” by Albrecht Dürer, 1504



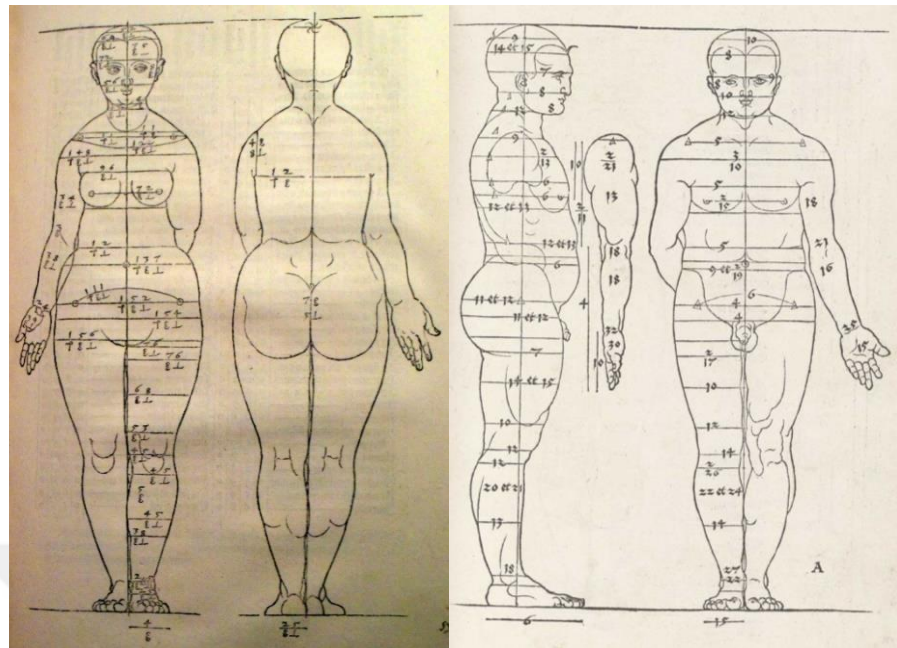
Source: <https://goo.gl/JStGnX>, Accessed: November 24, 2017.

He held that “the perfection of form and beauty is contained in the sum of all men” (University of Texas Health Science Center, 2017). Accordingly, Dürer established a system based on the most beautiful parts of the body from various candidates. He used them as models from which he took their dimensions in order to obtain the most perfect and harmonic type of figure (Durán, 2017).

After thirty years of collecting data, the results of this extraordinary research were verbalized in four remarkable books called “*Vier Bücher von menschlicher Proportion*”; in English: “Four Books on Human Proportion” (Nakamura, 2015: 30), which contained unique depictions of the human figure both in form and in measurement (Figure 36). The books were published in 1528, a couple of months after his death.

In the article “Albrecht Dürer and Nicholas Cusanus: the Real, the Ideal, and the Quantification of the Body” by Allister Neher (2005), the writer mentioned a passage of Dürer’s book “Four Books on Human Proportion”, where Dürer explains his system; it consists in a scale in which the length the figure will always be equal to one-sixth; it doesn’t matter if the figure is large or small, this rule stays constant. Then he divided the rule as follows: “The rule is divided into ten equal parts, each part is called a *zall*; Each *zall* is divided into ten, each tenth is called a *teil*; Each *teil* into three, each third called a *trümlein*” (Neher, 2005). This system was designed for the precise measurement of every part of the body, regardless if it was a woman, man, or child.

Figure 36. Measurement of the female and male body by Dürer, 1528



Source: <https://goo.gl/wDCQYn>, Accessed: November 25, 2017.

Before Dürer, the depictions of the body aimed only to the absolute beauty determined by the principle of Vitruvius, and later Da Vinci's, but in Dürer's opinion beauty was conditioned by a diversity of variables, for example, breeding. Hence, he worked with the widest range of figures possible. He aimed to show not only the beauty of the body, but also to innovate in the sciences of human proportions (University of Texas Health Science Center, 2017)

1.1.9. 1520 – 1600's: Mannerism and Baroque

With the Mannerism and later the Baroque, the canon of the idealized perfect human figure was broken. Each style moves away from the Classical and Renaissance beliefs of symmetry, and although both were only inspired by these periods, the beauty strictly follows the fashion trends, especially in what respects to women.

Elongated Bodies of the Mannerism

Mannerism arises in Florence and Rome after 1520, after Michelangelo reached the much-desired "perfection" characteristic of the High Renaissance. This

style spread to Northern Italy and eventually to Central and Northern Europe until it was replaced by the Baroque style around 1600. (Gaitán & Museo de San Carlos, 2014: 13), (The Editors of Encyclopædia Britannica, 2016)

The word Mannerism comes from the Italian "*maniera*" which means "style". Often called "stylish style" the Mannerism insisted on distorted characteristics rather than on the naturalism of the body. With long necks and elongated limbs, the figure gained refinement and grace and an additional emotional effect. It was very popular during the sixteenth century, especially among the aristocratic patrons who appreciated the exaggerated elegance of the style (Artsolumbia, 2017).

The "Madonna of the long neck" (Figure 37) painted between 1534 and 1540 by the Italian artist Girolamo Francesco Maria Mazzola, also known as Parmigianino (1503-1540) is a perfect example of this style (Glover, 2012).

Figure 37. "Madonna of the long neck" by Parmigianino, 1534- 1540



Source: <https://goo.gl/cyZPCb>, Accessed: November 25, 2017.

In the composition, the figures stand out for their great corporeity. In the center of the painting is Maria, whose body shows disproportionate measures: the hands and fingers are too long, as is the neck. In the same way, the baby's measurements are too elongated and the posture is somewhat strange and uncomfortable; it looks as if it will slide off his mother's lap (Fernández, 2012).

Another important artist of this style is Doménikos Theotokópoulos, "El Greco", whose work "Immaculate Conception" (Figure 38), painted in 1607 in the

chapel of the homonymous name, illustrates the enlargement of the body as never before; exaggerated and even violent (WikiZero, 2017).

Figure 38. “Immaculate Conception” by El Greco, 1607



Source: <https://goo.gl/JQpBp8>, Accessed: November 27, 2017.

Spanish anthropologist Antonio Cea in an interview for RTVE channel (2009) comments that towards the end of Mannerism, there was a very famous saying in Spain that goes as follows: The woman to be beautiful must have five times, three things: she must be white in three, red in three, black in three, wide in three, and long in three. White in face, hands, and throat; Colored on lips, cheeks, and jaw; Black on hair, eyebrows, and eyelashes; Wide on hips, shoulders, and wrists; and Long in size, face, and neck (RTVE, 2009). These few words summarize very well and fairly accurately the canon of the female body of the time and the standards that were considered by the artists of this period for the depiction of beauty.

It must be considered that although the representations of the body were not entirely realistic, artworks such as paintings, and sculptures were in a way also used as some sort of diffusion media; what currently is the television, the internet, and visual advertising media, therefore, the image captured was not only a model on canvas or marble, but also became a widespread fashion trend that society followed.

Baroque and the Realism of the Body

The Baroque style was born in Italy during the last third of the sixteenth century, and would last until the eighteenth century. In this period the realism prevailed, it was imperative to represent the figures as they were; everyday life is displayed in its totality (Rodríguez, 2011).

The depictions of the female body show them with bulky broad hips, prominent breasts (often highlighted by the use of the corset), narrow waist and shoulders, fleshy arms, and white skin, as is shown in “The Three Graces” (1635) by German painter Peter Paul Rubens (Figure 39) (Martinez 2016).

Figure 39. “The Three Graces” by Rubens, 1635



Source: <https://goo.gl/JQpBp8>, Accessed: November 29, 2017.

As for the men, their appearance was refined by highlighting the hair with the use of wigs, very white skin, and rosy cheeks (Soergel, 2005: 123-124). During this period the term makeup arose (Pérez, 2006), so that "realism" and beauty are to a certain degree artificial. It can be said that in this period an attitude of coquetry that led to pomposity was developed.

1.1.10. 1945: Le Corbusier - The Last Canon

In the twentieth century, Swiss-French architect and painter Charles Édouard Jeanneret-Gris “Le Corbusier” (1887-1965), resumed Vitruvius' ideas and re-associated anatomy with architecture (Losardo, 2015: 22). Between the years 1942 and

1948, he developed a system of measurements based on the golden ratio and Fibonacci Sequence found in the proportions of the entire human body. He wrote two volumes of a manual where he explained his system and its applications, called "Modulor". What Le Corbusier proposed was an anthropometric scale system alternative to the Metric system and the Imperial system, that was universally applicable to architecture and to mechanical things. Thus, if the unit of the metric system is the meter, that of the "Modulor" system was the measure of the man (Benavente, 2014), (Losardo, 2015: 21).

In his books, he represents the normative body around which he conceived his system (Buzzi, 2017): a man with a height of six feet tall or 183 cm. standing, and 226 cm. with one arm raised.

This position points out measurements of the three key points of the system:

- The tip of the fingers of the hand held high = 226 cm.
- The top of the head = 183 cm.
- The solar plexus (navel) = 113 cm.

These measurements define the occupation of the man of six feet in the space, and its proportion is composed of the Golden Ratio. Consuegra (1992: 40) explains:

"113 is the distance from the ground to the navel

70 is the distance from the navel to the top of the head

43 is the distance between the head and the extended arm" (Consuegra, 1992: 40).

Therefore, when the mathematical operations are performed, the results are:

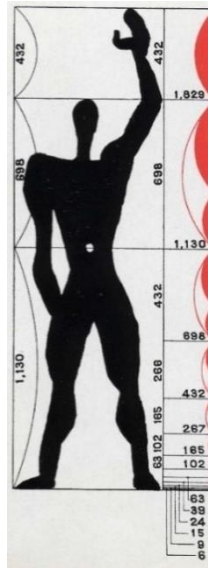
$$113 + 70 = 183$$

$$113 + 70 + 43 = 226.$$

Rosario Vera (1980: 52-63) explains that 113 is the measure that divides the body (with the arm raised up) into two equal halves; this number provides the Golden Section 70, outlining a first series called "Red Series" (Figure 40), and applying the Fibonacci series the result is:

$$4-6-10-16-27-43-70-113-183-296, \text{ etc.}$$

Figure 40. Red series measurement of the body, by Le Corbusier, 1948,

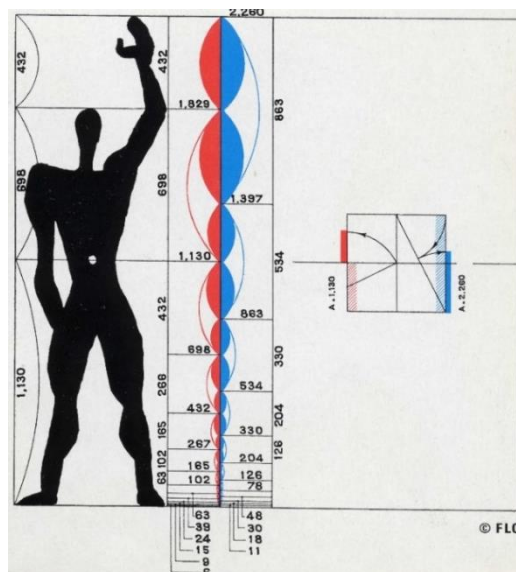


Source: <https://goo.gl/T9Az65>, Accessed: December 02, 2017.

The second section of the golden section: 140 and 86, determined a fourth essential point of the human stature, which determines the support of the hand: 86 cm. and prepares the second series called "Blue Series" (Figure 41):

13-20-33-53-86-140-226-366-592...

Figure 41. Blue series measurement of the body, by Le Corbusier, 1948,



Source: <https://goo.gl/6Qefn1>, Accessed: December 02, 2017.

The objective of Le Corbusier was for the human scale to be maintained all over the world. Once again, a draw demonstrates the unwavering relation that exists between anatomy, mathematics, and symmetry (Losardo, 2015: 21).

1.2. Conclusion

Throughout history, there have been innumerable artists, mathematicians, and other scholars who have tried to develop a scheme of human proportions; some based on mathematics, others on sociological, cultural, or religious ideas.

The concept that there is a direct relationship between beauty and proportion has been present almost since prehistorical times. However, due to its subjective nature, it has not been possible to define exactly what beauty is, nevertheless, that does not mean that artists have stopped trying.

Artists, considered the male figure as the highest demonstration of beauty, thus they used it as a reference of perfection for the creation of their canons, which were based on very meticulous studies of arithmetic criteria, and geometrical guides such as the golden section. On the other hand, when it came to the female figure, mathematics did not enter in the equation; the woman's body went from being almost completely ignored to being considered dirty and sinful, to delight the male gaze. These canons did not study the mathematical or geometric proportions of the body, but instead they clearly displayed the attitude and trends that societies, cultures and different periods of time had towards the female figure. These "canons" are more standard of beauty than real systems of proportions, for which the representations and the forms of the body are much more varied than those of the masculine body that has constant characteristics.

All the systems, canons, and standards were created as guides for artists who sought to represent the male and female body as beautiful as possible, however, it is impossible to not assume that all these representations did not influence the way people thought about the body and what beauty meant. It must be considered that the human mind is full of insecurities and that observing these representations of "perfect" bodies might affect their psyche.

It is Albrecht Durer who shows that the great variety of body shapes makes it impossible to create a system based on a model of the average man, there is no such

thing, it is only an anthropometric concept to configure works of art and architecture. However, in search of the always desired perfection, the artists keep returning to the canons given by the great classical artists such as Polykleitos, Vitruvius, and Da Vinci.



2. CHAPTER: HUMAN BODY IN FINE ARTS DURING THE TWENTIETH AND TWENTY-FIRST CENTURY

The twentieth century was a time of great experimentation for the fine arts. The approaches of the body's depictions changed dramatically, from the classical and academic traditions of the nineteenth century, to the erotic representations in 1900-1920, to the violent war and post-war art in 1940-1950. In 1960, feminist ideology makes its appearance for the first time in the fine arts (Artsy, n.d.), and later in the 80's and 90's the body is used for personal identity, political, and technological issues. (Godoy, 2008: 15). Nevertheless, all this body-revolution started in the nineteenth century with the invention of photography, making possible what aspiring realism painters and sculptors sought for. The development of lithography¹ and graphic advertising allowed the reproduction of images in press, cards, etc., and later the cinematography gave motion to the body providing endless new opportunities for expression.

This chapter will discuss the usage of the body in four areas of the fine arts from 1900 to the present, since it is in this century when the body's representations underwent the most radical changes. It was until 1999 when trends marked a before and after, but the impact of these images would be felt in the twenty-first century, with social, psychological, and physical consequences. Such forms of art are photography, cinematography, performance art, and graphic advertisement.

2.1. The Erotic Body (1900-1920s)

From the moment of the invention of photography, the nude body has been positioned in front of the camera lens. The erotic connotations given to the human figure made it one of artists' favorite objects of visual composition. However, the complexity of the first photographic technology called Daguerrotype², in honor to its

¹ It was invented in 1796 in Germany by Alois Senefelder. In lithographic process, ink is applied to a grease-treated image on the flat printing surface... This inked surface is then printed, either directly on paper, by means of a special press, or onto a rubber cylinder (Ives, 2004), (The Editors of Encyclopædia Britannica, 2014).

² It consisted in a silvered copper plate covered with a thin layer of silver iodide. The plate was placed in a dark room, afterwards the image was revealed by holding it above mercury vapors. Lastly the photograph was washed with hot salty water and it was placed in a sealed glass. It was a long and complex and expensive process that produced one unique image (Girifalco, 1991: 385).

inventor, the French painter physicist Louis-Jacques Daguerre (1787-1851), made its production very hard (Dupouy, 2015: 19), although not impossible. Many photographers specialized in erotic daguerrotypes. Félix Jacques Moulin (1802-1875), Auguste Belloc (1800-1867), and Eugène Durieu (1800-1874) are some of the most famous ones. They and many others took the female body as the perfect erotic object (Figure 42) (Pultz, 1995: 38).

Figure 42. “Nu féminin de dos” photo by Moulin, 1850



Source: <https://goo.gl/iYmw4k>, Date Accessed: January 9, 2018.

Photographs of nude women in provocative poses were promoted, commissioned, and sold to an audience increasingly eager to look, either with lust, or with artistic and academic intentions (Celdrán, 2013).

The female body was a resource used for advertising agencies as well, especially for the promotion of cigarettes. Photographs and lithography of women were used as advertising devices, utilized as an incentive to capture the interest of the clients (McDonough, & Egolf, 2002: A). In the article “Advertising in the Early Cigarette Industry: W. Duke, Sons & Company of Durham”, Patrick G. Porter mentions one of the most successful publicity incentives ever created. Around 1887, W. Duke, Sons & Company, dedicated to the production of cigarettes, produced a set of collector cards with photos of women placed in the cigarette packs (Figure 43) (Porter, 1971, 35).

Figure 43. Duke's collector cards from 1887



Source: <https://goo.gl/3Gwjzu>, Date Accessed: January 10, 2018.

The erotic depictions of the models make obvious the sexual connotations of the photos. With this strategy, W. Duke, Sons & Company was crowned as the leader in the tobacco industry.

At the end of the nineteenth century, the creation of more accessible cameras with easier photographic processes allowed the multiple printing of images. Photographers very quickly went from taking erotic to pornographic photographs, involving couples (heterosexual and homosexual) in explicit sexual positions. This new technology made the mass production of erotic/pornographic photographs possible, which turned out being a very lucrative market with great demand (Dupouy, 2015: 16).

In the same time period, in 1895 the cinematograph was invented by the French brothers Louis and Auguste Lumière. Same as photographers, filmmakers used the body and its sexuality as the central concept to unleash their imagination and creativity. One year after the cinematograph's invention, the first kiss of history was filmed. In 1896 the short film "The Kiss", by American film cinematographer William Heise, the intimate instant when a woman and a man share a kiss on the lips was displayed (López, 2015). Even though the act was a recreated scene from a Broadway play from 1895, performed by the same actors, it caused controversy in a society that "embraced modesty". Nevertheless, the public demanded to see more, so it happened that it was the same year when the first erotic movies of history were produced.

In 1896 French producer Albert Kirchner (1860-1901) displayed "*Le Coucher de la Maríee*" (Figure 44) (Marshall Cavendish Cooperation, 2010: 559). The film shows a woman performing a striptease for a man. She, feeling shy, asks the man to wait behind a screen until she finishes undressing.

Figure 44. "Le Coucher de la Maríee" film by Albert Kirchner, 1896



Source: <https://goo.gl/VEmNnc>, Date Accessed: January 10, 2018.

The interesting point of this film is that while the man waits impatiently for her, the woman seduces the audience by looking directly to the camera while taking off the layers of clothes, as if inviting them to be part of the activity.

One year afterwards, in 1897, the film "*Après le bal*" by French filmmaker Georges Méliès is displayed, and in this occasion both protagonists are women. The movie shows a routinely intimate activity: a woman taking a bath after being helped by a domestic servant to undress. The interaction between the two women happens in such a way that their actions hide the most intimate parts of the body, creating a feeling of anticipation in the viewer.

At the beginning of the twentieth century, erotic films were played clandestinely in events at private clubs for small groups of exclusively men, while public cinema avoided any reference of eroticism. In the meantime, erotic photos (either implicit or explicit) were present in everyday life: posters, stamps, stickers, magazines, advertising, instructional material, postcards, and collector's postcards, which had the highest demand. By 1907, more than 300 million erotic/semi-erotic postcards per year were being produced just in France (Figure 45), and exported to countries like Germany, the United States, and Great Britain. (Terret, 2002: 273).

In the 1920s the invention of the printing press made the mass production of newspapers, magazines, books, etc. easier. The exhibition “The Naked Truth and More Besides” presented in 2013 in Berlin, displays and elucidates the infinite usage given to the body in the early twentieth century:

“Were corsets desirable? Photographs of corset marks on naked female bodies argue against them. What good was exercise? Photographs of trained naked bodies documented the benefits. What did a normal person look like, and what did the ideal body look like? With nude photography printed in numerous magazines and books, people began to develop an eye for these matters” (Staatliche Museen zu Berlin, 2013).

With more and more images becoming available, the body could be compared and evaluated, therefore, people became more aware of their own and other people’s bodies (picture 45). The ideals of beauty and perfection spread through this imagery influenced and shaped the body culture of this period.

Figure 45. Fitness advertisements from 1920



Source: <https://goo.gl/KQbp7s>, Date Accessed: January 14, 2018.

Advertising agencies focused the commercials on the physique of the body more than on the product itself, very often sexualizing it to capture the attention of patrons (Figure 46). The usage of the “most erotic” aspects of the female body exclusively, like the lips or legs, was very common, and showed them in a sensual context that usually had nothing to do with the product being promoted.

Figure 46. Women images in advertisements from 1920



Source: <http://www.vintageadbrowser.com/>, Date Accessed: January 15, 2018

The body has been victim of objectification for decades, not only for the imagery presented but for the slogans created to support these images. Phrases like “Most men ask, Is she pretty? Not, is she clever?”, or “A skin you love to touch” (Figure 47) from an advertisement for Woodbury’s Facial Soap in 1911, encouraged this misconception that the female body is no more but this perfect object whose only purpose is seduction.

Figure 47. Woodbury’s Facial Soap advertisement from 1911



Source: <https://goo.gl/ai1a8h>, Date Accessed: January 15, 2018.

From the moment photography, advertisement, and cinematography were invented, they have explored and challenged all existing limits of eroticism and sex. These platforms not only have documented the attitude of the society towards the body, but also played a very important role in the shape of the ideals of beauty, perfect body, gender roles, and stereotypes.

2.2. Iconographic Body in World War II: War and Post-War (1940-1950s)

During World War II (1939-1945), propaganda and advertisement were used as powerful weapons of persuasion from the very beginning and it proved to be very effective. Artists, photographers and filmmakers used the human body as an icon that served to two causes: first, to represent the ideals of the countries and elevate the spirit of nationalism, and second as an instrument to influence and control the masses (Gautam, 2012: 1100). The concept they used was very simple to understand and to assimilate: the idea of the good ones (the patriots) and the bad ones (the enemies) (Gauli, 2001: 126).

Every militarized country involved in the conflict followed the same tendency for male body's print representations: Muscular and athletic bodies; typical godlike models from the ancient classical canons. However, the approaches were very different in every country.

Each state created an official ministry of information that was in charge of the creation, edition, and control of advertisement and propaganda in magazines, newspapers, books, films, photography. The United States had OWI and WMC (Yesil, 2004: 103). In Germany, Adolf Hitler created the Ministry of Propaganda (Herf, 2005: 52), France had a Minister of Information, and the United Kingdom had MOI (Wilkinson, 2015: 2). These departments had the job of adapting the body's iconography to the sociocultural "reality" of the country they represented, with the most appealing representations with which the citizen would feel identified. The goal of the depictions was to provoke feeling of pride and empathy on the citizens, and insecurity and fear on the enemy.

German Nazi propaganda for example screamed victory and arrogance (Figure 48).

Figure 48. Nazi propaganda from WW2



Source: <https://goo.gl/PD2BNQ>, Date Accessed: January 19, 2018.

The position of the body, holding the Nazi flag with both hands denotes power and conviction, he is a proud soldier. His chin is up, and he is looking at the horizon, as if he is watching the bright future. The cap makes it impossible to know the color of his hair or eyes, the dark shadow on his face making the features very generic. This style in the representations is used very often by dictatorial states to deprive the man of his individuality and promotes a collective thinking.

In contrast, American propaganda, spoke of bravery and heroes (Figure 49).

Figure 49. American propaganda from WW2



Source: <https://goo.gl/j24Nn6>, Date Accessed: January 19, 2018.

The bandaged arm of the soldier and his rather messy uniform humanizes him. The helmet on his head creates a shadow on his face. However, not enough to hide his eyes that are making eye contact with the viewer. His facial features are

easily distinguishable, and his face is neither perfect nor generic, but rather interpreted as that of a friend, son, father, or husband.

The same good guy/bad guy concept was followed in motion pictures. Films showing soldiers in combat which highlights the bravery of the patriot soldiers, and the cowardice of the enemy were often played in theaters. To increase the iconographic meaning of the body, the military uniform was essential in every representation. Hence, the body represents the values of the country, and the uniform symbolizes the state.

The depictions of the female body in propaganda and advertising were different. The representations depended on the states' necessities, which emphasized the sexual roles that women were supposed to play in the society (Gauli, 2014). Some of the first cartels and propagandas aimed to keep the state's ideals alive. Women were represented as delicate mothers and housewives who contributed to the war through domestic means.

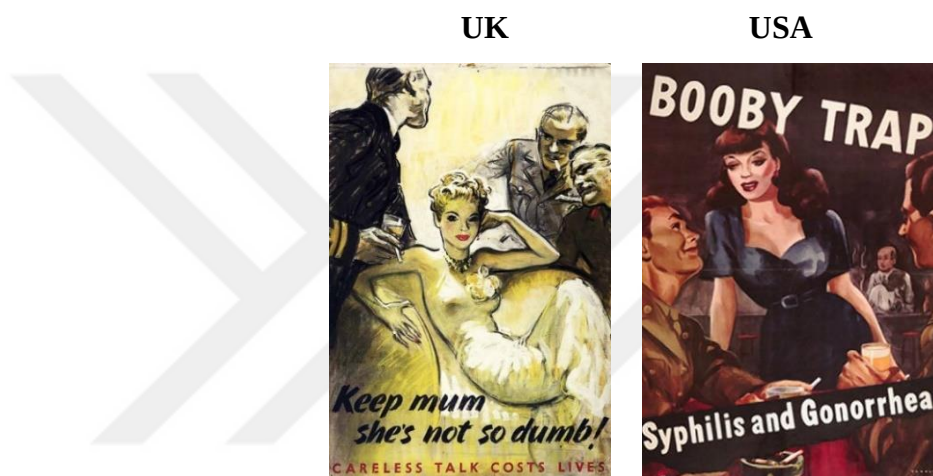
To get more men to join the army, the strategy was to focus the defenseless women and children who were victims in need of their brave soldiers' protection. This type of propaganda portrayed the "helpless" female body being sexually abused by enemy soldiers whose bodies were usually depicted hunchbacked and rather deformed, with disproportionate limbs, and long fingers in the shape of claws.

When the war hit the United States with the attack on Pearl Harbor³ in 1941, the male workforce was sent to the battlefield to fill the lines of the U.S. military. The deficiency of labor force in the factories and of Coast Guard operators, the need for nurses in the field and in military hospitals, etc. prompted the OWI and WMC to resort to women. The agencies launched an extensive campaign, that encouraged the female population to take wartime jobs that men left to fight the enemy (Rupp, 2015: 137-138). Films, advertisements, propagandas, photographs in magazines, posters, and newspapers showed images of women with fit but still feminine bodies, determined and eager to help their country. The campaign was very effective, many women answered the call immediately, they joined to the armament factories and enrolled in the army.

³ December 7, 1941, surprise aerial attack on the U.S. naval base at Pearl Harbor on Oahu Island, Hawaii, by the Japanese army that precipitated the entry of the United States into World War II (The Editors of Encyclopædia Britannica, 2017).

Lastly, the female body as a threat (Figure 50). From 1935 to 1940, MOI launch a “anti-gossip” campaigns in the UK, portraying beautiful women who used their provocative bodies to coax men to reveal state secrets that would endanger the troops (Fox, 2012: 939). Meanwhile, in the United States the representations of those women who didn’t follow the norms built by the society (called loose women, good time girls, or pick-ups). Those women who dare to openly express their sexuality, were used to create awareness about venereal diseases VD (picture 50).

Figure 50. Female-body-as-a-threat posters from WW2



Source: <http://www.vintageadbrowser.com/>, Date Accessed: March 04, 2018.

The message of these representations is clear: “beautiful but dangerous” women. Their bodies were the perfect weapon for seduction: pronounced curves, generous breasts, narrow waists, seductive attitudes and cunning eyes, very similar to Hesiod’s description of Pandora in his poem *"Theogony"* (see page 33). These were women whose attractive bodies would provoke the fall and disgrace of innocent men.

What is interesting about the body’s representations (printed and audiovisual) from WW2 is how stereotyped they were. Men were patriots/heroes, tall in size, with strong and well-defined bodies; enemies, shorter in size, whose bodies were depicted somewhat deformed and disproportionate, almost monster-like. Women were housewives and mothers; workers, just because it was of utmost necessity, and only until the end of the war; and threats to the society if they were too "scandalous" for the social norm. The representations of women followed all (with a few exceptions) the same standards: slim and delicate bodies, perfect curves, perfect makeup and hairstyle.

Post-War Body

When in 1945 the war ended, men returned home and there was no longer any need for women to continue working. The gender roles had to return to what the social rules dictated, that was “with white men on top, blacks on the bottom, and women in the kitchen” (Gianoulis, 2004: 1).

War already demonstrated the power of manipulation that communication media has on the masses. In the 50s, advertisements in press and television were constantly present in the population’s mind, creating new values with a very sexist style that perpetuated stereotypes. Ads for household products like refrigerators and kitchens displayed women as perfect and efficient housewives with slim bodies, perfect makeup, and perfect hairstyle waiting (usually in the kitchen) for their husbands to come back home from work (Figure 51).

Figure 51. Sexist advertisement from 1950s



Source: <https://goo.gl/tUJ4Pq>, Date Accessed: January 20, 2018.

The male body was depicted strong and powerful, and the man was portrayed as intelligent, sophisticated and successful. The female body was portrayed as delicate and slim and was an object at the service of men. Women were depicted as obedient, not very smart, but eager to make their husbands happy. This behavior was enhanced by the film industry as well. Movies like “Gentlemen Prefer Blondes” (1953), and “Some like it hot” (1959), starring Marilyn Monroe, promoted an unreal and insulting “pretty but vapid” image of the woman. It can be said that the 50s was a decade where

the depictions in all the media promoted a degrading attitude towards the female body and the woman herself.

2.3. Feminist Body (1960-1970s)

As it has been mentioned in the previous section, WW2 prompted women to leave their homes and join the work force in different factories. Throughout Europe and the United States, women became integral components as heads of the house while men were sent to the battlefield. This led to the change in the traditional values and in the social structure. Once the war was over, those in power tried to reestablish the social order to its original state. Nonetheless, women around the world questioned their place in society and they started organizing activities in favor of women's rights. Nevertheless, this is not the first time women defied their "place in the world". In the 1850s and 1860s the first feminist groups and organizations were formed. At the beginning of the twentieth century these groups started a series of movements and reforms that will culminate in the winning of the right for women to vote after World War 1 (LeGates, 2012: 197).

In 1960, a new age of feminist activism appeared. In the middle of political and economic strikes, the largest social movement of women in Europe, United States, and Latin America interrupted in international politics, with campaigns for the right of abortion and contraceptives, denouncing sexism in politics, in work, education, media, and daily life. This new surge of feminism was known as "the second wave" (Baxandall, & Gordon, 2011: 414-415).

The end of the 60s and the 70s forged new pathways in photography, performance, video, and conceptual art. These expressions of art sought to free the body of the social and political oppression that eclipsed it. Ironically, this made of the body the perfect platform and symbol for artists to fight against sexism, and racism.

In performance art, the movement of the body narrated the construction of women, the structure of the identity, the silence, and oppression that victimized the body. Artists' bodies literally became part of the artwork. Like in the work of the artist Carolee Schneemann for example, born in 1939 in Philadelphia, United States. In 1964, Schneemann interpreted "Meat Joy" (Figure 52) in the American Center in Paris (Schneemann, 1991: 29). She, along with other performers (five men and four

women), danced naked interacting with each other, other objects, paint, raw chicken, and fish in a hedonistic orgy of meat and skin.

Figure 52. “Meat Joy” performance by Schneemann. C, 1964



Source: <https://goo.gl/wG7MUt>, Date Accessed: January 23, 2018.

Schneemann’s “Meat Joy” marked a before and after in body art, she freed the so long repressed corporal behavior. Quoting the words of the art historian Stephanie Jeanjean, written in the book “Camera Obscura” (Bociurkiw, 2016: 6), this artwork is “a gesture of disobedience and emancipation”. The performance pretended and succeed in shocking the spectators by breaking taboos like eroticism, sexuality, nudity, and pleasure (Artishock, 2014).

Another important feminist artist, is the Brazilian Lygia Pape (1927-2004), who in 1968 presented her work “*O Ovo*” (Figure 53) (Museo Nacional Centro de Arte Reina Sofía & Projeto Lygia Pape, 2011).

Figure 53. “O Ovo” performance by Pape. L, 1968



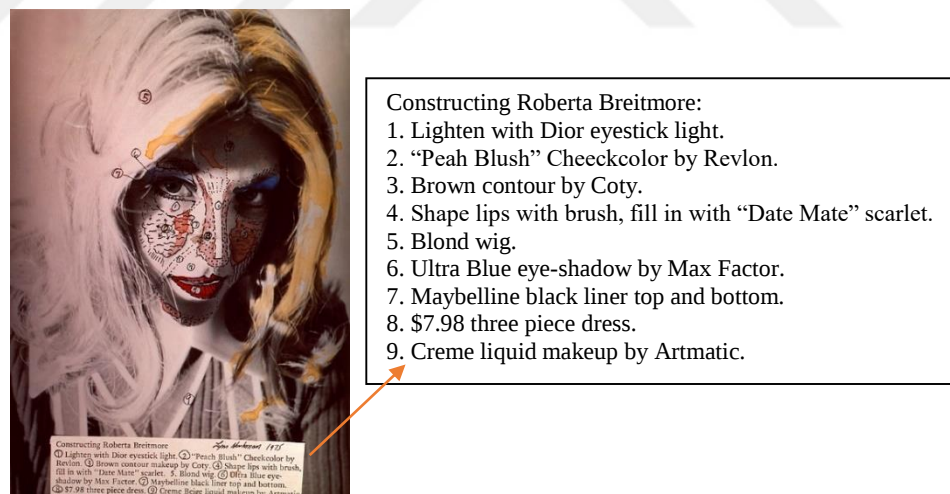
Source: <https://goo.gl/Y2M4dz>, Date Accessed: January 23, 2018.

This work presents the action of three people, escaping from the interior of three cubic forms after tearing the shell in a gesture both transgressive and liberating. In the 70s feminist artists fought to be included in the history of art.

Their artwork allowed them to speak in favor of important topics like the women's right of expression, against stereotypes associated with gender, and any sexist, racist, classist, and homophobic attitude.

One of the artists who took performance art to another level is American artist Lynn Hershman Leeson (1941-Present). From 1974 to 1978 she created an alter ego named Roberta Breitmore. During those four years she completely abandoned her identity to become the character. She rented an apartment, saw a psychiatrist, acquired a driver's license, opened a bank account, and even obtained a credit card, all under the name of Roberta Breitmore (Glaser-Koren, 2014). Leeson documented each step of her performance in photographic archives (Figure 54), which were then displayed in a fascinating exhibition, and afterwards a graphic novel.

Figure 54. "Roberta Breitmore" Construction Chart 1 by Hershman. L,



Source: <https://goo.gl/UV2CGN>, Date Accessed: January 23, 2018.

Her face is an infographic image of her performance, like a sketch for plastic surgery, this picture reflects what a woman has to go through only to be "herself". Through this work, the artist explored the nature of female identity that has been constructed by society. Leeson built her character (physical appearance, makeup,

clothes, attitude) based on the “sexually provocative” archetypes shown on television, photographs, and magazines.

In a time when the average woman was compared with Marilyn Monroe⁴ or Farrah Fawcett⁵, and the female body was measured according to model Twiggy⁶ as a standard. Artists like the Austrian Karin Mack, the New Yorker Hannah Wilke, the Italo-Brazilian Anna Maria Maiolino, and the German Renate Eisenegger, took the human body and used it not as an object like the media showed, but as a platform, or a symbol. These and many other artists innovated and created new forms of art to break the schemes and fight against stereotypes.

2.4. Political, Technological Bodies, and Body Identity (1980s-1990s)

During the 80s and 90s there was an important change in the way the body was perceived and how it was used to create art. All the denials, censorship, and prohibitions to which the body was subjected in past times disappeared; it was the perfect time for photography, film, performance arts, propaganda and conceptual arts to be uncovered with freedom from the issues that in past decades were considered too taboo to be approached.

Political Body and Body Identity

Artists were eager to explore all the possibilities and applications of the human body, and many found photography to be the perfect platform for their creativity. According to John Pultz, it “was the perfect medium for the expression of the decade's "here-and-now" spirit and was embraced as an identifying mark of the new generation, often in a very personal form.” (Pultz, 1995: 113). The representations of the body acquired a social and political commitment, artists and designers used it and manipulated it to examine, inform, educate, question, and criticize the relationship between gender, race, and sexuality with the society.

⁴ American film actress.

⁵ American film actress.

⁶ Leslie Lawson, better known as Twiggy is an English supermodel, actress and singer (Nolen, 2018).

The most controversial artist in exploring the bonds of body, sex and gender in what was considered an artistic/pornographic exposure, is American artist Robert Mapplethorpe (1946-1989). For a while at the end of the 70s, the focus of his art was the subculture of sadomasochistic gay sex, homoerotic bondage, fetishism and anatomical penetration (Cotter, 2016). His work was a self-discovery for the artist, for he himself participated in this practice and posed for some of his compositions as a model.

In 1980 for several years he worked on the “Black Book” collection, the artist captured with his camera his ideas of the perfection of the body, and in his opinion that perfection was present in black men’s bodies. Following the erotic style of his previous work, he shared his vision of beauty with a perfect technique and mastery in the composition. Some of the most powerful images of the collection are close-ups of parts of the body, and photos of “white” and “black” models (Figure 55). In his photograph, titled “Man in polyester Suit” (1890), a black penis is exposed and emerging out of a pants’ unzipped fly (Mercer, 2010: 185). And in another photograph, titled “Ken Moody and Robert Sherman” (1985), the subject is two bold heads in profile, one black and one white, become negative-positive silhouettes.

Figure 55. “Ken Moody and Robert Sherman” by Mapplethorpe, 1984



Source: <https://goo.gl/A4GthZ>, Date Accessed: January 25, 2018.

Mapplethorpe’s provocative body work, although repeatedly censored, established him as the most important artist of the twentieth century. *He is a perfect example of the audacious nature of the art in the 80s’*. He opened doors for artists to explore every aspect of the human body unapologetically and without censure.

In the 90s the body achieved and consolidated the possibility of own identity, acquired great visibility, social legitimation, liberation, and a sex-positive attitude. According to the journalist Dylan Kerr, the battles of Robert Mapplethorpe against censorship were crucial in this “body [acknowledgement]” (Kerr, 2015), (Guerrero, n.d.). However, the artwork fellow artists like Cindy Sherman, Catherine Opie, Barbara Kruger, Nan Goldin, and others were a great contribution to the future vision of the body as well.

Technological Body

A key factor for the 90s representations of the body was the fast development of science, cosmetic surgery, and technology. The artists were ecstatic with the possibilities that new scientific discoveries and technological inventions offered to human anatomy and what that meant for the representations of the body in art. Of the most extreme body works it can be seen in the performances of the Australian-based contemporary and performance artist Stelarc, formerly Stelios Arcadiou, who was born in 1946 in Cyprus. Until this day his performances continue to cause shock to the masses due to the unusual conditions in which he exposes his own body. He has been using his body as his focus through his performances since the late 1960s. His performances include attaching a "third hand" (Figure 56) to his body (1992), implanting an “ear” in his forearm (1996), and over 25 "suspension" events where he hung his body from hooks piercing his skin (Stelarc, 1998).

Figure 56. “Third hand” by Stelarc



Source: <http://stelarc.org/?catID=20265>, Date Accessed: January 27, 2018.

Stelarc's approach is based on the theory that the essence of the being is in social relationships, not in the physical body. The biological body is obsolete, but no one can live without a body, therefore alternative forms of embodiment must be considered. The artist is convinced that a new conception of the body is necessary, which implies the breaking of the biological body, the modification of its structure, and the transcendence of its limits. The body needs to become a place of action, interaction, and experimentation.

Another artist who surprised art critics, and the public due to the harshness of her radical surgery-performances is French artist Mireille Suzanne Francette Porte, better known as Orlan. She uses her own body as a platform for her art, exposing it to different surgical procedures. The artist has undergone a total of nine surgeries that were filmed and transmitted in live stream while the procedures were performed with the artist awake using only local anesthesia to endure the operation.

In her performance “The ultimate masterpiece: the reincarnation of saint Orlan” (Figure 57) the artist underwent seven cosmetic surgeries in her searching for the absolute beauty (Goellner & Couto, 2007:. 124-125). For her transformation the artist redesigned the features of her face using some of the most iconic artworks of art’s history as reference.

Figure 57. “The ultimate masterpiece: the reincarnation of saint Orlan”



Source: <https://goo.gl/Fq7DHs>, Date Accessed: March 10, 2018.

The artist took the forehead of da Vinci's “Gioconda”, the eyes of Gerome's “*Psyqué*”, “Diana's” nose from a Fontainebleau School, the mouth of “*Europa*” by

Boucher, and the chin of Botticelli's "Venus", (Hirschhorn, 1996: 147-148). Orlan's face became the canvas for her carnal art which she uses as a platform to expose her displeasure with the "beauty standards" imposed on women by men. It is evident that the artist sees a "body-merchandise" concept in the representations of the artists from the renaissance. she observes that same idea in nowadays' depictions. However this time proposed by globalized industries that were and still are present in the everyday life through mass media, which promotes the importance of youth, and transforms the body into nothing but a superficial object.

With their performances Sterlac and Orlan took the body to unusual extremes. They both made use of technology to transform their bodies into versatile objects ready to be modified, in certain way the body was no longer a symbol of ideal perfection, but rather a blank canvas, free to be experimented on, modified or upgraded at will of the artist.

2.5. Perfect Body, Perfect Beauty (2000-2017)

In the twenty-first century, the representations of the body in advertising redefined the concept of beauty: a perfect body is equal to perfect "beauty", or being more specific, what society interprets as an ideal of beauty. Being beautiful was no longer associated just with symmetry, and health (purely mathematical and philosophical concepts). Instead the perception of the human body has been defined by the images to which each culture is exposed (Russell, 2013).

Graphic advertisements and television commercials followed faithfully the pre-established aesthetic tendencies of the societies, which were highly influenced by the famous personalities of the time. Stereotypes are employed, and any distinctive identity and individuality is eliminated, minimizing the distinctions of the body. Brands such as Calvin Klein (Figure 58), Dolce & Gabbana (Figure 59), and Guess, learned that sex sells, and they striped their models in their advertisements (magazines, billboards, television ads) (Kerr, 2015), making careless use of their bodies, revolutionizing the visual language of the 2000's (Celdrán, 2013).

Figure 58. Eva Mendez and Jamie Dornan for Calvin Klein advertising



Source: <https://goo.gl/aWLCxj>, Date Accessed: February 01, 2018.

Figure 59. Dolce & Gabbana advertising



Source: <https://goo.gl/ouoed7>, Date Accessed: February 03, 2018.

The images portray perfect Greek-God-like sculpted bodies in the style of great classical artists. The men have athletic bodies with minimal fat percentage. Their muscles well defined; torsos V shaped (wide shoulders and chest, and narrow waist), abdominal muscles evidently protrude, powerful biceps, well defined triceps, and strong legs (Fanjul Peyró: 2009: 6). On the other hand, women have thin bodies; toned yet non-muscular, firm breasts, narrow waists, wide hips, perfect curves, long and delicate legs. Both young and beautiful, their skins smooth and without imperfections like marble.

The body language of the models, their facial expressions, and the fact that they stare directly at the camera, indicates that the purpose of their sexual behavior is exclusively to captivate the spectator. These representations depict the bodies as beautiful empty vessels without individual identities, simple objects for merchandising purposes, similar to the products being promoted.

Hygiene, cigarettes, automobiles, perfumery, clothing, jewelry products, magazines, and even the film and music industry, pay cult to the body, to fitness, to eternal youth. Advertising takes advantage of the insecurities of the public and exploits them to increase sales, it nourished the idea that being standardized beautiful will lead to happiness that "ugliness" will never reach. To certain extend the treatment given to the body in advertising is similar to that given in art during the 80s, except that advertising does not analyze it from an existential perspective, but from a materialist point of view.

During the twenty-first century the criteria of "beauty" were more specific and unrealistic to achieve: tall, a slender figure (for women), a muscular body with broad shoulders (for men), young appearance, and white skin (Figure 60). It is from these depictions, that people judge and normalize what is "beautiful", what is "acceptable", and what is needed to reach success and happiness (Gauli, 2000).

Figure 60. Victoria's Secret advertising



Source: <https://goo.gl/TG1DYp>, Date Accessed: February 05, 2018.

The message that mass media insists to communicate is that the body appearance must be thought, evaluated, and appreciated. Furthermore, it is the media

who directs what people should think, how the body would be evaluated, and what body shape is appreciated (Pérez, 2015). In the conference titled “An epidemic of beauty sickness” for TEDx 2013, Renee Engeln, comments that every culture has been bombarded with images that constantly transmit three specific messages:

“Message 1: Beautiful is the most important, most powerful thing a girl or woman can be. Message 2: This is what beauty looks like. And message 3, which is sometimes implicit, it’s sometimes just an inference: you don’t look like this” (Engeln, 2013).

Nevertheless, something that everybody seems to forget is that these images are constructions created by a team of professionals: hairdressers, makeup artists, stylists, photographers, experts in preproduction, and postproduction (Russell, 2013). These people’s job is to idealize the body in order to sell a product. Especially the fashion and cosmetics industries, which worldwide profits reach the 1.2 trillion dollars (Joint Economic Committee United States Congress, 2015: 1), and 444 billion dollars respectively (Abbas, 2017), by selling unreal expectations of beauty (Hammer, 2016).

It is true that when media talked about looks, it’s often about women, however, it cannot be denied that men have been pressured to work on their physique too, being thin and athletic is not good enough, a series of super heroes’ movies in the last decade, like for example “Iron man”, “300”, “Thor”, have reinforced the idea that the perfect body is the “hero’s body”, compelling men to build an unattainable body (List, 2017). Once again, the most erotic aspects of the body are used, although this time it is not exclusive to the female form but male as well.

There is an overexposure of these representations in television, print media, and internet, which has resulted in anxious men and women (specially from Western countries), of all ages, insecure of their physical appearance, who experience social pressure and are so desperate to attain an unrealistic stereotypical canon of beauty that falls in eating disorders (ED) like anorexia nervosa⁷ (AN), bulimia nervosa⁸ (BN) and

⁷ An eating disorder characterized by markedly reduced appetite or total aversion to food (MedicineNet.com, n.d.)

⁸ Also called bulimia nervosa... is characterized by episodes of bingeing and somehow purging the food and/or associated calories in the pursuit of weight loss (MedicineNet.com, n.d.)

binge eating disorder⁹ (BED); body dysmorphic disorder (BDD)¹⁰ like bigorexia¹¹ (Muñoz, 2014: 7).

Eating disorders have become a trend that has increase in the last decades around the world. According to the documentary “*Obsesión, Cuerpos que Gritan: Anorexia y Bulimia*”¹² from the National Geographic Channel, around seventy million of the total population of the world suffer of some type eating disorders (National Geographic, 2011). Although ED are usually associated with Western cultures, the rate of abnormal eating behavior seems to be increasing alarmingly fast in Non-Western countries as well (Surveillance and Epidemiology Branch of the Centre for Health Protection, 2014: 2). However, ED and dysmorphia are not the only consequences of this beauty obsession, there is an addiction to cosmetic procedures and surgeries that has increase since the 2000, because what is impossible for nature, is fixable with a bistoury.

Cosmetic Surgery: “Perfect Beauty” and the Golden Ratio.

Maxillo-facial surgeon, Stephen Marquardt, president of Marquardt Beauty Analysis LLC, strongly believes that the more beautiful a face is, the closer the proportions are to the Golden Ratio (Wegenstein, 2012: 101). He spent many years studying this relation, and as a result of his investigation in 2001 he developed a mask, the “Golden Mask” (Figure 61). What Marquardt tried to demonstrate was that beauty follows a standard pattern that is based in Greek-Roman canons and the Golden Ratio (Marquardt, 2002: 342). According to him, his mask represented the archetype of perfect beauty, the more the face adjusts to the geometric patterns, the more attractive it will be (Marquardt, 2001).

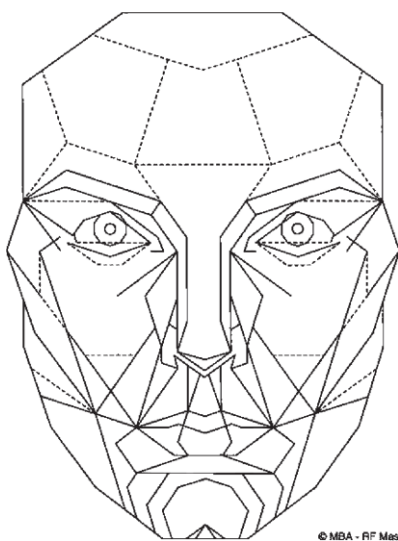
⁹ A severe eating disorder characterized by recurrent episodes of eating large quantities of food... experiencing shame, distress or guilt afterwards; and not regularly using unhealthy compensatory measures (e.g., purging) to counter the binge eating (National Eating Disorders Association, 2018).

¹⁰ Pathological preoccupation where an individual perceive himself as ugly, fixating on a slight abnormality or an imagined flaw (Merriam-Webster, Inc, n.d.).

¹¹ Body dysmorphic disorder in which a person -usually male- becomes obsessed with building muscle to the point where it impacts on his/her interactions with others, employment and his self-image (Medical-Dictionary, n.d.)

¹² Original Spanish. Translated to English: Obsession, Bodies that Scream: Anorexia and Bulimia.

Figure 61. Marquardt's "Golden Mask"



Source: Wegenstein, 2012: 103.

However, even though some cosmetic surgeons agreed that the mask was accurate, many scholars and experts found that it didn't match with non-Anglo-Saxon populations, especially sub-Saharan, African, and East Asian populations. Therefore, in 2007, Marquardt's creation was disproved, but not before it had been used in cosmetic procedures all around the world for years.

In an interview performed to Dr. Atay Atabey, aesthetic surgeon with more than twenty years of experience, established in Izmir Turkey, he explains that it exists basic patterns of triangles and polygons that inscribe the face, and whose base is the golden ratio. Nonetheless, the measurements and proportions depend of each face. Not every rule can be applied to every person, but that doesn't mean that a face is not beautiful. The concept of beauty depends of the culture. For example: enlarged lips, and an elongated neck are considered beautiful in some parts of Africa. The understanding of beauty differs from one place to other (A. Atabey, personal communication, April 4th, 2018).

According with Dr. Atabey, in the last decade the number of surgeries has increased exponentially, the reason for this phenomenon, says the Dr. is the media, that shows body trends that people desires to imitate, but along with these trends it increases the misconception that inner beauty is not as important as it is the external beauty. In consequence more and more people consult with plastic surgeons to change or fix some features in their bodies that they consider ugly, even when that is not the

case, however, in the opinion of Dr. Atabey “You should never destroy a good thing with a surgery” just because of the trends (A. Atabey, personal communication, April 4th, 2018) (Appendix 1).

2.7. Conclusions

The body is undoubtedly a powerful icon that affects all societies and has a great impact on people's life. Throughout the twentieth and twenty-first centuries the human body was saturated with marketing. Fine arts such as photography, cinematography, performance art, and graphic advertisement knew how to take advantage of the circumstances and events, and turned body into the perfect platform for promotion, entertainment and personal delight, political and social propaganda, gender roles, activism, gender identity, and fashion, being the latter the one that would determine the ideal canon of beauty in the twenty-first century.

The connotations that have been given to the human figure have endowed it with courage and strength, but the imposed standards devalued and twisted it into a shallow object. These canons have suffered radical changes in the last century, forcing people to adapt to the new trends. In the twenty-first century the beauty of the body has been used by marketing as a symbol of success (both professional and sentimental) to which one should aspire and that doesn't admit any flaws. Advertising has played a very important role in this matter, by attacking the sensitivity along with people's insecurities, publicity campaigns persuades the masses to consume more products that supposedly will take them closer to this perfect beauty promoted by the media.

3. BREAKING BODY STEREOTYPES

The twenty-first century has been a time of constant dispute between “Perfect Beauty” and “Real Beauty”. While certain brands of clothing, and beauty products continue proclaiming the importance of the standardized beauty and perfect body, several photographers, advertising agencies, films, and TV shows, have decided to follow an anti-stereotype movement, that go against all the "beauty standards" previously imposed in order to revalue the body.

By using positive messages, “Dove” among many companies is the one who stands out the most in terms of altering the way beauty is perceived. This beauty and personal care company launched the “Campaign for Real Beauty” (Figure 62) which asserts that “beauty is not defined by shape, size or color” (Dove, 2016). It focused on two essential social objectives: to question the current beauty canons, and to create a debate, showing new and more open forms of beauty (Portilla, 2009).

Figure 62. Dove "Campaign for Real Beauty"

 Real women. Real beauty



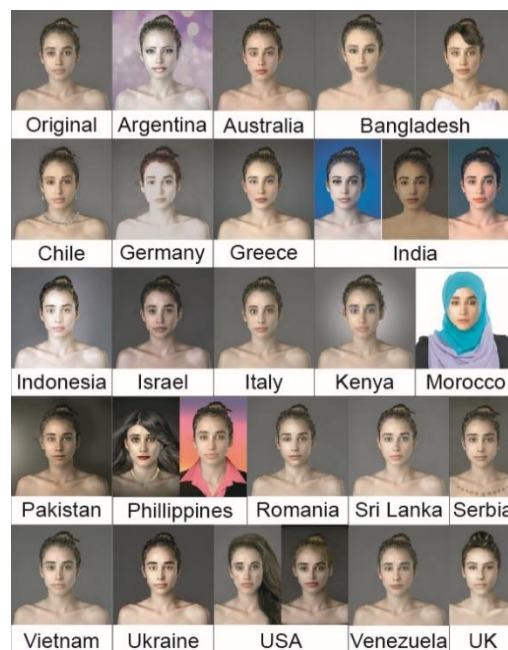
Source: <https://goo.gl/76MeUf>, Date Accessed: February 11, 2018.

The campaign shows smiling women, satisfied and comfortable with themselves, with their bodies, with their ages, modeling their bodies in underwear without shyness or shame. Showing with pride the perfection of their imperfect bodies, without retouching or Photoshop. According to Dennis Lewis, Dove's Creative Director, the campaign was a success due to its originality, honesty and positivism (Portilla, 2009). Using slogans like: “You’re more beautiful than you think”, “Redefining beauty one photo at a time”, “A girl’s beauty confidence starts with you”,

“My beauty, my say” and “Beauty on your own terms” (Dove, 2016) the company aims to reconstruct women's self-esteem.

In his book "On beauty: A history of a western idea", Umberto Eco discusses how all this exposure to a standardized beauty will cause future generations to be incapable of defining what they personally consider beautiful, but will judge it by the images that the media has imposed (Eco, 2010: 426-428). There are many people who agree with Eco's thinking. Consequently, everyday more and more people are interested in studying the beauty of the human body from a real perspective, where media-imposed beauty standards do not interfere with people's perception of beauty. Following that context, journalist Esther Honig performed a very interesting experiment in 2014, to examine global beauty standards, the project's title was "Before and after". The idea was simple, she took a photo of herself, without makeup, and through Fivver, an international website for freelancers, she sent it to more than 50 photo editors from different countries, to whom she asked: "Make me beautiful" (Honig, 2015). Honig had the hypothesis that her requirement would be interpreted differently depending on the person and the culture he or she belonged to (Figure 63). However, she never expected that the photos were so different from each other and from the original.

Figure 63. “Before and After” experiment



Source: <https://goo.gl/b4B8Er>, Date Accessed: February 10, 2018.

The result of the experiment was almost impossible to analyze because, regardless of the nationality of the editor, there wasn't any pattern in the representations: the tone of her face was lightened and darkened, her eyebrows were reduced or thickened, the color of her eyes changed, in some the structure of her face was totally reconstructed, and in one of the photographs she was represented dressing a hijab (Honig, 2015). In Honig's opinion, the experiment became more like a social study, which shows that beauty doesn't have a specific standard (Perez, 2014). The study caught the attention of the media, and it has been replicated several times since then with the results: beauty is subjective. In a way, this experiment replicated the words of John Pultz who said that "the body doesn't have any standardized meaning, any absolute or unchanging essence; rather its connotation has been determined by social, historical, and cultural contexts". (Pultz, 1995: 8)

3.1. Practical Project

All the historical, technical, and socio-cultural research of this study has resulted in the conceptualization and creation of a practical project, for which it was considered appropriate to take as a reference some of the most famous canons of proportions in history. This decision was taken after analyzing the information from the previous chapters. It became obvious that the body has never broken its tight relationship with the canons. The human figure has always been inscribed within grids and limited by mathematical, philosophical, or geometric rules. Even in the very present, the body keeps following canons, now known as trends, that define and control the looks of the body.

The most appropriate platform to be used in the project is photography since it is a creative artistic approach capable of conveying themes in an influential way. The second chapter of the study proves this declaration. The chosen systems for the project are:

1. The first Egyptian Canon of proportions (see page 21);
2. The "Canon" of Polykleitos (see page 35);
3. The *Apoxyomenos* by Lysippus (see page 40);
4. The "Vitruvian Man" by Leonardo da Vinci (see page 55).

By using real models (male and female with different body shapes, sizes, heights, and ages), simple objects, and perspective as guides, these canons are represented in a different way and with a different context from the original ones.

3.1.1. Materials

The idea is to inscribe bodies within the objects by using the perspective. An object has been placed at a certain distance from the body to recreate the canon that fit that object. Accordingly, the materials that will be used for the creation of the project are:

- Models, men and women, of course are the bodies, each one unique, whose beauties does not obey standards.

- Full body suits, color skin, to avoid the sexualization and objectification of the body to the maximum, the spectator will appreciate the body as a composition, without being distracted by trivialities, such as hair color, eye color, body hair, etc.

- Five objects that will represent the canons. The properties considered for the selection of the objects were:

- The size of the object, should not be smaller than forty centimeters (a smaller size will cause excessive defocusing of the shape);

- The objects should fit into the basic concepts of the systems they will recreate,

- The material is unimportant,

- The actual use of the object does not affect its use in any way for the project.

Following these limitations, the object that will be used were:

- The metallic structure of a portable closet, the mattress' support of a bed, a wooden frame, the aluminum lock of the lid of a barrel, and black wire.

3.1.2. Technique

Photography is the best method of carrying out the project, the objects mentioned before will symbolize the canons; with the help of perspective and optical illusion the bodies will be inscribed perfectly within these objects. The photographs

show real bodies, without filters, without editions.

3.1.3. Concept

The project's concept started from the constant struggle between fascination and personal ethics that was experienced during the entire investigative process. Fascination for the human body, for the great variety of ways in which the body has been used in the name of art, and for the amazing variety of representations, philosophies, and symbolism that the body possesses. In contrast to this fascination was the personal ethical obligation of being in complete disagreement with each theory that states that a beautiful body is a body governed by a standard. Even more when the idea crosses from the theory to the application and affects an entire society, causing anxiety, disappointment, depression, and obsession.

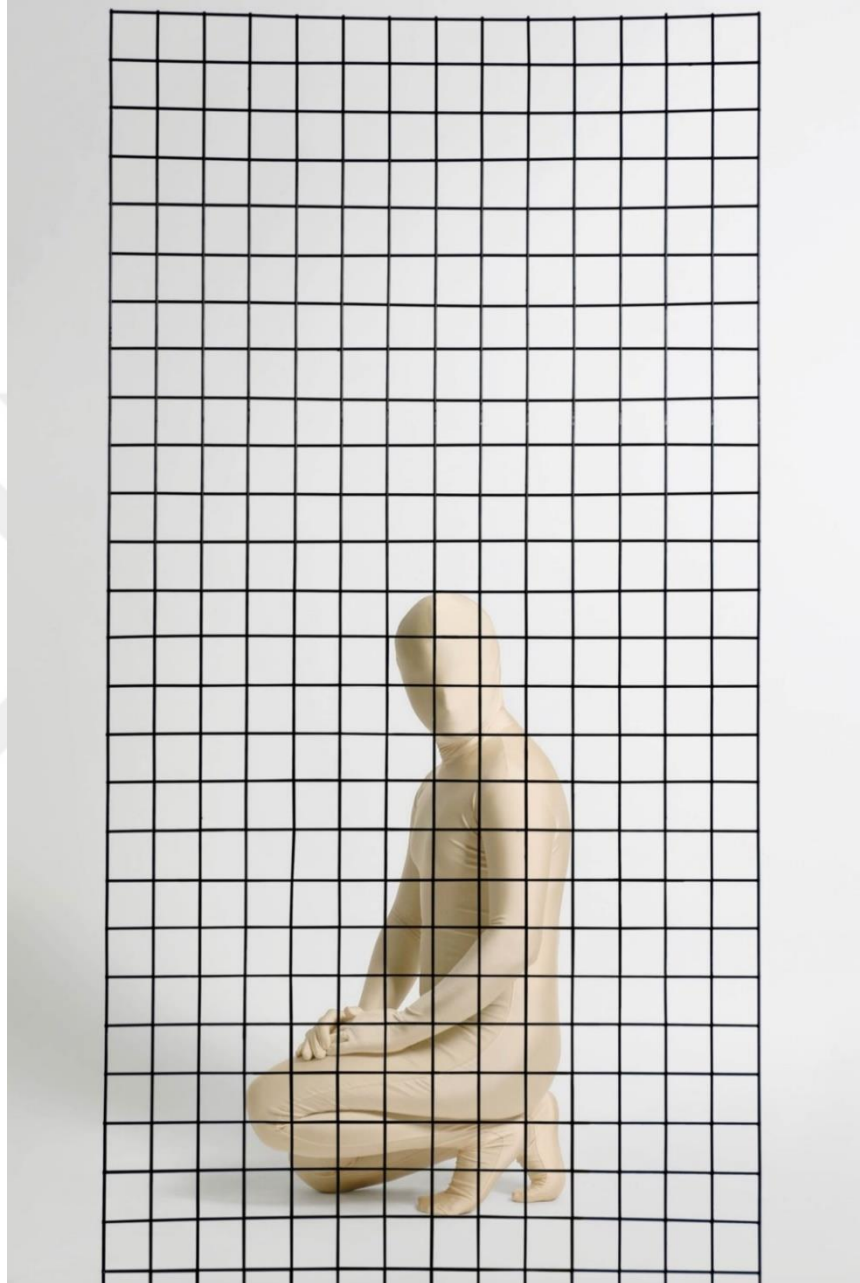
Materializing these thoughts resulted in almost ten very complicated and failed ideas. However, a series of wonderful coincidences lined up to show that the simplest ideas are the best ideas. It was an in-the-right-place-at-the-right-time second. For example, it was something as normal as a person walking down the street, crossing in front of the square entrance of a large building at the exact moment that a roll of packaging tape is lifted, also at the ideal distance where the perspective fits the body in the circular form while the body was inscribed in the square, that resulted in a rustic Vitruvian man. This is how the project began to take shape. After that experience patterns and canons were found everywhere.

Throughout the sessions a very interesting pattern was noticed. The models left behind all their insecurities and shyness, and allowed themselves to show their true personality, they were free of restrictions, their bodies became expression and language. Their bodies break the chains of stereotypes, and trends, and break the frivolous and superficial standards of current beauty. This is the reason why the project was baptized as "Transgressive Bodies".

"Transgressive Bodies" seeks to celebrate the imperfection and individuality of the human body. Each one is different and unique and therefore it must be appreciated. Those differences, and those flaws, make people unique individuals, and they must be appreciated and celebrated, not punished, not judged, nor underestimated.

3.1.4. “Transgressive Bodies”

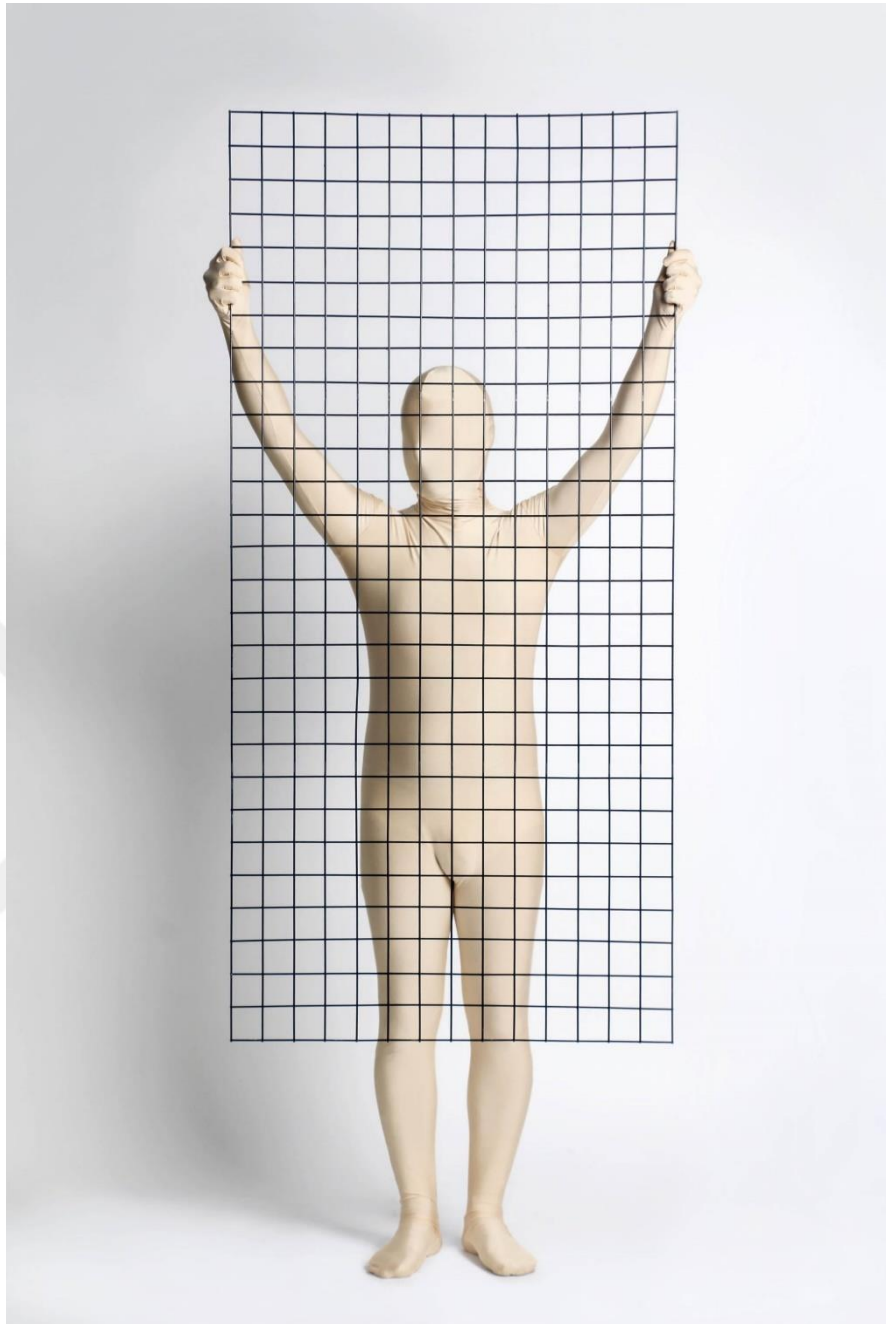
Figure 64. Practical Project, Photograph 1



Cabezas, 2018.

Kneeling in a prison of standards, that's a common feeling nowadays. But the man also evokes strength; his back straight and his chin up, he is ready to challenge and face the pseudo-cans. He will stand up, free himself from the templates and stereotypes and proudly show his body.

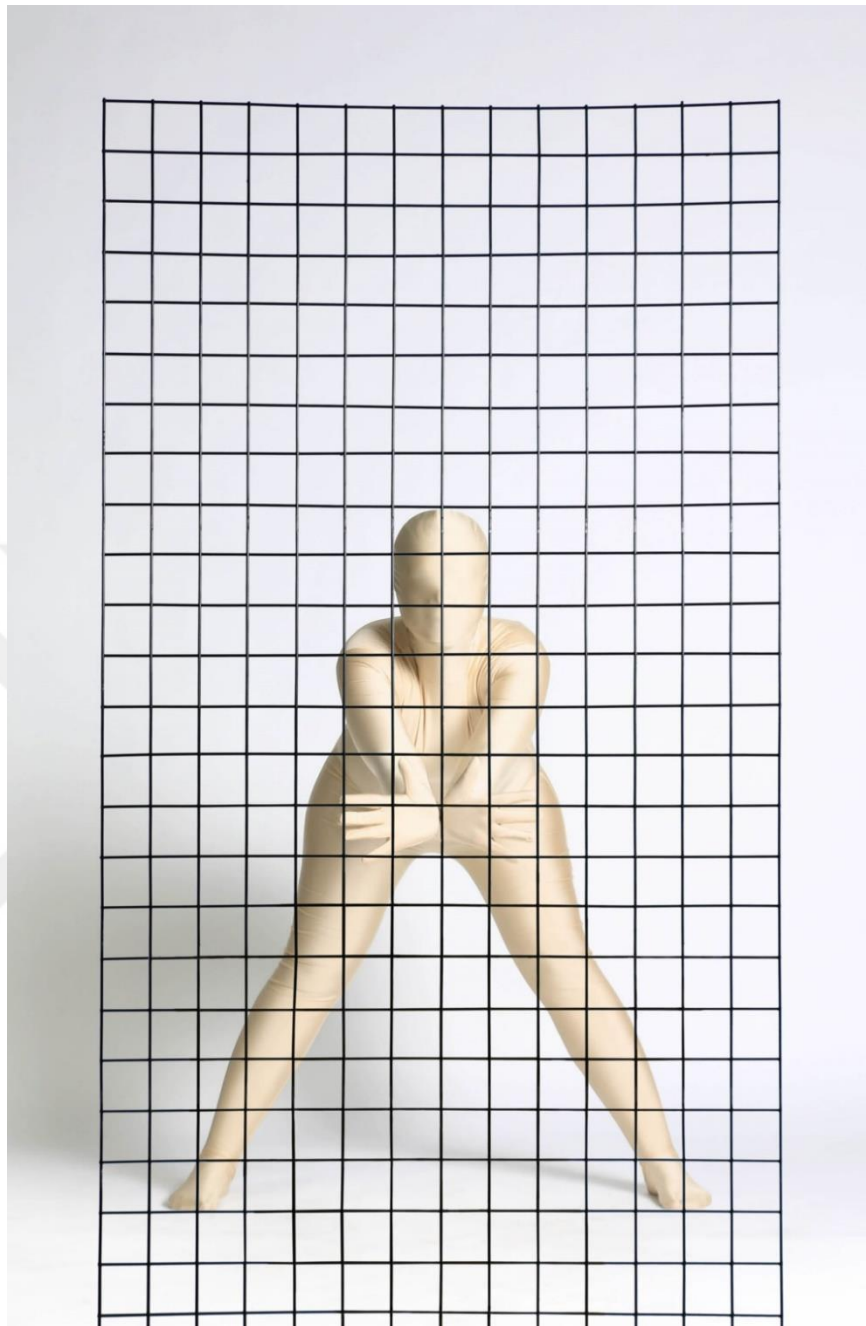
Figure 65. Practical Project, Photograph 2



Cabezas, 2018.

The reality in this photograph is seen with a new perspective, the man has the canon in his hands to empower it, to study it, and with astonishment to notice that he is bigger and stronger than the canon ever was.

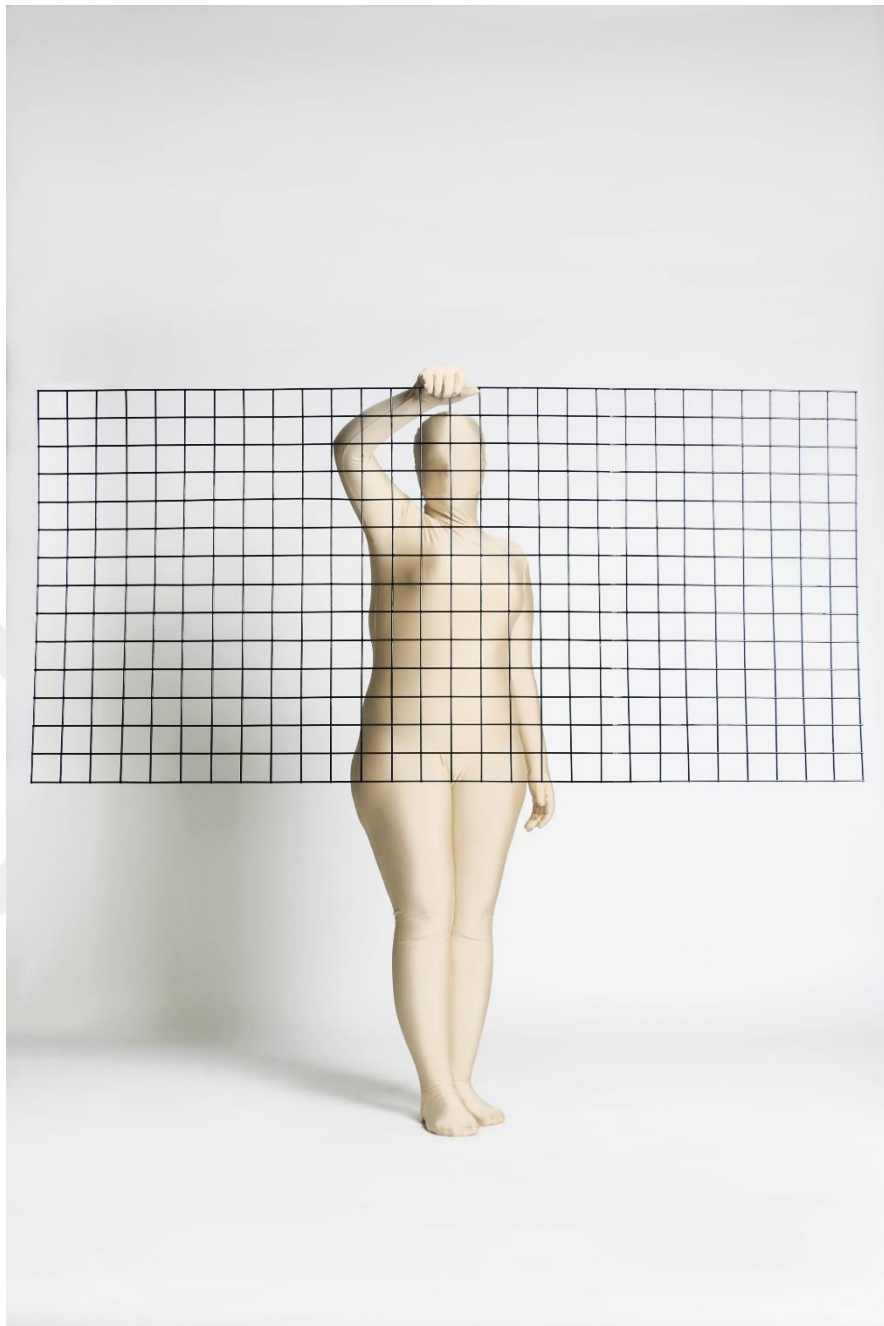
Figure 66. Practical Project, Photograph 3



Cabezas, 2018.

This photograph shows the female body as the standards dictate that it should be: a symmetrical and curvilinear, graceful and delicate attitude, and a little seductive but not much. However, showing these beauty requirements does not mean that to feel comfortable by doing it, it's only showing what one thinks third parties want, because that is what the media has made you believe.

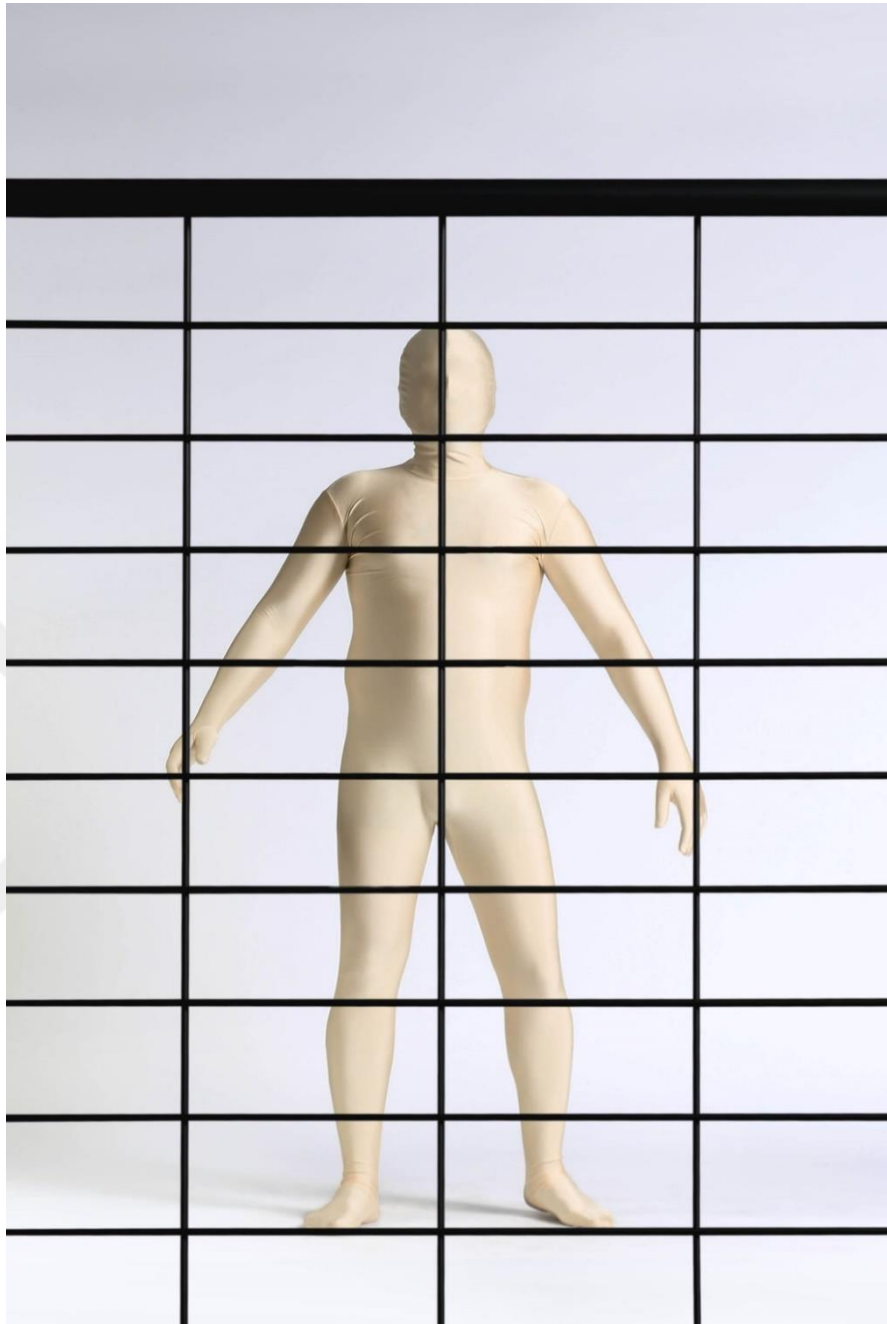
Figure 67. Practical Project, Photograph 4



Cabezas, 2018.

The photograph shows a woman who challenges the network that wants to trap her body and her mind; with one hand she picks it up, and notices that it is lighter than she thought, she will fight against everything it represents because she is stronger, the power is in her hands.

Figure 68. Practical Project, Photograph 5



Cabezas, 2018.

With this photograph, astonishment is evoked. It is a surprise to find oneself being measured according to standards imposed by the media, and is even worse to have to follow them and idolize them.

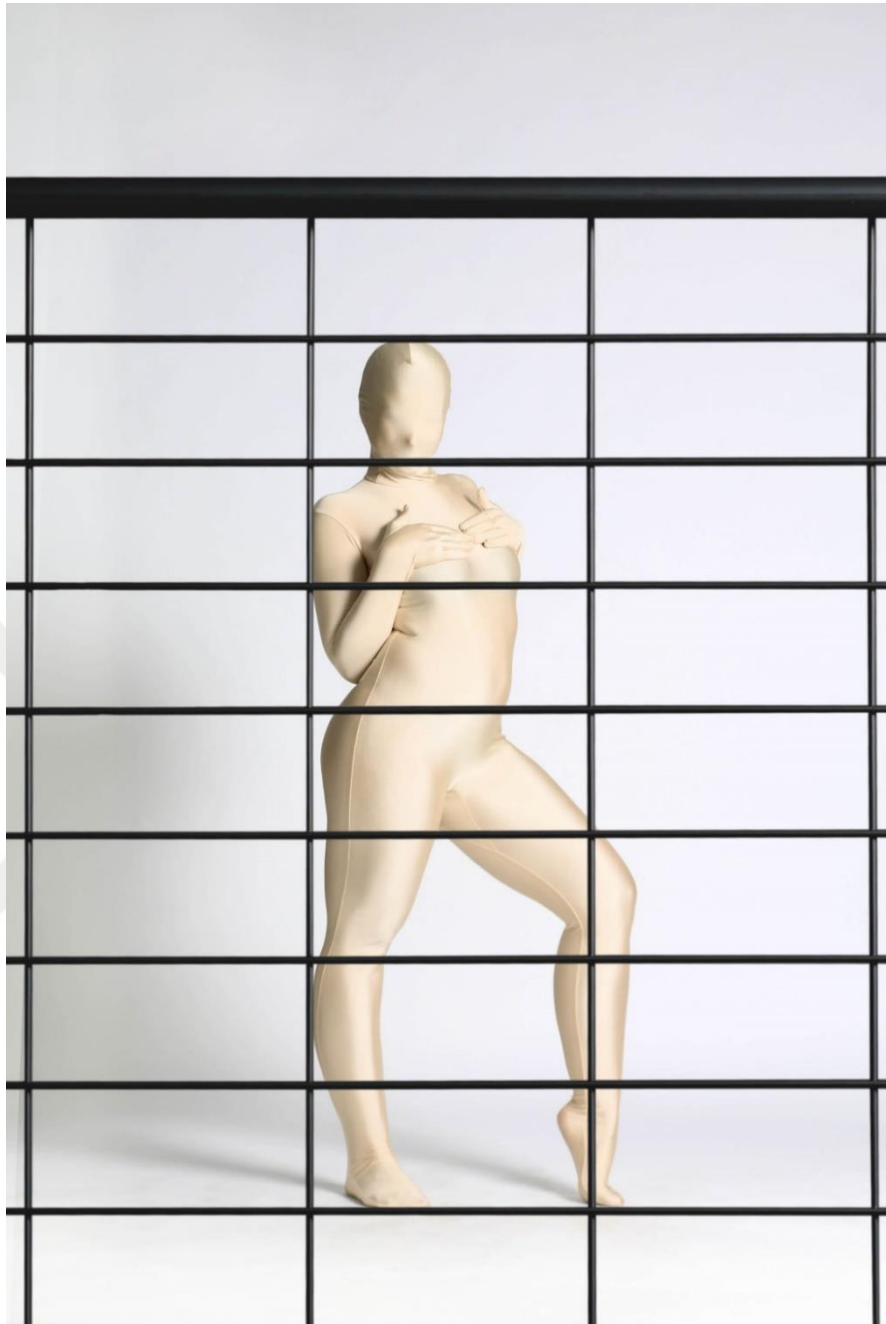
Figure 69. Practical Project, Photograph 6



Cabezas, 2018.

This photograph shows the reality of the canon, there is no optical illusion, it is the canon in the hands of a man who will do with him whatever he wants, either accept it and embrace it, break it and get rid of it, study it and try to understand it, or simply contemplate it and continue without being affected by it.

Figure 70. Practical Project, Photograph 7



Cabezas, 2018.

This image aspires to transmit confidence and the strength that comes from feeling beautiful, and attractive in your own skin without allowing any standard or beauty canon affects in the least the opinion that one has of oneself body.

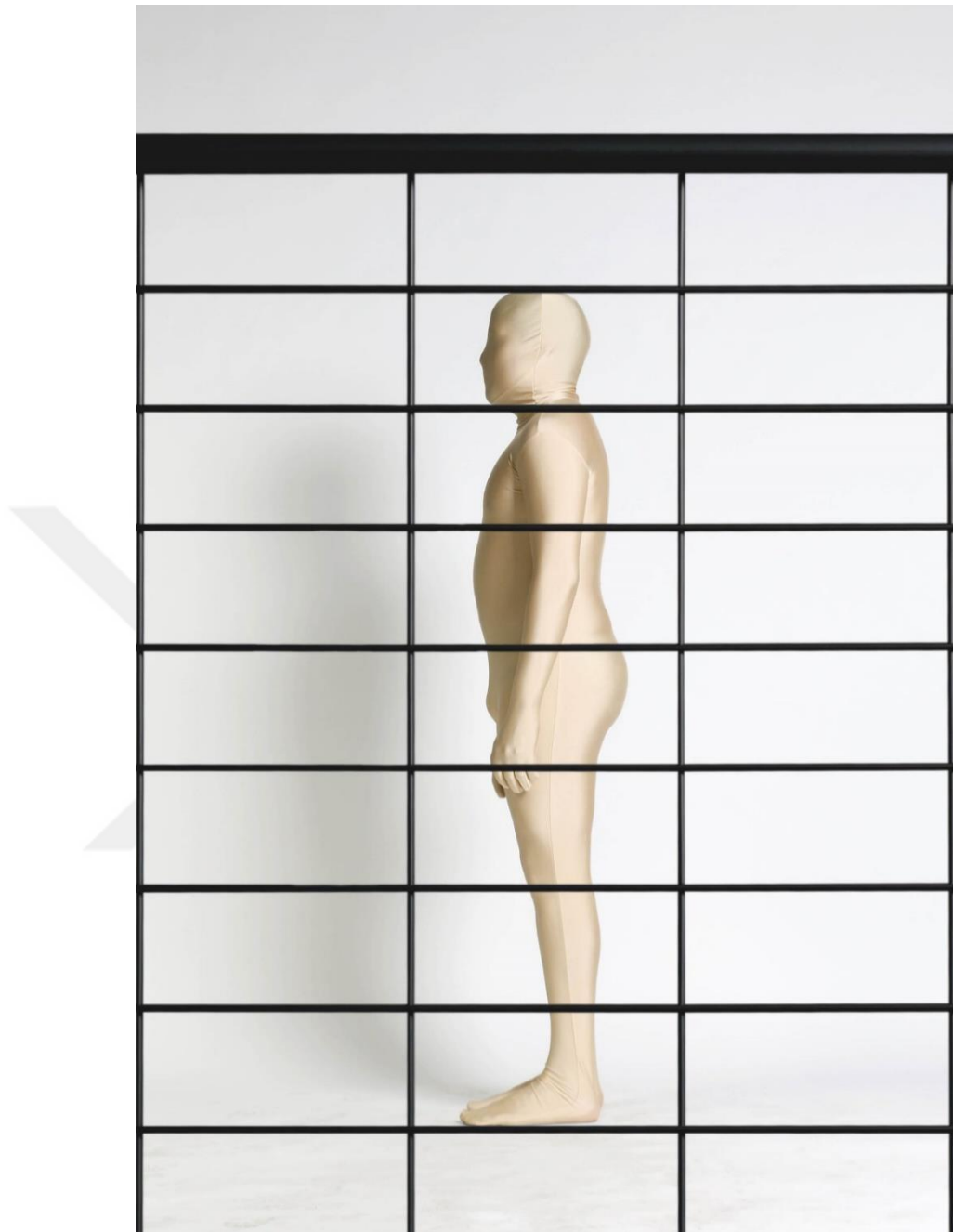
Figure 71. Practical Project, Photograph 8



Cabezas, 2018.

The photograph shows the canon trying to mark the skin and body, but once it is seen with a new perspective, it is easy to notice how insignificant canons really are, and how ridiculous it is to simply accept them without questioning them. With self-acceptance, the weight on the back decreases, and little by little one is released from the standards, and let go the pressure of the canons, and stereotypes.

Figure 72. Practical Project, Photograph 9



Cabezas, 2018.

This photograph shows the acceptance and resignation of being trapped behind the bars of beauty canons. The man is there, waiting to be measured and judged. All you can do is wait. Wait and hope for the figure to be appropriate, for the height to be correct, and wait for the verdict of third parties.

Figure 73. Practical Project, Photograph 10



Cabezas, 2018.

Depression, despair, conflicting and discordant emotions, those are the feelings exposed in this photograph. The body is inscribed in the canon, however ridiculous it may be, it finally succeeded, it fits, it is no longer an optical illusion, it is an uncomfortable and painful reality.

Figure 74. Practical Project, Photograph 11



Cabezas, 2018.

The photograph shows a man being exhibited and measured as a mannequin. He feels constrained, and restrained by norms, rules, canons and standards, but he still finds enough inner will to challenge them, that is strength.

Figure 75. Practical Project, Photograph 12



Cabezas, 2018.

Desperation, the photograph shows the body aesthetically perfect as dictated by the canons, however, the person does not feel the happiness or self-realization that many and many advertisements show, on the contrary, feels more hopeless than ever.

Figure 76. Practical Project, Photograph 13



Cabezas, 2018.

In this photograph it is recognized that the standards are there, like not doing it when you live surrounded by them. At a distance they look so big and powerful, they are CANONS OF BEAUTY, they are the ones that order and govern the life of the most successful people, but they look so distant and unattainable, and one longs to embrace them and thus fit into society. However, it is only an illusion, a twisted delusion created by the media.

Figure 77. Practical Project, Photograph 14



Cabezas, 2018.

With this photograph, the illusion is broken, one can see through the delusion of the canons, they are not allowed to have more power over oneself. Finally, one gets rid of the standards, the stereotypes, and finally the canons are broken.

Figure 78. Practical Project, Photograph 15



Cabezas, 2018.

The body is perfect as it is: full of imperfections and it is unique and beautiful because of it.

CONCLUSION

It is an undeniable fact that the human figure has always been an obsession for artists. The number of bodies that have been represented throughout history is huge and varied, however, regardless of the number and how diverse the depictions have been, all of them have something in common; that to some extent, they are all distortions of reality, often with exaggerated features that highlight their beauty with the purpose of moving and captivate the viewer.

All the body's representations from the very beginning of humankind to the present, with just a few exceptions, have been created following specific canons of proportions and beauty, where these canons are a reflection of the period of time, the societies, the cultures and their values in which they were created. Although even when each canon has been influenced by the circumstances that surround it, it cannot be denied that there is also a great influence from systems previously created, therefore, one could say that each canon is the evolution of its predecessor. Thus, during the Renaissance, da Vinci was inspired by the treatise that Vitruvius wrote, who in turn was inspired by the canon created by Polykleitos, whose system is based on the Golden ratio.

However, beyond its aesthetic, and anatomical proportions, the most powerful characteristic of the body is its symbolic versatility, capable of programing and reprograming collective thinking, which makes it the perfect platform for both the fine arts and marketing; very effective to spread all kinds of social and political ideas, and even to promote products and services. Furthermore, if the fact that for a long time the human figure has been chained to the stereotypes of beauty created by the media, such as photography, television, cinema, and more recently the internet, thus the representations of the body have the ability of manipulate the masses on a large scale.

It is very clear that the body has never broken the strong tie that binds it to the canons. The human figure has always been inscribed within grids and limited by mathematical, philosophical, geometric, aesthetic, or fashion rules. Even in the twentieth and twenty-first centuries, the canons, now known as trends, keep dominating the human figure. These norms or standards don't only define the specific physical characteristics that the body should have, but they also control the opinion that people should have of their own bodies.

It is only in the last decades that a change of attitude toward the body has been produced, and that the representations of the human figure have transgressed the norms. The use of the body in art and media has taken a humanistic concept that fights against the nowadays radical standards of volatile-trends and have turned people into narcissistic beings capable of anything to attain an unreal perfection. More and more depictions recognize and celebrate the imperfections and the individuality that makes of each body a unique piece of art, endowing it with more strength and meaning than ever before.



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APPENDIX.1. Interview to Dr. Atay Atabey, Aesthetic Surgeon. About Marquad's Mask and the Beauty Trends in Aesthetic Surgery.

Interviewer: María José Cabezas Correa

Date: April 4th, 2018

Izmir – Turkey

Doctor Atay Atabey is an aesthetic surgeon, established in Izmir, Turkey, with more than twenty years of experience in the field.

MJC: Doctor, do you think that it exists such a perfect face?

Dr. Atabey: No, there is no perfect face. Everyone can have beauty. The ratio (golden ratio) is important, but sometimes, some faces won't follow the ratio, but he or she, can be very beautiful or very handsome, but, generally speaking, the ratio is very important.

MJC: Does that mean that the proportions and symmetry depend on each face?

Dr. Atabey: Not symmetry, but we do have definitive measurements for the human face. For example: the nose should measure between 5.5 and 6.5cm; 7 cm is too long, maybe for some face it would be alright, but generally, this is too long. The tip of the ear, should be 18mm. apart from the scalp; if it is 3 cm it will not be aesthetic nor beautiful. As I said before, someone could not have these measures and proportions and still be very beautiful. But in general, everyone follows this ratio if he or she is beautiful.

MJC: So, the measurements depend on each face?

Dr. Atabey: The ratio is important, but you can arrange the measurements to fit a face, but not beyond the limits I mentioned before.

MJC: Do you know Marquad's mask for aesthetic surgery?

Dr. Atabey: Yes

MJC: Do you think it applicable?

Dr. Atabey: Yes, it is. I don't use Marquard's mask, but there are specific patterns. Just for the nose we follow a pattern of triangles and polygons that is more precise than Marquard's. If a face is beautiful it will be inscribed within the lines of the pattern.

****Dr Atabey** displayed in his laptop a couple of images where the mask has been proved in some Hollywood actors.

MJC: But those are Anglo-Saxon faces, what about Asian faces, African faces?

Dr. Atabey: We can say that these are general rules, but you can establish new dimensions for African or Asian faces. The concept of beauty depends of the culture, in Asia and Africa can be different that in western countries. For example: enlarged lips, and an elongated neck are considered beautiful in some parts of Africa. The understanding of beauty can differ from one place to other.

MJC: When a patient comes to your office, does he or she has a reference of how the want to look like?

Dr. Atabey: Usually they bring a picture of an actor or actress, but I tell them, that I cannot mimic that feature (nose, cheeks, lips) in them because every face has different shapes. I take the measurements of the face a planned the touch-ups accordingly, I could do the same type, the same shape and with the same measurements of, let's say, nose in everybody, but that isn't good, and it will be failing.

MJC: In your experience what is the percentage of people who is happy after a touch up?

Dr. Atabey: Around an eighty-five percent of patients

MJC: And How many will come back for new touch-ups?

Dr. Atabey: Around the twenty or thirty percent. The face is very important to connect with other people.

MJC: What are the most popular surgeries?

Dr. Atabey: In Turkey the most popular are, first rhinoplasty and second breast surgery.

MJC: In your experience the number of people who come to you for touch-ups have increased or decreased?

Dr. Atabey: It has increase, not only in Turkey, but all around the world.

MJC: What do you think is the reason?

Dr. Atabey: First, the inner beauty is not as important as it is the external beauty anymore. The media and society push this idea every day, until people started to believe that the outside must be more beautiful than the inside. Second, nowadays is very easy to afford a plastic surgery, there are more surgeons than thirty years ago and there is a wide range of prices depending of the experience, the competition is very hard. Third, people wants to imitate the others, it is a trend.

MJC: The trends change all the time. Do you have to adapt to these changes?

Dr. Atabey: Yes, but ethically. Recently a patient asked me to take out two of her ribs to have a thinner waist. Of course, I denied, the ribs are the natural support of the body. You cannot destroy the anatomy of the body. Twenty years ago “fat” women were considered more attractive, but every year the understanding of beauty changes, I mean in my mind a fat woman is still beautiful, but in others opinion she is not.

MJC: Do you think it s ethical to change a face so that it looks like another, like let’s say the face of someone famous?

Dr. Atabey: No, it is not ethical. We argue with my colleagues all the time about how we shouldn’t and cannot change the basic characteristics of a face to resemble another. I particularly don’t accept to do it.

MJC: Do you think that those changes after a touch up would affect a person psychologically?

Dr. Atabey: Of course, usually the self-esteem will come back, and they will be more social. When you correct that one think that a person think is wrong in his or her body that person will develop more confidence.

MJC: But I guess you warn your patients when their expectations are unrealistic?

Dr. Atabey: Yes, we must warn them. If the patient doesn’t accept it then the operation will be canceled.

MJC: What would you say if a patient, which features you consider beautiful by nature, ask you to do some touch ups?

Dr. Atabey: I won't touch it. I would never destroy a good thing for a surgery. And the same is applied to the rest of the body not only the face. If you are a good surgeon you will put the money in a second place, the most important thing is the ethical and moral code you have. You shouldn't do every surgery.

MJC: Thank you so much for your time doctor.

Dr. Atabey: You're welcome.



APPENDIX.2. Terms and Conditions Agreement

I, with identity card No., from now on known as the model, authorize María José Cabezas Correa, Ecuadorian by birth, with identity card No. 0603506692, student of the Faculty of Social Sciences, Master Program in Art and Design, Yasar University, to make a photo-session in which I'll act as a model under the following terms and conditions:

For the photoshoot, the model will be wearing a white/skin color tight unitard suit that will show no characteristic features of my persona.

The model establishes that his/her participation in the photo session is voluntary and free, and that he/she will not receive any compensation before or after the photo shoot.

The model grants María José Cabezas Correa the rights of use over the photographs, or part of them to be used with any application, with the only exception and limitation of those uses or applications that could attempt against honor of the model.

This authorization does not have a specific geographic scope or any limit of time, therefore the authorization is established in perpetuity of María José Cabezas Correa, as the intellectual author, to use the photographs, or parts of them, in all the countries of the world without geographical limitation of any kind.

Subscribed in the city of Izmir at hours. of of 2018.

Name and Authorization Signature.

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María José Cabezas Correa.

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